

MRS Electronic GmbH & Co. KG
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Product Catalog

Controllers

Relays

Gateways

HMI-Systems

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Table of contents

TABLE OF CONTENTS

Toggle Relay mechanical 12 V (1.001.10x.001E)	1
Toggle Relay M1 Compact 12 V (1.001.18x.00E)	3
Toggle Relay time limited & compact M1 12 V (1.001.18x.xxE)	5
Toggle Relay M3 12 V (1.001.19x.00E)	7
Toggle Relay time limited M3 12 V (1.001.19x.xxE)	9
Toggle Relay mechanical 24 V (1.001.20x.00E)	11
Toggle Relay M1 Compact 24 V (1.001.28x.00E)	13
Toggle Relay time limited & compact M1 24 V (1.001.28x.xxE)	15
Toggle Relay M3 24 V (1.001.29x.00E)	17
Toggle Relay time limited M3 24 V (1.001.29x.xxE)	19
Pulse Relay M1 compact 12 V (1.002.18x.xxE)	21
Pulse Relay M3 12 V (1.002.19x.xxE)	23
Pulse Relay M1 compact 24 V (1.002.28x.xxE)	25
Pulse Relay M3 24 V (1.002.29x.xxE)	27
Time Relay with Switch On Delay M1 compact 12 V (1.003.18x.xxE)	29
Time Relay with Switch Off Delay M1 compact 12 V (1.003.18y.xxE)	31
Time Relay Switch On and Off Delay M1 Compact 12 V (1.003.18z.xxE)	33
Time Relay with Switch On Delay M3 12 V (1.003.19x.xxE)	35
Time Relay with Switch Off Delay M3 12 V (1.003.19y.xxE)	37
Time Relay Switch On and Off Delay 12 V (1.003.19z.xxE)	39
Time Relay with Switch On Delay M1 compact 24 V (1.003.28x.xxE)	41
Time Relay with Switch Off Delay M1 compact 24 V (1.003.28y.xxE)	43
Time Relay Switch On and Off Delay M1 Compact 24 V (1.003.28z.xxE)	45
Time Relay with Switch On Delay M3 24 V (1.003.29x.xxE)	47

Table of contents

Time Relay with Switch Off Delay M3 24 V (1.003.29y.xxE)	49
Time Relay Switch On and Off Delay 24 V (1.003.29z.xxE)	51
Micro PLC 12 V (1.005.15x.xxE)	53
Micro PLC 24 V (1.005.25x.xxE)	55
Micro PLC 9-30 V (1.005.3xx.xxE)	57
Diode combination (1.006.6xx.00E)	59
Universal Flasher LED 12 V (1.007.110.00E)	60
Flasher M3 12 V (1.007.19x.xxE)	62
Universal Flasher LED 24 V (1.007.210.00)	64
Flasher M3 24 V (1.007.29x.xx)	66
Universal Flasher Unit 9 - 30 V (1.007.30x.00E)	68
Undervoltage Monitor with Reset 12 V (1.008.11x.xxE)	70
Voltage Monitor 12 V (1.008.1xx.xxE)	72
Undervoltage Monitor with Reset 24 V (1.008.21x.xxE)	74
Voltage Monitor 24 V (1.008.2xx.xxE)	76
Voltage Monitor 9 - 30 V (1.008.300.xxE)	78
Micro Relay 12 V (1.014.1xx.00E)	80
Micro Relay 24 V (1.014.2xx.00E)	81
Standard Relay 12 V (1.015.1xx.00E)	82
Standard Relay with special terminals 12 V (1.015.1yy.00E)	83
Standard Relay 24 V (1.015.2xx.00E)	84
Standard Relay with special terminals 24 V (1.015.2yy.00E)	85
Power Relay 12 V (1.016.1xx.xxE)	86
Power Relay 24 V (1.016.2xx.xxE)	88
Socket MI FL 5-pin. 2 x 6.3 / 3 x 4.8 (1.017.000.00)	90

Table of contents

Socket H FL 9-pin 2 x 9.5 / 3 x 6.3 / 4 x 2.8 (1.017.001.00)	91
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8 (1.017.002.00)	92
Socket waterproof (1.017.010.00)	93
Base plates (1.017.06x.00)	94
Housings (1.017.07x.00)	95
Housing bracket (1.017.080.00)	96
Solid State Relay S 4 A (1.018.300.00E)	97
Solid State Relay H 5 A (1.018.360.00E)	98
Relay with special terminals 12 V (1.020.1xx.00E)	99
Relay with special terminals 24 V (1.020.2xx.00E)	101
Pulse Relay adjustable 12 V (1.022.11x.xxE)	103
Time Relay with Switch On Delay adjustable 12 V (1.022.11y.xxE)	105
Time Relay with Switch Off Delay adjustable 12 V (1.022.11z.xxE)	107
Pulse Relay adjustable 24 V (1.022.21x.xxE)	109
Time Relay with Switch On Delay adjustable 24 V (1.022.21y.xxE)	111
Time Relay with Switch Off Delay adjustable 24 V (1.022.21z.xxE)	113
Special Relay (1.023.xxx.xxE)	115
Frequency Monitor 12 V (1.026.11x.xxxE)	116
Frequency Monitor 24 V (1.026.21x.xxxE)	118
Frequency Monitor 9-30 V (1.026.311.xxxE)	120
Controller M1 12 V (1.028.10x.xxE)	122
Controller M1 24 V (1.028.20x.xxE)	124
Proportional Amplifier 9-30 V (1.030.3xx.00E)	126
DIN rail adaptor without relays (1.031.000.00)	128
CAN I/O PLC / RS485 Gateway (Rev.E) (1.033.320.00E)	129

Table of contents

CAN I/O PLC / RS485 Gateway (Rev.G) (1.033.320.0001E)	131
CAN I/O PLC / RS232 Gateway (Rev.E) (1.033.330.00E)	133
CAN I/O PLC / RS232 Gateway (Rev.G) (1.033.330.0001)	135
CAN I/O PLC (Rev.E) (1.033.xxx.xxE)	137
CAN I/O PLC (Rev.G) (1.033.xxx.xx01E)	139
Controller M3 12 V (1.036.10x.xxE)	142
Controller M3 24 V (1.036.20x.xxE)	144
Motor Controller 5 A CAN (1.037.300.xxE)	146
Voltage converter (reference voltage)-Relay (1.038.300.xxE)	148
CAN Gateway Module (1.042.1xx.xxE)	149
Voltage Converter (DC/DC) 2 A - Relay (1.044.300.xxE)	151
Touch Panel (1.046.300.00)	152
CAN Relay Box (1.047.3xx.xxE)	153
Load dump protection module (1.051.300.00E)	155
CAN I/O PLC Waterproof (1.053.30x.xxE)	156
CAN I/O PLC Waterproof / RS485 Gateway (1.053.310.0000E)	159
CAN I/O PLC Waterproof / RS232 Gateway (1.053.320.1000E)	161
Universal Gateway 5x CAN (1.057.1xx.xxE)	163
Motor Controller 30 A CAN (1.064.300.xxE)	165
Solid State Relay SSR 5 A (1.069.3xx.05E)	167
Solid State Relay SSR 15 A (1.069.3xx.15E)	169
Solid State Relay SSR 25 A (1.069.3xx.25E)	171
Softwaretool MRS Realizer (1.100.000.01)	173
Softwaretool MRS Developers Studio Bundle (1.100.100.09)	174
Softwaretool MRS Developers Studio (1.100.100.xx)	175

Table of contents

Starter Kit - CAN I/O PLC (1.100.110.00)	176
Starter Kit - CAN/RS485 Gateway (1.100.110.01)	177
Starter Kit - PROP CAN (1.100.110.03)	178
Starter Kit - Motor Controller 5 A CAN (1.100.110.08)	179
Starter Kit - 6-fold PROP CAN (1.100.110.15)	180
Starter Kit - CAN Gateway Module (1.100.110.17)	181
Starter Kit - Micro PLC CAN (1.100.110.22)	182
Starter Kit - Micro Gateway CAN CAN LIN (1.100.110.23)	183
Starter Kit - CAN Relay Box HS (1.100.110.24)	184
Starter Kit - M2600 ECO CAN PLC (1.100.110.27)	185
Starter Kit - Micro PLC CAN 4 I/O (1.100.110.30)	186
Starter Kit - Universal Gateway 5x CAN Freq-IN (1.100.110.31)	187
Starter Kit - CAN I/O PLC Waterproof (1.100.110.32)	188
Starter Kit - Micro PLC CAN 4 ANA (1.100.110.43)	189
Starter Kit - Micro PLC CAN LIN (1.100.110.45)	190
Programming Tool Applics Studio (1.100.200.xx)	191
Micro PLC CAN 12 V (1.107.11x.xxE)	192
Micro PLC CAN 24 V (1.107.21x.xxE)	195
Micro PLC CAN 9 – 30 V (1.107.310.001E)	197
PROP CAN (1.108.310.00E)	199
6-fold PROP CAN (1.109.300.0xE)	201
Micro PLC CAN 4 I/O (1.111.311.00E)	203
Micro PLC CAN 4 ANA (1.112.300.00E)	205
Micro PLC CAN LIN (1.113.111.0xE)	207
Micro Gateway (1.114.xxx.xxxxE)	209

Table of contents

Motor Controller 10 A CAN (1.117.300.00E)	211
CAN Isolator (1.120.300.00E)	213
4-in-1 Motor Controller (1.122.300.00E)	215
Motor Controller 10 A CAN PRO (1.123.300.00E)	217
CAN I/O PLC Waterproof PRO V2 (1.128.301.1000E)	219
CAN I/O PLC LHS (1.129.3xx.xxE)	222
MicroPlex® 7X (1.132.300.00)	224
MicroPlex® 7X (EU) (1.132.300.00)	225
MicroPlex® 7H (1.133.300.00)	227
MicroPlex® 7H (EU) (1.133.300.00)	228
MicroPlex® 7L (1.134.300.00)	229
MicroPlex® 7L (EU) (1.134.300.00)	230
MicroPlex® SSR18 (1.135.300.00)	231
MicroPlex® SSR30 (1.135.330.00)	232
MicroPlex® Gateway (1.136.300.00)	233
MicroPlex® 1HB (1.137.300.00)	234
CAN I/O – CC16WP (1.154.xxx.xx)	235
M2600 ECO CAN PLC (1.261.300.00E)	237
M3600 CAN PLC (1.300.300.00E)	239
Tab receptacle for latching 6,3 mm 1,0 mm² (102355)	242
Cable boot (102892)	243
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm² (103064)	244
Tab receptacle for latching 9,5 mm 4,0 – 6,0 mm² (103066)	245
Tyco Crimp Contact Timer Junior 927771-3 (104800)	246
Crimp Contact Mini Fit Junior Plus HCS AWG16 (104899)	247

Table of contents

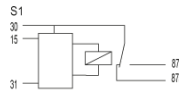
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm² (105292)	248
PCAN-USB Interface (105358)	249
Cable set to programm CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS (106817)	250
Connector package for CAN I/O Modul / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS (106940)	251
Micro Timer II Contacts 0,5 – 1 mm² (107301)	252
Junior Power Timer Contacts 1,5 – 2,5 mm² (107302)	253
Single seal Junior Power Timer 1.5 mm² (107304)	254
Crimp Contact Mini Fit Junior Plus HCS AWG18 (107324)	255
Crimp contact Timer Junior 1,50 – 2,50 mm² (107665)	256
Tab receptacle for latching 4,8 mm 0,5 – 1,0 mm² (108304)	257
Tab receptacle for latching 4,8 mm 1,0 – 2,5 mm² (108305)	258
0.70 Series Multilock Contact 0,5 – 1,4mm² (108346)	259
Connector package for M2600 ECO CAN PLC (108888)	260
Cable set to program M2600 ECO CAN PLC (108890)	261
Crimp Terminals Female (108893)	262
Connector package for Universal Gateway 5x CAN (109203)	263
Cable set to program Universal Gateway 5x CAN (109260)	264
Cable set to programm 6-fold PROP CAN (109291)	265
Connector package for 6-fold PROP CAN (109383)	266
Cable set to programm Micro PLC CAN / PROP CAN (109446)	267
Crimp contact MQS 0,50 – 0,75 mm² (109613)	268
Connector package CAN Gateway Module / CAN Relay Box (109637)	269
Cable set to program CAN Gateway Module / CAN Relay Box (109639)	270
Crimp contact FCI Sicma 2.8 mm 1,0 – 2,5mm² (109947)	271
Crimp contact FCI Sicma 1,5 mm 1,0 – 2,0 mm² (109949)	272

Table of contents

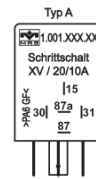
Dummy FCI filler plug (110268)	273
Socket package 9-pin relay (110338)	274
Connector package CAN I/O PLC WP / WP PRO V2 / CC16WP (110421)	275
Cable set to program CAN I/O PLC Waterproof PRO V2 / CC16WP (110490)	276
Protection cap (111441)	277
Connector package for Touch Panel (112321)	278
Cable set to programm CAN I/O PLC Waterproof (112342)	279
Cable FLRY 2 x 0.50 mm ² white/green SL20 (113085)	280
Cable set to program Touch Panel (113131)	281
Con crimp contact LEAR AFK 2.8 Plus (114073)	282
Con crimp contact LEAR AFK 4.8 Plus (114117)	283
Connector package for M3600 CAN PLC (114159)	284
Socket package watertight 40 mm (114265)	285
Socket package watertight 30 mm (300047)	286
Socket package watertight 50 mm (300048)	287
Connector package for 4-fold Motor Controller (300187)	288
Connector package and accessories for Motor Controller 30 A CAN (300733)	289
Cavity Plug package for M3600 CAN PLC (300972)	290
Cable set for 4-in-1 Motor Controller (500349)	291
Cable set to program M3600 CAN PLC (501246)	292
Cable set to program Motor Controller 30 A CAN (501269)	293
Fusion FT10 (FT10.xxxx.x)	294
Fusion FT15 (FT15.xxxx.x)	295
Display MConn 7 (MC7.xxxx.xxxx.xxxx.x)	297



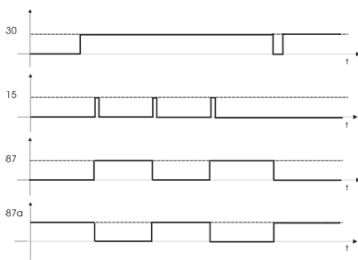
Toggle Relay mechanical 12 V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body. Please set an "E" behind the article number for a english printing e.g. 1.001.100.00E

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Max. output current (87, 87a)	30 A
Quiescent current (12V)	1 mA
Lifetime	> 10.000.000

ORDER OPTIONS

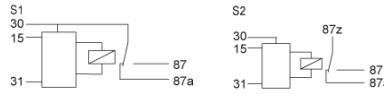
Name	Type	Model	Connection diagram	Order no.
Toggle Relay mechanical 12 V 20/10 A	A	positive edge triggered	S1	1.001.100.001E
Toggle Relay mechanical 12 V 20/10 A	A	negative edge triggered	S1	1.001.102.001E

ACCESSORIES

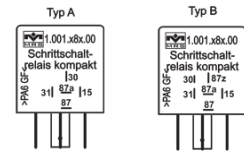
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



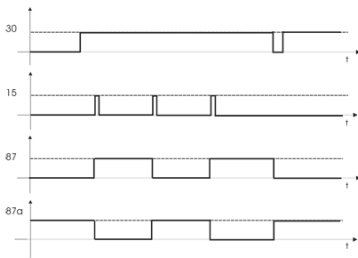
Toggle Relay M1 compact 12V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastic
Type-approval number	04 7281
Type-approval	E1 - ECE R10
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

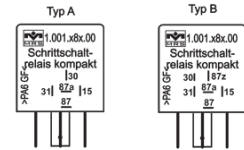
Name	Value
Number of pins	5
Relay outputs	1
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Max. output current (87, 87a)	30 A
Quiescent current (12V)	1 mA
Programming system	MRS Realizer

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Toggle Relay M1 compact 12 V 30 A	A	positive edge triggered	S1	1.001.181.00E
Toggle Relay M1 compact 12 V 30 A	A	negative edge triggered	S1	1.001.182.00E
Toggle Relay M1 compact 12 V 30 A	B	positive edge triggered	S2	1.001.183.00E
Toggle Relay M1 compact 12 V 30 A	B	negative edge triggered	S2	1.001.184.00E
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ACCESSORIES

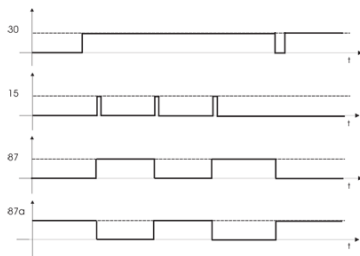
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Toggle Relay time limited & compact M1
12V

Connection Diagram

Design



Function Diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	03 5213
Type-approval	e1 - 72/245/EWG
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Max. output current (87, 87a)	30 A
Quiescent current (12V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

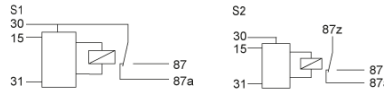
Name	Type	Model	Connection diagram	Order no.
Toggle Relay time limited & compact M1 12 V 30 A	A	positive edge triggered	S1	1.001.181.xxE
Toggle Relay time limited & compact M1 12 V 30 A	A	negative edge triggered	S1	1.001.182.xxE
Toggle Relay time limited & compact M1 12 V 30 A	B	positive edge triggered	S2	1.001.183.xxE
Toggle Relay time limited & compact M1 12 V 30 A	B	negative edge triggered	S2	1.001.184.xxE
Please set an "E" behind the article number for a english printing e.g. 1.001.181.00E				1.001.181.00EE

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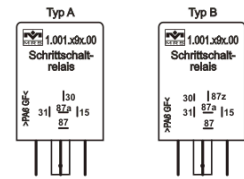
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



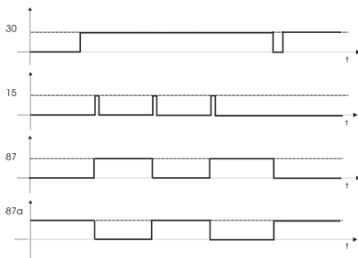
Toggle Relay M3 12 V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastic
Type-approval number	05 7282
Type-approval	E1 - ECE R10
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Max. output current (87, 87a)	30 A
Quiescent current (12V)	1 mA
Lifetime	Mechanisch: 10.000.000, Elektrisch: 100.000 bei 15 A
Programming system	MRS Realizer

ORDER OPTIONS

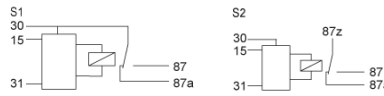
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Toggle Relay M3 12 V 30 A	A	positive edge triggered	S1	1.001.191.00E
Toggle Relay M3 12 V 30 A	A	negative edge triggered	S1	1.001.192.00E
Toggle Relay M3 12 V 30 A	B	positive edge triggered	S2	1.001.193.00E
Toggle Relay M3 12 V 30 A	B	negative edge triggered	S2	1.001.194.00E

ACCESSORIES

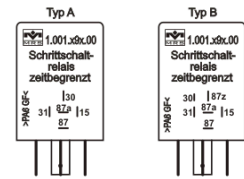
Required accessories	Article number
Software tool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



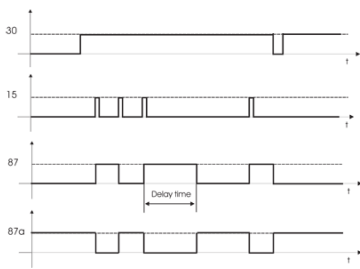
Toggle Relay time limited M3 12V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 7282
Type-approval	E1 - ECE R10
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Max. output current (87, 87a)	30 A
Quiescent current (12V)	1 mA
Time delay	By customer request
Lifetime	Mechanisch: 10.000.000, Elektrisch: 100.000 bei 15A
Programming system	MRS Realizer

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Toggle Relay time limited M3 12 V 30 A	A	positive edge triggered	S1	1.001.191.xxE
Toggle Relay time limited M3 12 V 30 A	A	negative edge triggered	S1	1.001.192.xxE
Toggle Relay time limited M3 12 V 30 A	B	positive edge triggered	S2	1.001.193.xxE
Toggle Relay time limited M3 12 V 30 A	B	negative edge triggered	S2	1.001.194.xxE
Please set an "E" behind the article number for a english printing e.g. 1.001.191.XXE				1.001.191.XXEE

ACCESSORIES

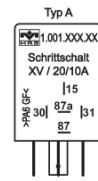
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



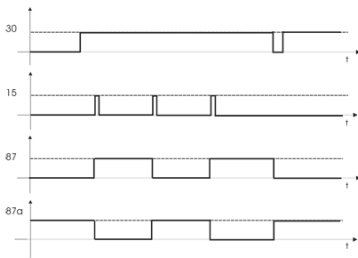
Toggle Relay mechanical 24 V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Max. output current (87, 87a)	30 A
Quiescent current (24V)	1 mA
Lifetime	> 10.000.000

ORDER OPTIONS

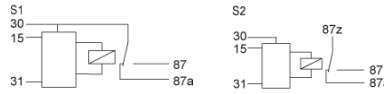
Name	Type	Model	Connection diagram	Order no.
Toggle Relay mechanical 24 V 20/10 A	A	positive edge triggered	S1	1.001.200.00E
Toggle Relay mechanical 24 V 20/10 A	A	negative edge triggered	S1	1.001.202.00E

ACCESSORIES

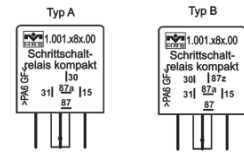
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



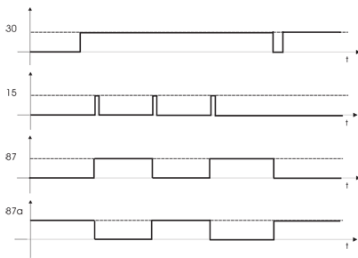
Toggle Relay M1 compact 24V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastic
Type-approval number	03 5213
Type-approval	e1 – 72/245/EWG
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

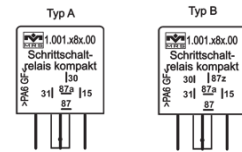
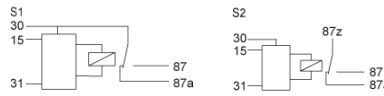
Name	Value
Number of pins	5
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Max. output current (87, 87a)	30 A
Quiescent current (24V)	1 mA
Programming system	MRS Realizer

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Toggle Relay M1 compact 24 V 30 A	A	positive edge triggered	S1	1.001.281.00E
Toggle Relay M1 compact 24 V 30 A	A	negative edge triggered	S1	1.001.282.00E
Toggle Relay M1 compact 24 V 30 A	B	positive edge triggered	S2	1.001.283.00E
Toggle Relay M1 compact 24 V 30 A	B	negative edge triggered	S2	1.001.284.00E
Please set an "E" behind the article number for a english printing e.g. 1.001.281.00E				1.001.281.00EE

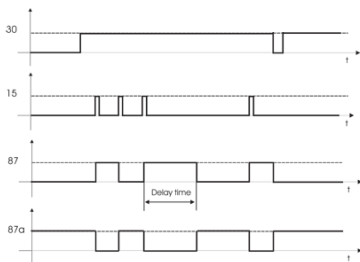
ACCESSORIES

Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064

Toggle Relay time limited & compact M1
24V

Connection Diagram

Design



Function Diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	03 5213
Type-approval	e1 - 72/245/EWG
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Max. output current (87, 87a)	30 A
Quiescent current (24V)	1 mA
Programming system	MRS Realizer

ORDER OPTIONS

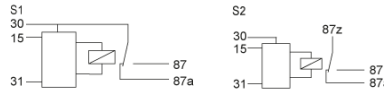
Name	Type	Model	Connection diagram	Order no.
Toggle Relay time limited & compact M1 24 V 30 A	A	positive edge triggered	S1	1.001.281.xxE
Toggle Relay time limited & compact M1 24 V 30 A	A	negative edge triggered	S1	1.001.282.xxE
Toggle Relay time limited & compact M1 24 V 30 A	B	positive edge triggered	S2	1.001.283.xxE
Toggle Relay time limited & compact M1 24 V 30 A	B	negative edge triggered	S2	1.001.284.xxE
Please set an "E" behind the article number for a english printing e.g. 1.001.281.XXE				1.001.281.XXEE

ACCESSORIES

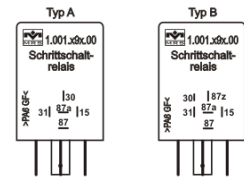
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



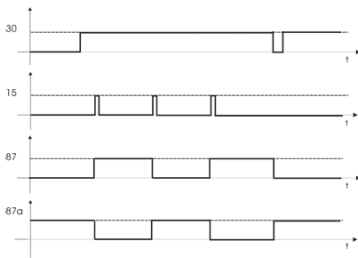
Toggle Relay M3 24 V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 7282
Type-approval	E1 - ECE R10
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Max. output current (87, 87a)	30 A
Quiescent current (24V)	1 mA
Lifetime	Mechanisch: 10.000.000, Elektrisch: 100.000 bei 15 A
Programming system	MRS Realizer

ORDER OPTIONS

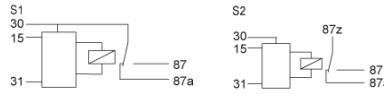
Name	Type	Model	Connection diagram	Order no.
Toggle Relay M3 24 V 30 A	A	positive edge triggered	S1	1.001.291.000E
Toggle Relay M3 24 V 30 A	A	negative edge triggered	S1	1.001.292.000E
Toggle Relay M3 24 V 30 A	B	positive edge triggered	S2	1.001.293.000E
Toggle Relay M3 24 V 30 A	B	negative edge triggered	S2	1.001.294.000E
Please set an "E" behind the article number for a english printing e.g. 1.001.291.000E				1.001.291.000EE

ACCESSORIES

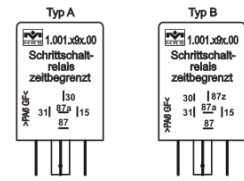
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



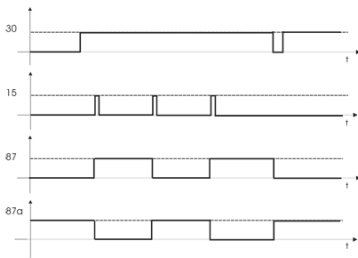
Toggle Relay time limited M3 24V



Connection diagram



Design



Function diagram

DESCRIPTION

The Toggle Relay is used to switch loads on and off via pushbutton operation. Circuit diagram S1: With the step switching relay a consumer can be switched via a button. If a positive/negative impulse is applied to Terminal 15, the relay switches and holds itself. Another impulse is switched on again (Power surge switch or toggle flip-flop). The terminal 15 is debounced. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 7282
Type-approval	E1 - ECE R10
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Max. output current (87, 87a)	30 A
Quiescent current (24V)	1 mA
Time delay	By customer request
Lifetime	Elektrisch: 100.000 bei 15A
Programming system	MRS Realizer

ORDER OPTIONS

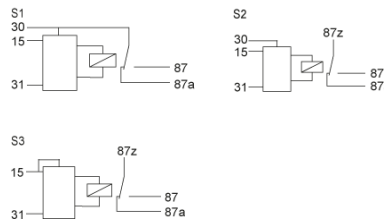
Name	Type	Model	Connection diagram	Order no.
Toggle Relay time limited M3 24 V 30 A	A	positive edge triggered	S1	1.001.291.xxE
Toggle Relay time limited M3 24 V 30 A	A	negative edge triggered	S1	1.001.292.xxE
Toggle Relay time limited M3 24 V 30 A	B	positive edge triggered	S2	1.001.293.xxE
Toggle Relay time limited M3 24 V 30 A	B	negative edge triggered	S2	1.001.294.xxE
Please set an "E" behind the article number for a english printing e.g. 1.001.291.XXE				1.001.291.XXEE

ACCESSORIES

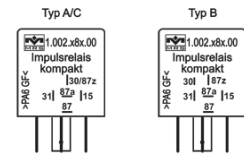
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



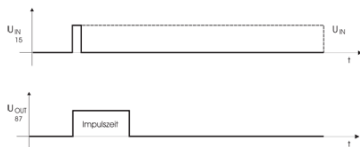
Pulse Relay M1 compact 12 V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Pulse relays compact find use when consumers are to be switched on or off for a defined time. Please specify the desired impulse time when ordering. Circuit diagram S1 and S2: operating voltage is applied to terminal 30. If the voltage is set at Terminal 15, the relay will immediately pull in for the specified time and then fall off again. The duration of the control signal has no effect on the output pulse duration (i.e. the relay is not retriggerable). Circuit diagram S3: Operating voltage is applied to terminal 87z. If the voltage is set at Terminal 15, the relay will immediately pull in for the specified time and then fall off again. Circuit diagram S2 and S3: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Weight	34 g
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	04 7281
Type-approval	E1 - ECE R10
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Max. output current (87, 87a)	30 A
Quiescent current (12V)	1 mA
Pulse duration	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

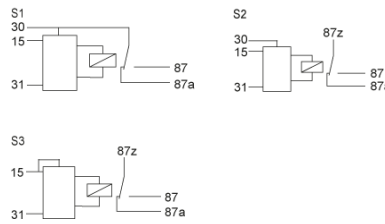
Name	Type	Model	Connection diagram	Order no.
Pulse Relay M1 compact 12 V	A	Individual pulse time (see below)	S1	1.002.181.xxE
Pulse Relay M1 compact 12 V	B	Individual pulse time (see below)	S2	1.002.182.xxE
Pulse Relay M1 compact 12 V	C	Individual pulse time (see below)	S3	1.002.183.xxE

ACCESSORIES

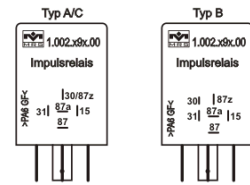
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



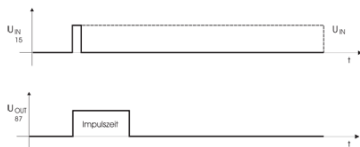
Pulse Relay M3 12 V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Pulse relays M3 are used when consumers are to be switched on or off for a defined time. Please specify the desired impulse time when ordering. Circuit diagram S1 and S2: operating voltage is applied to terminal 30. If the voltage is set at Terminal 15, the relay will immediately pull in for the specified time and then fall off again. The duration of the control signal has no effect on the output pulse duration (i.e. the relay is not retriggerable). Circuit diagram S3: Operating voltage is applied to terminal 87z. If the voltage is set at Terminal 15, the relay will immediately pull in for the specified time and then fall off again. Circuit diagram S2 and S3: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Weight	34 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	E1 - ECE R10
Type-approval	05 7282
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP 53
Operating voltage	12 V
Current consumption	250 µA
Max. output current (87, 87a)	30 A
Quiescent current (12V)	1 mA
Pulse duration	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

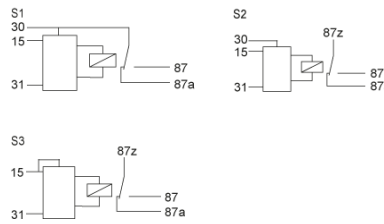
Name	Type	Model	Connection diagram	Order no.
Pulse Relay M3 12 V	A	Individual pulse time (see below)	S1	1.002.191.xxE
Pulse Relay M3 12 V	B	Individual pulse time (see below)	S2	1.002.192.xxE
Pulse Relay M3 12 V	C	Individual pulse time (see below)	S3	1.002.193.xxE

ACCESSORIES

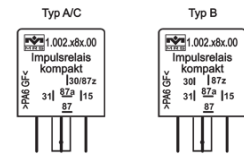
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



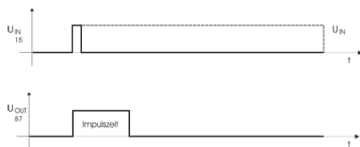
Pulse Relay M1 compact 24 V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Pulse relays compact find use when consumers are to be switched on or off for a defined time. Please specify the desired impulse time when ordering. Circuit diagram S1 and S2: Operating voltage is applied to terminal 30. If the voltage is set at Terminal 15, the relay will immediately pull in for the specified time and then fall off again. The duration of the control signal has no effect on the output pulse duration (i.e. the relay is not retriggerable). Circuit diagram S3: Operating voltage is applied to terminal 87z. If the voltage is set at Terminal 15, the relay will immediately pull in for the specified time and then fall off again. Circuit diagram S2 and S3: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	04 7281
Type-approval	E1 - ECE R10
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Max. output current (87, 87a)	30 A
Quiescent current (24V)	1 mA
Pulse duration	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

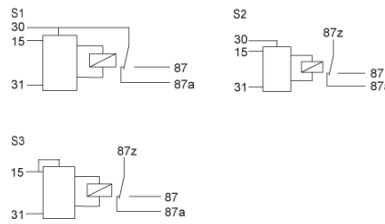
Name	Type	Model	Order no.
Pulse Relay M1 compact 24 V	A	Individual pulse time (see below)	1.002.281.xxE
Pulse Relay M1 compact 24 V	B	Individual pulse time (see below)	1.002.282.xxE
Pulse Relay M1 compact 24 V	C	Individual pulse time (see below)	1.002.283.xxE

ACCESSORIES

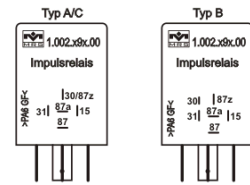
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



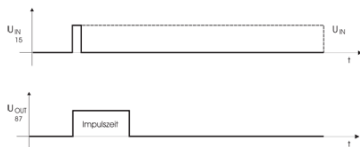
Pulse Relay M3 24 V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Pulse relay M3 are used when consumers are to be switched on or off for a defined time. Please specify the desired impulse time when ordering.

GENERAL DATA

Name	Value
Weight	34 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	E1 - ECE R10
Type-approval	05 7282
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP 53
Operating voltage	24 V
Current consumption	250 µA
Max. output current (87, 87a)	30 A
Quiescent current (24V)	1 mA
Pulse duration	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Pulse Relay M3 24 V	A	Individual pulse time (see below)	S1	1.002.291.xxE
Pulse Relay M3 24 V	B	Individual pulse time (see below)	S2	1.002.292.xxE
Pulse Relay M3 24 V	C	Individual pulse time (see below)	S3	1.002.293.xxE

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



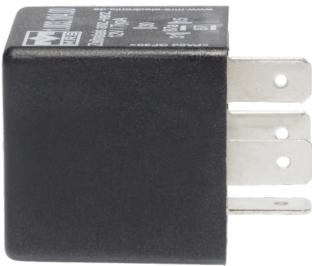
Pulse Relay M3 24V



Group



Front



Side



Plug



Angled

DESCRIPTION

Time relays with switch on delay compact switch on the consumer after the specified delay time has elapsed. Please specify the desired delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is set at Terminal 15, the relay will pull on at the end of the specified time. If the voltage is removed at Terminal 15, the relay immediately drops off. Circuit diagram S2 and S3: The contacts are separate from the control and can therefore be used in links. With the Variants S2 and S3, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	04 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

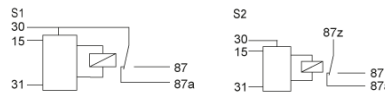
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch On Delay M1 compact 12 V	A	Individual delay time (see below)	S1	1.003.184.xxE
Time Relay with Switch On Delay M1 compact 12 V	B	Individual delay time (see below)	S2	1.003.185.xxE
Time Relay with Switch On Delay M1 compact 12 V	C	Individual delay time (see below)	S3	1.003.183.xxE
Time Relay with Switch On Delay M1 compact 12 V		Individual delay time (see below)		1.003.184.xxE

ACCESSORIES

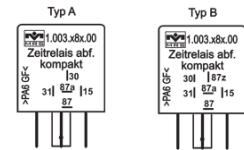
Required accessories	Article number
Software tool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



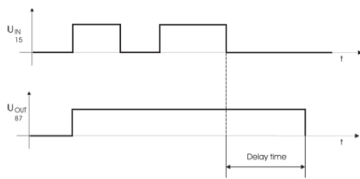
Time Relay with Switch off Delay compact 12V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Time relays switches on the consumer after the specified delay time has elapsed. Please specify the desired delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is set at Terminal 15, the relay will pull on at the end of the specified time. If the voltage is removed at Terminal 15, the relay immediately drops off. Circuit diagram S2 and S3: The contacts are separate from the control and can therefore be used in links. With the Variants S2 and S3, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	04 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

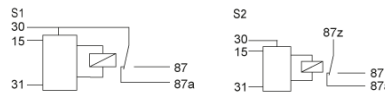
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch Off Delay M1 compact 12 V	A	Individual delay time (see below)	S1	1.003.181.00E
Time Relay with Switch Off Delay M1 compact 12 V	B	Individual delay time (see below)	S2	1.003.182.00E
Please set an "E" behind the article number for a english printing e.g. 1.003.181.00E				1.003.181.00EE

ACCESSORIES

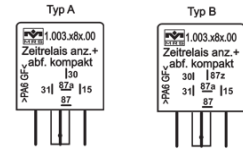
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



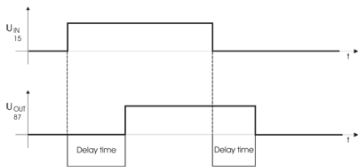
Time Relay Switch on and off Delay M1 compact 12V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Time relays with switch on and off delay can be used if consumers are to be switched on and off time-delayed. Please indicate the desired tightening and waste delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is set at Terminal 15, the relay will pull on at the end of the specified time. If the voltage is removed at Terminal 15, the relay falls off after the specified time has elapsed. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Circuit diagram S3: The relay does not consume a quiescent current by the diode circuitry after the drop. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	04 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	12 V

TECHNICAL DATA

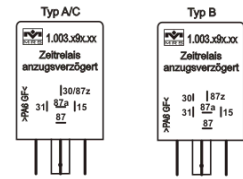
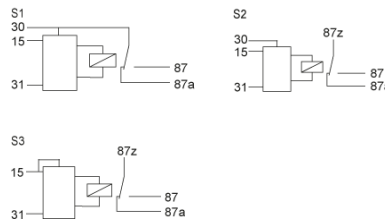
Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Time Relay Switch On and Off Delay M1 Compact 12 V	A	Individual delay time (see below)	S1	1.003.186.xxE
Time Relay Switch On and Off Delay M1 Compact 12 V	B	Individual delay time (see below)	S2	1.003.187.xxE
Please set an "E" behind the article number for a english printing e.g. 1.003.186.00E				1.003.186.00EE

ACCESSORIES

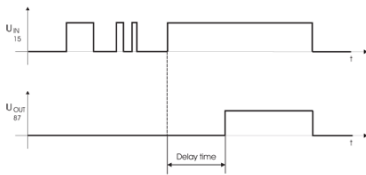
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Time Relay with Switch On Delay M3 12V

Connection Diagram

Design



Function Diagram

DESCRIPTION

Time relay with switch on delay M3 switches on the consumer after the specified delay time has elapsed. Please specify the desired delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is set at terminal 15, the relay will pull on at the end of the specified time. If the voltage is removed at terminal 15, the relay immediately drops off. Circuit diagram S2 and S3: The contacts are separate from the control and can therefore be used in links. With the Variants S2 and S3, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

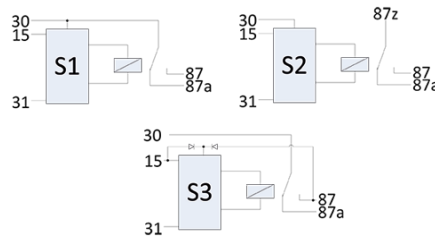
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch On Delay M3 12 V	A	Individual delay time (see below)	S1	1.003.194.xxE
Time Relay with Switch On Delay M3 12 V	B	Individual delay time (see below)	S2	1.003.195.xxE
Time Relay with Switch On Delay M3 12 V	C	Individual delay time (see below)	S3	1.003.193.xxE
Please set an "E" behind the article number for a english printing e.g. 1.003.194.00E		Individual delay time (see below)		1.003.194.xxE

ACCESSORIES

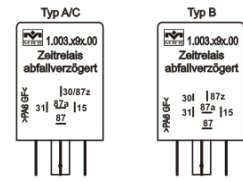
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



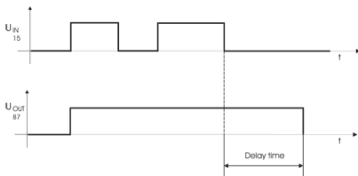
Time Relay with Switch Off Delay M3 12V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Time relays with switch off delay switch on the consumer after the specified delay time has elapsed. Please specify the desired delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is applied to terminal 15, the relay will immediately pull on. If the voltage is removed at Terminal 15, the relay will fall off after the specified time has elapsed. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Circuit diagram S3: The relay does not consume a quiescent current by the diode circuitry after the drop. Variant S3 only 10/15a (ö/s). Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

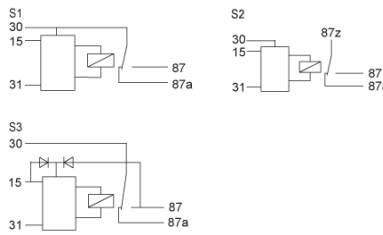
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch Off Delay M3 12 V	A	Individual delay time (see below)	S1	1.003.191.xxE
Time Relay with Switch Off Delay M3 12 V	B	Individual delay time (see below)	S2	1.003.192.xxE
Time Relay with Switch Off Delay M3 12 V	C	Individual delay time (see below)	S3	1.003.120.xxE
Please set an "E" behind the article number for a english printing e.g. 1.003.191.00E				1.003.191.00EE

ACCESSORIES

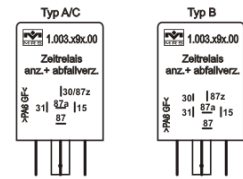
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



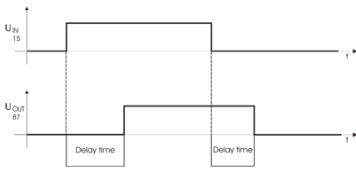
Time Relay Switch on and off Delay M3 12V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Time relays with switch on and off delay can be used if consumers are to be switched on and off time-delayed. Please indicate the desired tightening and waste delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is set at Terminal 15, the relay will pull on at the end of the specified time. If the voltage is removed at Terminal 15, the relay falls off after the specified time has elapsed. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Circuit diagram S3: The relay does not consume a quiescent current by the diode circuitry after the drop. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	04 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Time Relay Switch On and Off Delay 12V (Basis M3)	A	Individual delay time (see below)	S1	1.003.196.xxE
Time Relay Switch On and Off Delay 12V (Basis M3)	B	Individual delay time (see below)	S2	1.003.197.xxE
Time Relay Switch On and Off Delay 12V (Basis Micro PLC)	C	Individual delay time (see below)	S3	1.003.190.xxE
Please set an "E" behind the article number for a english printing e.g. 1.003.196.00E				1.003.196.00EE

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



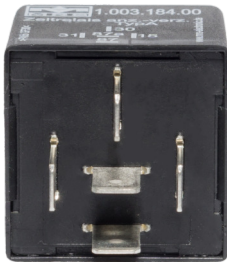
Time Relay with Switch On Delay compact 24V



Group



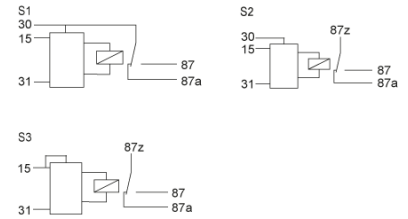
Front



Plug



Back



Connection Diagram

DESCRIPTION

Time relays with switch on delay compact switch on the consumer after the specified delay time has elapsed. Please specify the desired delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is set at Terminal 15, the relay will pull on at the end of the specified time. If the voltage is removed at Terminal 15, the relay immediately drops off. Circuit diagram S2 and S3: The contacts are separate from the control and can therefore be used in links. With the Variants S2 and S3, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	04 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

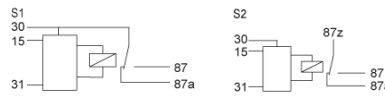
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch On Delay M1 compact 24 V	A	Individual delay time (see below)	S1	1.003.284.xxE
Time Relay with Switch On Delay M1 compact 24 V	B	Individual delay time (see below)	S2	1.003.285.xxE
Time Relay with Switch On Delay M1 compact 24 V	C	Individual delay time (see below)	S3	1.003.283.xxE
Time Relay with Switch On Delay M1 compact 24 V		Individual delay time (see below)		1.003.284.xxE

ACCESSORIES

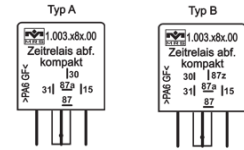
Required accessories	Article number
Software tool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



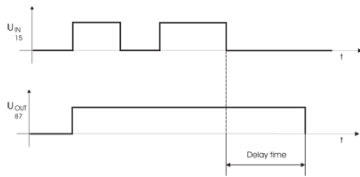
Time Relay with Switch Off Delay M1 compact 24V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Time relays with switch off delay switch on the consumer after the specified delay time has elapsed. Please specify the desired delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is applied to terminal 15, the relay will immediately pull on. If the voltage is removed at Terminal 15, the relay will fall off after the specified time has elapsed. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Circuit diagram S3: The relay does not consume a quiescent current by the diode circuitry after the drop. Variant S3 only 10/15a (ö/s). Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	04 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

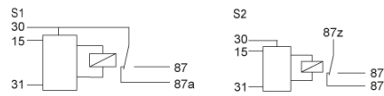
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch Off Delay M1 compact 24 V	A	Individual delay time (see below)	S1	1.003.281.00E
Time Relay with Switch Off Delay M1 compact 24 V	B	Individual delay time (see below)	S2	1.003.282.00E
Please set an "E" behind the article number for a english printing e.g. 1.003.281.00E				1.003.281.00EE

ACCESSORIES

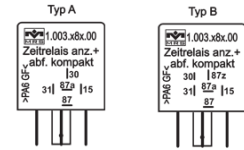
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



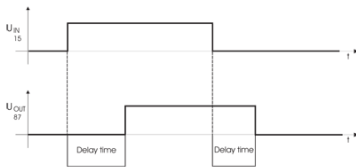
Time Relay Switch on and off Delay M1 compact 24V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Time relays with switch on and off delay can be used if consumers are to be switched on and off time-delayed. Please indicate the desired tightening and waste delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is set at Terminal 15, the relay will pull on at the end of the specified time. If the voltage is removed at Terminal 15, the relay falls off after the specified time has elapsed. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Circuit diagram S3: The relay does not consume a quiescent current by the diode circuitry after the drop. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	04 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	24 V

TECHNICAL DATA

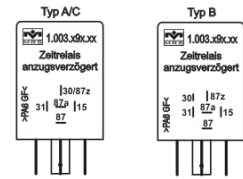
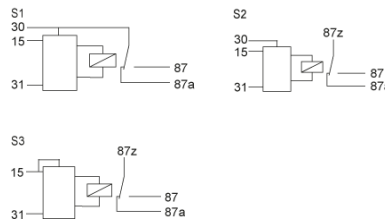
Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Time Relay Switch On and Off Delay M1 Compact 24 V	A	Individual delay time (see below)	S1	1.003.286.xxE
Time Relay Switch On and Off Delay M1 Compact 24 V	B	Individual delay time (see below)	S2	1.003.287.xxE
Please set an "E" behind the article number for a english printing e.g. 1.003.286.00E				1.003.286.00EE

ACCESSORIES

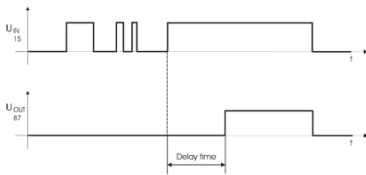
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Time Relay with Switch On Delay M3 24V

Connection Diagram

Design



Function Diagram

DESCRIPTION

Time relay with switch on delay M3 switches on the consumer after the specified delay time has elapsed. Please specify the desired delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is set at Terminal 15, the relay will pull on at the end of the specified time. If the voltage is removed at Terminal 15, the relay immediately drops off. Circuit diagram S2 and S3: The contacts are separate from the control and can therefore be used in links. With the Variants S2 and S3, the relay contact is completely potential-free and thus capable of switching alternating voltage. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

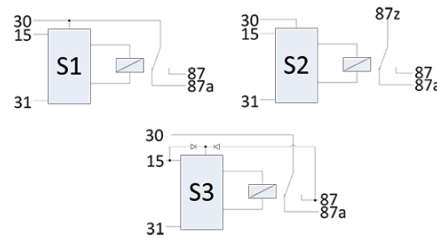
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch On Delay M3 24 V	A	Individual delay time (see below)	S1	1.003.294.xxE
Time Relay with Switch On Delay M3 24 V	B	Individual delay time (see below)	S2	1.003.295.xxE
Time Relay with Switch On Delay M3 24 V	C	Individual delay time (see below)	S3	1.003.293.xxE
Please set an "E" behind the article number for a english printing e.g. 1.003.294.00E		Individual delay time (see below)		1.003.294.xxE

ACCESSORIES

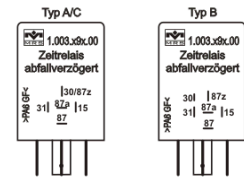
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



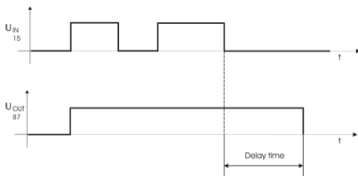
Time Relay with Switch Off Delay M3 24V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Time relays with switch off delay switch on the consumer after the specified delay time has elapsed. Please specify the desired delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is applied to terminal 15, the relay will immediately pull on. If the voltage is removed at Terminal 15, the relay will fall off after the specified time has elapsed. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Circuit diagram S3: The relay does not consume a quiescent current by the diode circuitry after the drop. Variant S3 only 10/15 A (ö/s). Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	04 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

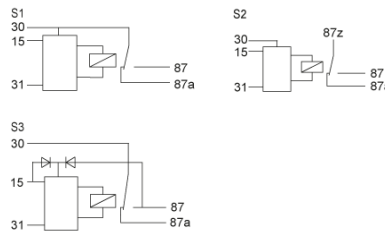
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch Off Delay M3 24 V	A	Individual delay time (see below)	S1	1.003.291.xxE
Time Relay with Switch Off Delay M3 24 V	B	Individual delay time (see below)	S2	1.003.292.xxE
Time Relay with Switch Off Delay M3 24 V	C	Individual delay time (see below)	S3	1.003.220.xxE
Please set an "E" behind the article number for a english printing e.g. 1.003.291.00E				1.003.291.00EE

ACCESSORIES

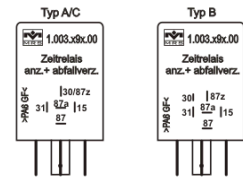
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



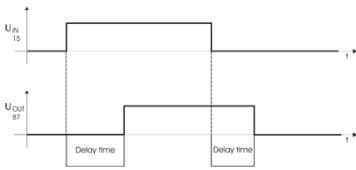
Time Relay Switch on and off Delay M3 24V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Time relays with switch on and off delay can be used if consumers are to be switched on and off time-delayed. Please indicate the desired tightening and waste delay time when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is set at Terminal 15, the relay will pull on at the end of the specified time. If the voltage is removed at Terminal 15, the relay falls off after the specified time has elapsed. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. In this variant, the relay contact is completely potential-free and thus capable of switching alternating voltage. Circuit diagram S3: The relay does not consume a quiescent current by the diode circuitry after the drop. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 7282
Type-approval	E1 - ECE R10
Number of pins	5
In-/Outputs (total)	2
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	1 mA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Time Relay Switch On and Off Delay 24 V (Basis M3)	A	Individual delay time (see below)	S1	1.003.296.xxE
Time Relay Switch On and Off Delay 24 V (Basis M3)	B	Individual delay time (see below)	S2	1.003.297.xxE
Time Relay Switch On and Off Delay 24 V (Basis Micro PLC)	C	Individual delay time (see below)	S3	1.003.290.xxE
Please set an "E" behind the article number for a english printing e.g. 1.003.296.00E				1.003.296.00EE

ACCESSORIES

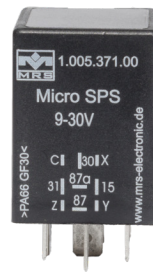
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Micro PLC 12 V



Group



Front



Rear



Side



Plug

DESCRIPTION

The Micro PLC (MULTIBLO) is a small control for automotive applications. Free configuration, parameterization and programmability offer a wide range of application possibilities in the automotive sector.

GENERAL DATA

Name	Value
Weight	33.7 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Stecker Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	6
Operating voltage	12 V
Protection class	IP53
Type-approval number	05 8091
Type-approval	E1 UN ECE R 10 Rev. 05

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	6
Inputs (total)	4
Inputs (digital)	3
Inputs (analog)	1
Outputs (total)	2
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	250 µA
Programming system	MRS Realizer
Continuous current limit	10 A Open / 15A Close

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Micro PLC 12 V E3 EA1 OR1	A	3 digital 1 analog inputs, 1 relay output	S2	1.005.151.00E
Micro PLC 12 V E3 EA1 OR1 C	A	3 digital 1 analog input, 1 relay output, 1 open collector output	S2	1.005.150.00E
Micro PLC 12 V E3 EA1 OR1	B	3 digital 1 analog input, 1 relay output	S3	1.005.154.00E
Micro PLC 12 V E3 EA1 OR1 C	C	3 digital 1 analog input, 1 relay output, 1 open collector output	S4	1.005.153.00E

ACCESSORIES

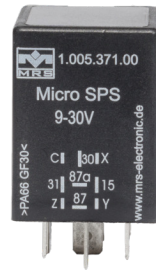
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Micro PLC 24V



Group



Front



Rear



Side



Plug

DESCRIPTION

The Micro PLC (MULTIBLO) is a small control for automotive applications. Free configuration, parameterization and programmability offer a wide range of application possibilities in the automotive sector.

GENERAL DATA

Name	Value
Weight	33.7 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Stecker Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	6
Operating voltage	24 V
Protection class	IP53
Type-approval number	05 8091
Type-approval	E1 UN ECE R 10 Rev. 05

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	6
Inputs (total)	4
Inputs (digital)	3
Inputs (analog)	1
Outputs (total)	2
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	250 µA
Programming system	MRS Realizer
Continuous current limit	10 A open / 15 A close

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Micro PLC 24 V E3 EA1 OR1	A	3 digital 1 analog input, 1 relay output	S2	1.005.251.00E
Micro PLC 24 V E3 EA1 OR1 C	A	3 digital 1 analog input, 1 relay output, 1 open collector output	S2	1.005.250.00E
Micro PLC 24 V E3 EA1 OR1	B	3 digital 1 analog input, 1 relay output	S3	1.005.254.00E
Micro SPS 24 V E3 EA1 OR1 C	C	3 digital 1 analog input, 1 relay output, 1 open collector output	S4	1.005.253.00E

ACCESSORIES

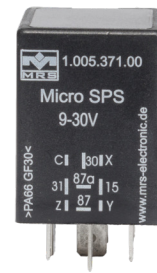
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Micro PLC 9-30V



Group



Front



Rear



Side



Plug

DESCRIPTION

The Micro PLC (MULTIBLO) is a small control for automotive applications. Free configuration, parameterization and programmability offer a wide range of application possibilities in the automotive sector.

GENERAL DATA

Name	Value
Weight	33.7 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Stecker Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	6
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	05 8091
Type-approval	E1 UN ECE R 10 Rev. 05

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	6
Inputs (total)	4
Inputs (digital)	3
Inputs (analog)	1
Outputs (total)	2
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Current consumption	250 µA
Max. output current (87, 87a)	5 A
Quiescent current (24V)	250 µA
Quiescent current (12V)	250 µA
Programming system	MRS Realizer

ORDER OPTIONS

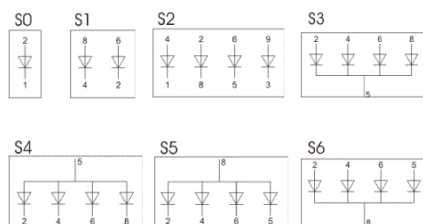
Name	Type	Model	Connection diagram	Order no.
Micro PLC 9-30 V E1 EA1 1x442	A	3 digital 1 analog input, 1 Highside output	S1	1.005.355.00E
Micro PLC 9-30 V EA1 2x442	A	3 digital 1 analog input, 2 Highside output	S1	1.005.365.00E
Micro PLC 9-30 V EA1 2x442 C	A	3 digital 1 analog input, 2 Highside output, 1 open collector output	S1	1.005.371.00E

ACCESSORIES

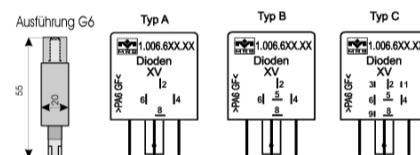
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Diode combination



Connection Diagram



Design

DESCRIPTION

Diode combination with diodes P600G. The diodes are not connected with each other. The anodes of the diodes are accessible via other flat pins.

GENERAL DATA

Name	Value
Housing material	Plastic
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Maximum continuous current	3 A

ORDER OPTIONS

Name	Type	Model	Casing	Connection diagram	Order no.
Diode combination 1x single 3 A/1300 V		3A	G6	S0	1.006.600.00E
Diode combination 2x single 6 A/400 V	Type A	6A	G1	S1	1.006.654.00E
Diode combination 2x single 3 A/1300 V	Type A	3A	G1	S1	1.006.652.00E
Diode combination 4x single 3 A/1300 V	Type C	3A	G1	S2	1.006.660.00E
Diode combination 4x common Cathode 3 A/1300 V Pin5	Type B	3A	G1	S3	1.006.661.00E
Diode combination 4x common Anode 3 A/1300 V Pin5	Type B	3A	G1	S4	1.006.662.00E
Diode combination 4x common Cathode 3 A/1300 V Pin8	Type B	3A	G1	S6	1.006.663.00E
Diode combination 4x common Anode 3 A/1300 V Pin8	Type B	3A	G1	S5	1.006.664.00E

ACCESSORIES

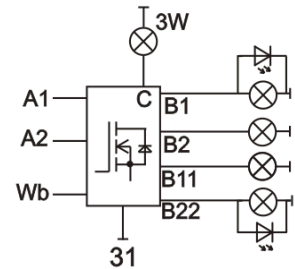
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Housing bracket	1.017.080.00



Universal Flasher LED 12V



Front



Connection Diagram



Design

DESCRIPTION

The Universal Flasher LED is suitable for LED lights and lights with incandescent lamps. This flasher unit supports left/right turn signals as well as hazard warning lights doubling flasher frequency in case of LED/lamp failure. Terminal C is the turn signal LED/lamp control output. If lights fail during flasher mode the flashing frequency on terminal C doubles (C2 function). When the supply voltage is applied to the left or right turn signal input the unit starts flashing left or right immediately. When the supply voltage is connected to the hazard warning lights input or to the left and right turn signal inputs simultaneously the hazard warning lights function is activated. LED/lamp failure can be detected via current threshold monitoring (customconfigurable on request) for each of the 4 output channels resulting in a doubling of the flasher frequency (C2 function). However, the flashing frequency will not double while the hazard warning lights mode is active.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Number of pins	9
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	9
Inputs (digital)	3
Outputs (digital)	4
Blink frequency	90 1/min
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Flasher output	Max. 21 W per channel
Status output terminal C	3 W
Current threshold	140 mA

ORDER OPTIONS

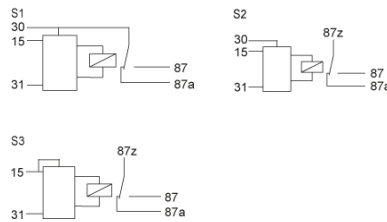
Name	Model	Connection diagram	Order no.
Universal Flasher LED 12 V	4 Channel	S1	1.007.110.00E

ACCESSORIES

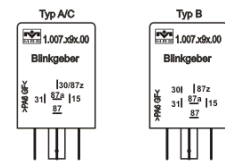
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Housing bracket	1.017.080.00



Flasher M3 12 V



Connection Diagram



Design

DESCRIPTION

The flasher unit start/stop M3 is used for signal and warning light applications. The flasher can be used in various vehicle types. The supply voltage is connected to terminal 30/87z. When an input voltage is applied to terminal 15 the flasher unit starts immediately, generating 90 +/-30 pulses per minute. The flasher output can switch loads up to 20 A. Higher loads may be switched with a second downstream power relay. The inverted input voltage is present on terminal 87a. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 7282
Type-approval	e1 - 72/245/EWG
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Processor family	Texas Instruments MSP 430
Processor	16 bit
Blink frequency	90 1/min
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Lifetime	100.000
Flashing frequency tolerance	+/- 30 pulses per min.

ORDER OPTIONS

Name	Type	Connection diagram	Order no.
Flasher M3 12 V	A	S1	1.007.191.00E
Flasher M3 12 V	B	S2	1.007.192.00E
Flasher M3 12 V	C	S3	1.007.193.00E

ACCESSORIES

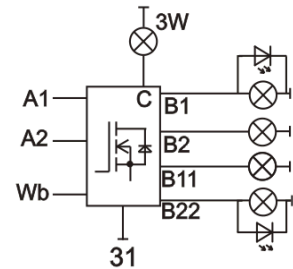
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



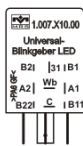
Universal Flasher LED 24V



Front



Connection Diagram



Design

DESCRIPTION

The Universal Flasher LED is suitable for LED lights and lights with incandescent lamps. This flasher unit supports left/right turn signals as well as hazard warning lights doubling flasher frequency in case of LED/lamp failure. Terminal C is the turn signal LED/lamp control output. If lights fail during flasher mode the flashing frequency on terminal C doubles (C2 function). When the supply voltage is applied to the left or right turn signal input the unit starts flashing left or right immediately. When the supply voltage is connected to the hazard warning lights input or to the left and right turn signal inputs simultaneously the hazard warning lights function is activated. LED/lamp failure can be detected via current threshold monitoring (customconfigurable on request) for each of the 4 output channels resulting in a doubling of the flasher frequency (C2 function). However, the flashing frequency will not double while the hazard warning lights mode is active.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Number of pins	9
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	9
Inputs (digital)	3
Outputs (digital)	4
Processor family	Freescale HCS08
Processor	8 bit
Blink frequency	90 1/min
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Flasher output	Max. 21 W per channel
Status output terminal C	3 W
Current threshold at 24 V	70 mA

ORDER OPTIONS

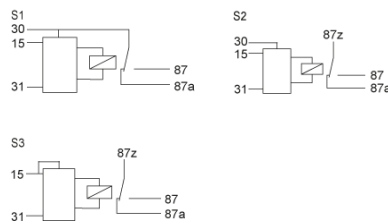
Name	Model	Connection diagram	Order no.
Universal Flasher LED 24 V	4 channel	S1	1.007.210.000

ACCESSORIES

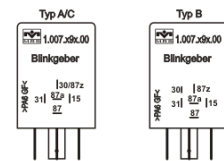
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Housing bracket	1.017.080.00



Flasher M3 24 V



Connection Diagram



Design

DESCRIPTION

The flasher unit start/stop M3 is used for signal and warning light applications. The flasher can be used in various vehicle types. The supply voltage is connected to terminal 30/87z. When an input voltage is applied to terminal 15 the flasher unit starts immediately, generating 90 +/-30 pulses per minute. The flasher output can switch loads up to 20 A. Higher loads may be switched with a second downstream power relay. The inverted input voltage is present on terminal 87a. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	03 5388
Type-approval	e1 - 72/245/EWG
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Processor family	Texas Instruments MSP 430
Processor	16 bit
Blink frequency	90 1/min
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Lifetime	100.000
Programming system	MRS Realizer
Flashing frequency tolerance	+/- 30 Impulse per min.

ORDER OPTIONS

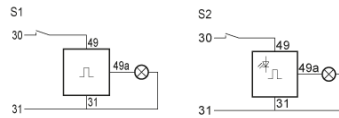
Name	Type	Connection diagram	Order no.
Flasher M3 24 V	A	S1	1.007.291.00
Flasher M3 24 V	B	S2	1.007.292.00
Flasher M3 24 V	C	S3	1.007.293.00

ACCESSORIES

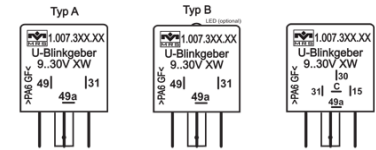
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Universal Flasher Unit 9-30V



Connection Diagram



Design

DESCRIPTION

The electronic Universal Flasher Unit is used for turn signal and hazard warning light applications. The flasher unit can be used in various vehicle types. Versions with indicator LED (additional function indication) or start/stop feature are available. Circuit diagram S1: If the operating voltage is applied to Terminal 49, the blinker starts immediately. It generates 90 +/-30 pulses per minute during operation. The output is resilient to up to 10 w, higher loads can also be operated by a downstream load relay. Circuit diagram S2: On request, the flashing sensor is also available with status LED. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Processor	8 bit
Blink frequency	90 1/min
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Lifetime	> 20.000.000 Schaltspiele
Programming system	MRS Realizer
Pick-up voltage	>=9 V
Voltage drop	<=0,5 V (at maximum nominal load)
Operating threshold	<=0,5 W
Pick-up time	<=0,2 Sec.
Flash frequency tolerance	+/- 30 Impulse per min.

ORDER OPTIONS

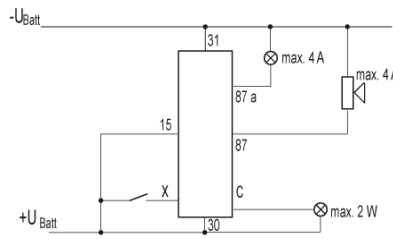
Name	Type	Model	Connection diagram	Order no.
Universal Flasher Unit 9-30 V	A	10 W	S1	1.007.300.00E
Universal Flasher Unit 9-30 V	A	80 W	S1	1.007.305.00E
Universal Flasher Unit 9-30 V	A	100 W	S1	1.007.307.00E
Universal Flasher Unit 9-30 V	B	80 W mit Top-LED	S2	1.007.306.00E
Universal Flasher Unit 9-30 V	B	100 W mit Top-LED	S2	1.007.308.00E

ACCESSORIES

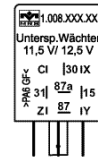
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 30 mm	300047
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Voltage Monitor Relay



Connection Diagram



Design

DESCRIPTION

The Undervoltage Monitor With Reset (acknowledgment) has outputs for a signal, buzzer or other indicators. It can be used to turn on/off acoustic or optical warning signals when the input voltage drops below/exceeds a defined voltage level. When the input voltage applied to terminal 15 drops below the defined threshold voltage outputs 87, 87a, and C are turned on. Output 87 can be switched off again via reset input x (acknowledgement) while outputs 87a and C remain on. When the input voltage on terminal 15 exceeds the defined threshold voltage all outputs are switched off. Custom threshold voltages are available on request. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	50 8091
Type-approval	UNECE R 10 Rev. 05
Number of pins	7
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	7
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Max. output current (87, 87a)	4 A
Quiescent current (12V)	250 µA
Programming system	MRS Realizer
Continuous current limit	10 A/15 A (O/C)
Switching voltage limit	75 VDC (S2)

ORDER OPTIONS

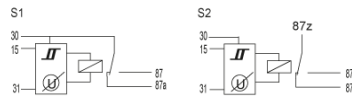
Name	Model	Order no.
Undervoltage Monitor with Reset 12 V	Thresholds: 11,5 V / 12,5 V; Undervoltage Monitor with 87a	1.008.110.00E
Undervoltage Monitor with Reset 12 V	Thresholds: 11,5 V / 12,5 V; Undervoltage Monitor without 87a	1.008.111.00E
Undervoltage Monitor with Reset 12 V	Individual voltage range (see below); Undervoltage Monitor with 87a	1.008.110.xxE
Undervoltage Monitor with Reset 12 V	Individual voltage range (see below); Undervoltage Monitor without 87a	1.008.111.xxE

ACCESSORIES

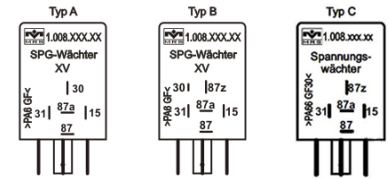
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



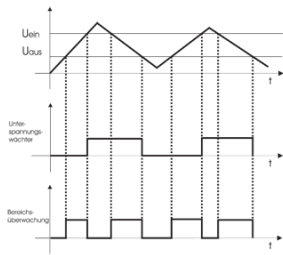
Voltage Monitor 12V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The voltage monitor switches loads off when the voltage signal connected to terminal 15 drops below or exceeds a lower/upper threshold voltage. The standard lower/upper threshold voltages for 12 V applications are 11.5 V/12.5 V and 23 V/24 V for 24 V applications. Lower/upper threshold voltages can be customized on request. In addition, combinations with switch-on/switch-off time delay are available. The voltage range monitor switches loads off when the voltage signal connected to terminal 15 drops below or exceeds a lower/upper threshold voltage and switches loads on again when the supply voltage enters the defined threshold voltage range. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 8091
Type-approval	UNECE R 10 Rev. 05
Operating voltage	12 V
Number of pins	5/6

TECHNICAL DATA

Name	Value
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	250 µA
Programming system	MRS Realizer
Number of pins	5/6
Continuous current limit	10 A/15 A (o/c)
Max. switching voltage	75 VDC (S2)

ORDER OPTIONS

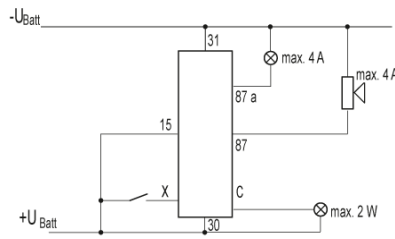
Name	Type	Model	Connection diagram	Order no.
Undervoltage monitor 12 V	A	Voltage thresholds: 11,5 V / 12,5 V	S1	1.008.100.00E
Overvoltage monitor 12 V	A	Voltage thresholds standard: 11,5 V / 12,5 V	S1	1.008.126.00E
Overvoltage monitor 12 V	B	Voltage thresholds standard: 11,5 V / 12,5 V	S2	1.008.156.00E
Voltage range monitor 12 V	A	Voltage thresholds standard: 11,5 V / 12,5 V	S2	1.008.127.00E
Voltage range monitor 12 V	B	Voltage thresholds standard: 11,5 V / 12,5 V	S2	1.008.150.00E
Undervoltage monitor 12 V	A	Individual voltage range (see below)	S1	1.008.100.xxE
Overvoltage monitor 12 V	A	Individual voltage range (see below)	S1	1.008.126.xxE
Overvoltage monitor 12 V	B	Individual voltage range (see below)	S2	1.008.156.xxE
Voltage range monitor 12 V	A	Individual voltage range (see below)	S2	1.008.127.xxE
Voltage range monitor 12 V	B	Individual voltage range (see below)	S2	1.008.150.xxE

ACCESSORIES

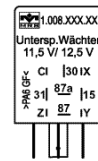
Required accessories	Article number
Software tool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Undervoltage monitor with reset 24 V



Connection Diagram



Design

DESCRIPTION

The Undervoltage Monitor With Reset (acknowledgment) has outputs for a signal, buzzer or other indicators. It can be used to turn on/off acoustic or optical warning signals when the input voltage drops below/exceeds a defined voltage level. When the input voltage applied to terminal 15 drops below the defined threshold voltage outputs 87, 87a, and C are turned on. Output 87 can be switched off again via reset input x (acknowledgement) while outputs 87a and C remain on. When the input voltage on terminal 15 exceeds the defined threshold voltage all outputs are switched off. Custom threshold voltages are available on request. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	03 3218
Type-approval	e1 - 72/245/EWG
Number of pins	7
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	7
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Max. output current (87, 87a)	4 A
Quiescent current (24V)	250 µA
Programming system	MRS Realizer
Continuous current limit	10 A/15 A (o/c)
Max. switching voltage	75 VDC (S2)

ORDER OPTIONS

Name	Model	Order no.
Undervoltage Monitor with Reset 24 V	Thresholds: 23 V / 25 V; Undervoltage Monitor with 87a	1.008.210.00E
Undervoltage Monitor with Reset 24 V	Thresholds: 23 V / 25 V; Undervoltage Monitor with 87a	1.008.211.00E
Undervoltage Monitor with Reset 24 V	Individual voltage range (see below); Undervoltage Monitor with 87a	1.008.210.xxE
Undervoltage Monitor with Reset 24 V	Individual voltage range (see below); Undervoltage Monitor without 87a	1.008.211.xxE

ACCESSORIES

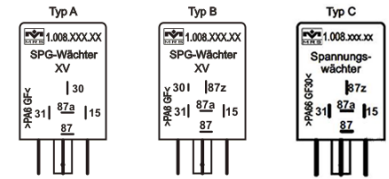
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



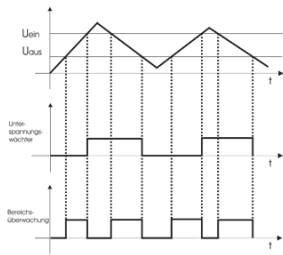
Voltage Monitor 24V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The 24 V voltage switches are used for area monitoring. The voltage monitor switches loads off when the voltage signal connected to terminal 15 drops below or exceeds a lower/upper threshold voltage. The standard lower/upper threshold voltages for 12 V applications are 11.5 V/12.5 V and 23 V/24V for 24 V applications. Lower/upper threshold voltages can be customized on request. In addition, combinations with switch-on/switch-off time delay are available. The voltage range monitor switches loads off when the voltage signal connected to terminal 15 drops below or exceeds a lower/upper threshold voltage and switches loads on again when the supply voltage enters the defined threshold voltage range. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 8091
Type-approval	e1 - 72/245/EWG
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	250 µA
Programming system	MRS Realizer
Continuous current limit	10 A/15 A (o/c)
Max. switching voltage	75 VDC (S2)

ORDER OPTIONS

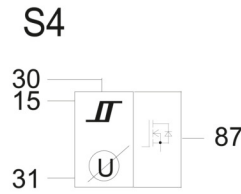
Name	Type	Model	Connection diagram	Order no.
Undervoltage Monitor 24 V	A	Voltage thresholds standard: 23,5 V / 24,5 V	S1	1.008.200.00E
Overvoltage Monitor 24 V	A	Voltage thresholds standard: 23,5 V / 24,5 V	S1	1.008.226.00E
Voltage range Monitor 24 V	A	Voltage thresholds standard: 23,5 V / 24,5 V	S1	1.008.227.00E
Voltage range Monitor 24 V	B	Voltage thresholds standard: 23,5 V / 24,5 V	S2	1.008.240.00E
Undervoltage Monitor 24 V	A	Individual voltage range (see below)	S1	1.008.200.xxE
Overvoltage monitor 24 V	A	Individual voltage range (see below)	S1	1.008.226.xxE
Voltage range monitor 24V	A	Individual voltage range (see below)	S1	1.008.227.xxE
Voltage range monitor 24 V	C	Individual voltage range (see below)	S3	1.008.240.xxE

ACCESSORIES

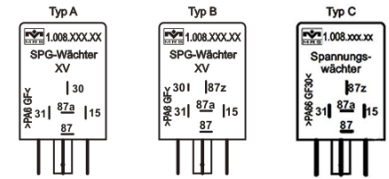
Required accessories	Article number
Software tool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



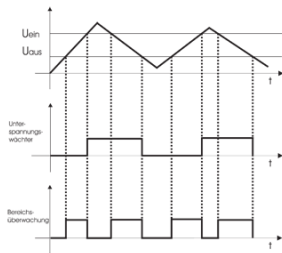
Voltage Monitor 9-30V



Connection Diagram



Design



Function Diagram

DESCRIPTION

The voltage monitor switches loads off when the voltage signal connected to terminal 15 drops below or exceeds a lower/upper threshold voltage. The standard lower/upper threshold voltages for 12 V applications are 11.5 V/12.5 V and 23 V/24 V for 24 V applications. Lower/upper threshold voltages can be customized on request. In addition, combinations with switch-on/switch-off time delay are available. The voltage range monitor switches loads off when the voltage signal connected to terminal 15 drops below or exceeds a lower/upper threshold voltage and switches loads on again when the supply voltage enters the defined threshold voltage range. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 8091
Type-approval	UNECE R 10 Rev. 05
Number of pins	5
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Number of pins	5
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Quiescent current (24V)	250 µA
Quiescent current (12V)	250 µA
Programming system	MRS Realizer
Continuous current limit	10 A/15 A (o/c)
Max. switching voltage	75 VDC (S2)

ORDER OPTIONS

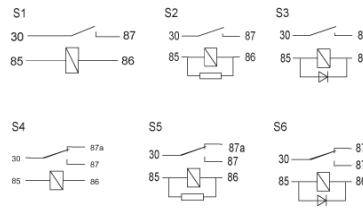
Name	Type	Model	Connection diagram	Order no.
Bereichsüberwachung 9-30 V	A	Individueller Spannungsbereich (siehe unten)	S4	1.008.300.00E

ACCESSORIES

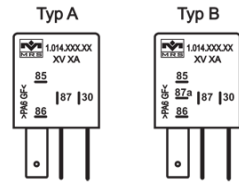
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Micro Relay 12V



Connection Diagram



Design

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Housing material	Plastic
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V

ORDER OPTIONS

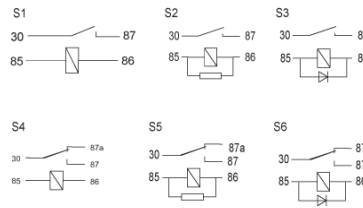
Name	Type	Model	Connection diagram	Order no.
Relay MI W CM1-12 V 35/20 A	B	Two-way contact	S4	1.014.100.00E
Relay MI W CM1-R-12 V 35/20 A	B	Two-way contact with resistor	S5	1.014.102.00E
Relay MI S CM1A-R-12 V 35 A	A	Normally open contact with resistor	S2	1.014.103.00E
Relay W HFV6/024-ZSTD	A	Two-way contact with diode	S3	1.014H.204.00E

ACCESSORIES

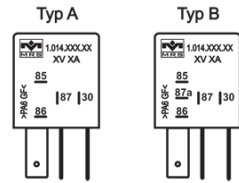
Required accessories	Article number
Socket MI FL 5-pin. 2 x 6.3 / 3 x 4.8	1.017.000.00
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 4,8 mm 0,5 – 1,0 mm ²	108304
Tab receptacle for latching 4,8 mm 1,0 – 2,5 mm ²	108305



Micro Relay 24V



Connection Diagram



Design

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Housing material	Plastics
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V

ORDER OPTIONS

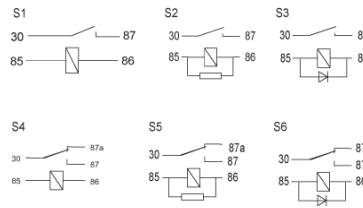
Name	Type	Model	Connection diagram	Order no.
Relay MI W CM1-24 V 15/8 A	B	Two-way contact	S4	1.014.200.00E
Relay MI W CM1-R-24 V 15/8 A	B	Two-way contact with resistor	S5	1.014.202.00E
Relay MI S CM1A-24 V 15 A	A	Normally open contact	S1	1.014.201.00E
Relay W HFV6/024-ZSTD	B	Two-way contact with diode	S6	1.014H.204.00E

ACCESSORIES

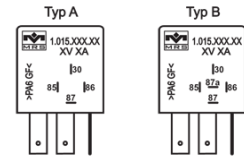
Required accessories	Article number
Socket MI FL 5-pin. 2 x 6.3 / 3 x 4.8	1.017.000.00
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 4,8 mm 0,5 – 1,0 mm ²	108304
Tab receptacle for latching 4,8 mm 1,0 – 2,5 mm ²	108305



Standard Relay 12V



Connection Diagram



Design

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Housing material	Plastics
Number of pins	5
Operating voltage	12 V
Housing dimensions CB1	22x26x25 mm
Housing dimensions V23134	26 x 26 x 25 mm

TECHNICAL DATA

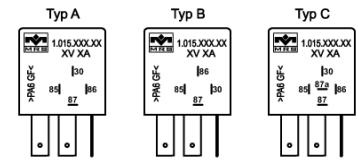
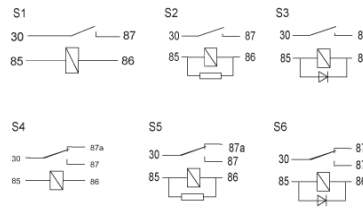
Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Relay ST S CB1A-M-12 V 40 A	A	Normally open contact with mounting bracket	S1	1.015.107.00E
Relay ST W CB1-12 V 40/30 A	B	Two-way contact	S4	1.015.100.00E
Relay ST W CB1-R-12 V 40/30 A	B	Two-way contact with resistor	S5	1.015.102.00E
Relay W HFV4/012-1Z1SGD2	B	Two-way contact with diode	S6	1.015H.104.00E
Relay W HFV4/012-1Z4SGD2	B	Two-way contact with diode and mounting bracket	S6	1.015H.110.00E

ACCESSORIES

Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Standard Relay with special terminals 12V

Connection Diagram

Design

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Housing material	Plastics
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V

ORDER OPTIONS

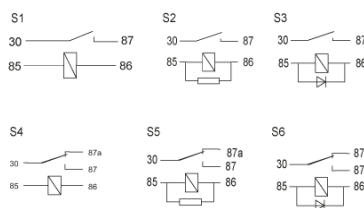
Name	Type	Model	Connection diagram	Order no.
Relay ST S RLPS/4-12 12 V 40 A	A	Normally open contact 2 x 87	S1	1.015.164.00E
Relay ST S RLPA/4-12 12 V 40 A	B	Normally open contact with mounting bracket	S1	1.015.161.00E

ACCESSORIES

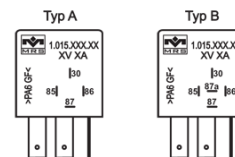
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Standard Relay 24V



Connection Diagram



Design

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Housing material	Plastics
Number of pins	5
Operating voltage	24 V
Housing dimensions CB1	22x26x25 mm
Housing dimensions V23134	26x26x25 mm

TECHNICAL DATA

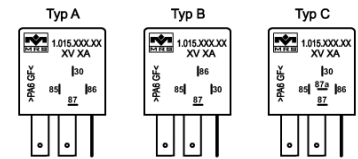
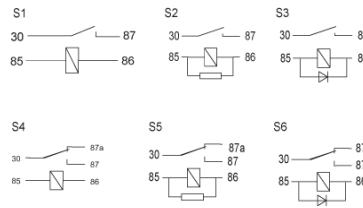
Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Relay ST S CB1A-R-24 V 20 A	A	Normally open contact with resistor	S2	1.015.203.00E
Relay ST W CB1-24 V 20/10 A	B	Two-way contact	S4	1.015.200.00E
Relay ST W CB1-R-24 V 20/10 A	B	Two-way contact with resistor	S5	1.015.202.00E
Relay V23134-A0053-C643 24 V 20/15 A	B	Two-way contact	S4	1.015.253.00E
Relay W HFV4/024-1Z1SGD2	B	Two-way contact with diode	S6	1.015H.204.00E
Relay S HFV4/024-1H1SGD2	A	Normally open contact with diode	S3	1.015H.205.00E
Relay FRC1BC-1NS-DC24 V	B	Two-way contact with diode	S6	1.015M.204.00E

ACCESSORIES

Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Standard Relay with special terminals 24V

Connection Diagram

Design

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Housing material	Plastics
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Relay ST W RLPS/52-24D 24 V 22/10 A	C	Two-way contact with diode	S6	1.015.278.00E
Relay ST W RLP/52-24 24 V 22/10 A	C	Two-way contact with mounting bracket	S4	1.015.250.00E
Relay ST W RLP/52-24R 24 V 22/10 A	C	Two-way contact with resistor and mounting bracket	S5	1.015.256.00E

ACCESSORIES

Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



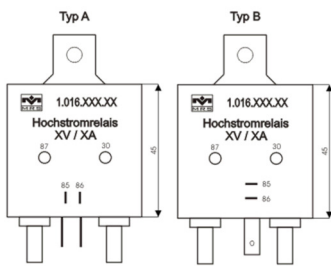
Power Relay 12V



Connection Diagram



Design



Design with screwing terminals

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Number of pins	4
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	4
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Relay H S CB1A-H-12 12 V 50 A		Normally open contact	S1	1.016.155.00E
Relay H S RLACS/4-12 12 V 70 A		Normally open contact	S1	1.016.152.00E
Relay H S RL/180-12 12 V 100 A	A	Normally open contact with screwing terminals and mounting bracket	S1	1.016.154.00E
Relay H S RP/120-12 12 V 120 A	B	Normally open contact with screwing terminals and mounting bracket	S1	1.016.158.00E

ACCESSORIES

Required accessories	Article number
Socket H FL 9-pin 2 x 9.5 / 3 x 6.3 / 4 x 2.8	1.017.001.00
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Tab receptacle for latching 9,5 mm 4,0 – 6,0 mm ²	103066

Note: For relays with screw contacts, only the accessory with article number 103064 is required.



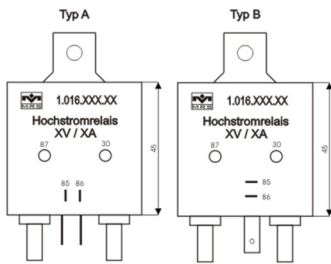
Power Relay 24V



Connection Diagram



Design



Design with screwing terminals

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Number of pins	4
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	4
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V

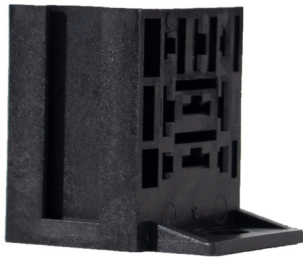
ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Relay H S RLACS/4-24 24 V 40 A		Normally open contact	S1	1.016.252. 00E
Relay V23134-J0053-D642 24 V		Normally open contact	S1	1.016.200. 00E
Relay V23134-J0053-D642 24 V R		Two-way contact with resistor	S2	1.016.201. 00E
Relay V23134-J0053-D642 24 V D		Two-way contact with diode (Attention: Delivery time is at least half a year)	S3	1.016.202. 00E
Relay V23134-J1053-D642 24 V L		Normally open contact with mounting bracket	S1	1.016.203. 00E
Relay H S RL/80-24 24 V 60 A	A	Normally open contact with screwing terminals and mounting bracket	S1	1.016.254. 00E
Relay H S RP/100-24 24 V 100 A	B	Normally open contact with screwing terminals and mounting bracket	S1	1.016.258. 00E

ACCESSORIES

Required accessories	Article number
Socket H FL 9-pin 2 x 9.5 / 3 x 6.3 / 4 x 2.8	1.017.001.00
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Tab receptacle for latching 9,5 mm 4,0 – 6,0 mm ²	103066

Note: For relays with screw contacts, only the accessory with article number 103064 is required.



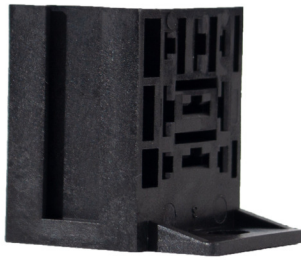
Socket MI FL 5-pin. 2



Socket MI FL 5-pin. 2 rear view

DESCRIPTION

The compact and high-quality 5-pin MRS-Socket MI FL 5-pin. 2x6.3 / 3x4.8 is perfect for your application when used with MRS-Relays. Use the socket to integrate the appropriate tab receptacles and then fix the cabling. Your benefit is the easy handling of the MRS-Socket MI FL 5-pin. 2x6.3 / 3x4.8. You can change relays quickly and easily without the risk of connection interchanging - even without circuit diagram knowledge.



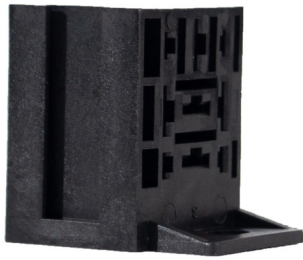
Socket H FL 9-pin 2



Socket H FL 9-pin 2 rear view

DESCRIPTION

The compact and high-quality 9-pin MRS-Socket H FL 9-pin 2x9.5 / 3x6.3 / 4x2.8 is perfect for your application when used with MRS-Relays. Use the socket to integrate the appropriate tab receptacles and then fix the cabling. Your benefit is the easy handling of the MRS-Socket H FL 9-pin 2x9.5 / 3x6.3 / 4x2.8. You can change relays quickly and easily without the risk of connection interchanging - even without circuit diagram knowledge.



Socket ST FL 9-pin



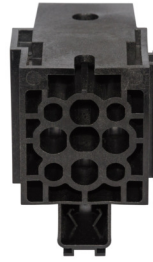
Socket ST FL 9-pin rear view

DESCRIPTION

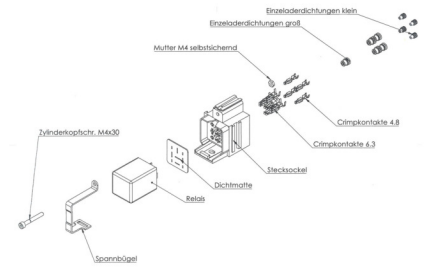
The compact and high-quality 9-pin MRS-Socket ST FL 9-pin 5x6.3 / 4x2.8 is perfect for your application when used with MRS-Relays. Use the socket to integrate the appropriate tab receptacles and then fix the cabling. Your benefit is the easy handling of the MRS-Socket ST FL 9-pin 5x6.3 / 4x2.8. You can change relays quickly and easily without the risk of connection interchanging - even without circuit diagram knowledge.



Socket Waterproof



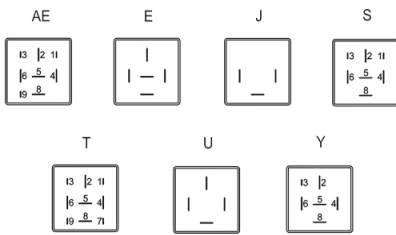
Back



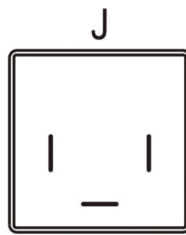
Exploded View

DESCRIPTION

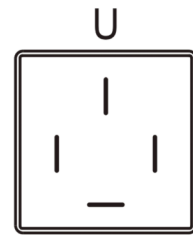
The patented waterproof socket (PA66 GF30) of MRS is perfect for water, dust and dirt applications. Due to the high-quality sealing mat between socket and relay and the individual wire seals on the crimp contacts, the socket acquires its protective, watertight property. The additional clamping bracket presses the relay and socket firmly together, creating even more impermeability. Due to the different clamp heights (30 mm, 40 mm, 50 mm), the waterproof socket is compatible with all MRS-Relays. Use the socket to integrate the appropriate tab receptacles and then fix the cabling. Your benefit is the easy handling and impermeability of the patented socket. Quickly and easily change relays without the risk of connection interchanging - even without circuit diagram knowledge.



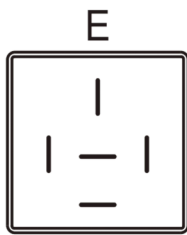
Overview of base plates



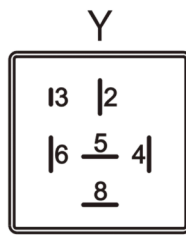
Base plate 3-pin



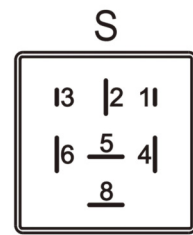
Base plate 4-pin



Base plate 5-pin



Base plate 6-pin



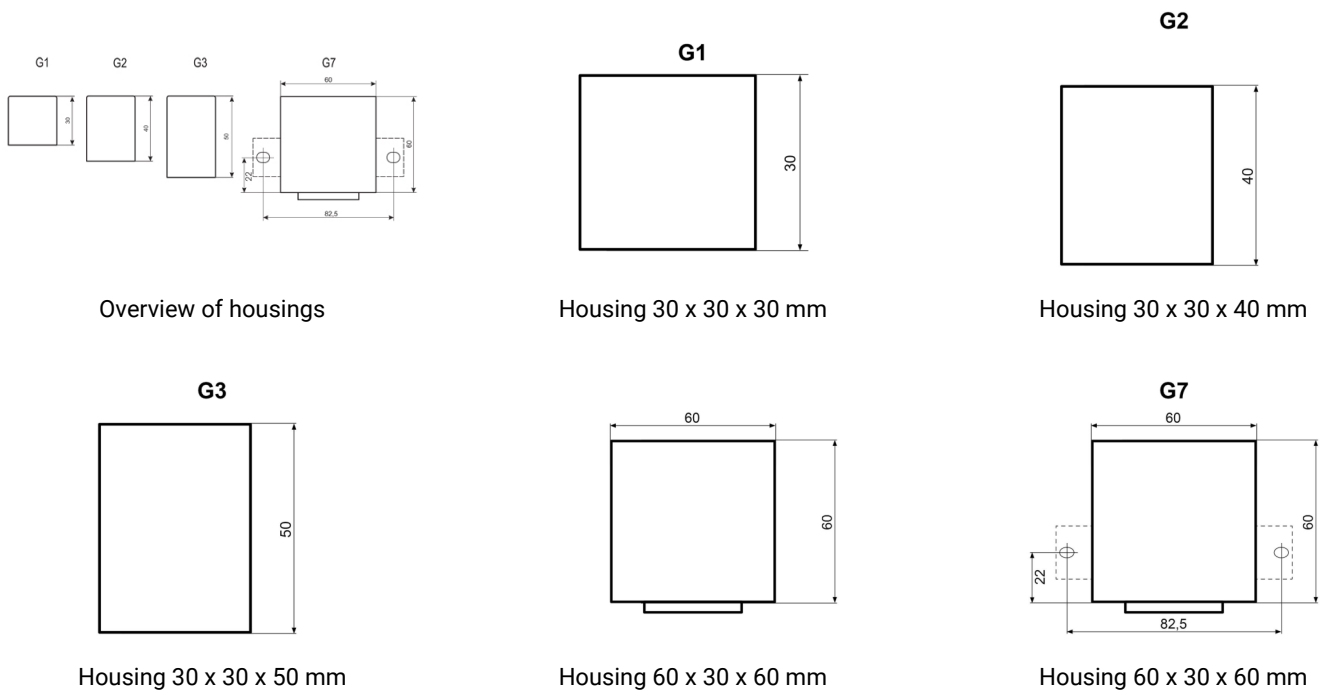
Base plate 7-pin

DESCRIPTION

The practical MRS base plate for flat receptacles is equipped with high quality pins consisting of copper-tin. Due to the versatile designs, the base plate (plastic designation A70 GF30) is particularly flexible. Depending on your requirements, select your suitable base plate with variable number and arrangement of the pins (3-pole to 9-pole). The wide range of base plate covers your needs perfectly for individual applications.

ORDER OPTIONS

Name	Type	Order no.
Base plate 3-pin	GP3/J	1.017.062.00
Base plate 4-pin	GP4/U	1.017.065.00
Base plate 5-pin	GP5/E	1.017.061.00
Base plate 6-pin	GP6/Y	1.017.066.00
Base plate 7-pin	GP7/S	1.017.063.00
Base plate 8-pin	GP8/AE	1.017.060.00
Base plate 9-pin	GP9/T	1.017.064.00



DESCRIPTION

Matching the base plates, the compatible MRS plastic housing (PA66 GF30) provides the perfect protection for your electronics. Due to the optimal glass fiber content, the housing is particularly resistant to breakage and thus protects against mechanical damage and moisture. Depending on your personal requirements, choose between different case sizes and versions. The MRS housing combines high quality and comprehensive protection for your application.

ORDER OPTIONS

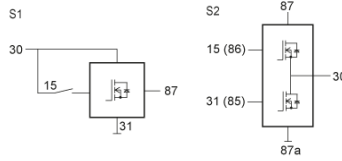
Name	Type	Model	Order no.
Housing 30 x 30 x 30 mm	G1	mounting brackets type.-nr. 100911	1.017.070.00
Housing 30 x 30 x 40 mm	G2	mounting brackets type.-nr. 100911	1.017.071.00
Housing 30 x 30 x 50 mm	G3		1.017.072.00
Housing 60 x 30 x 60 mm	G7	mounting brackets type.-nr. 102995	1.017.073.00
Housing 60 x 30 x 60 mm	G7	side mounting brackets	1.017.074.00

DESCRIPTION

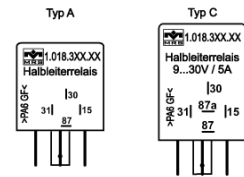
The Housing Bracket allows flexible mounting of the relay housing. Due to a smart plug-in system, the housings can be easily attached at the desired position with M6 screws. Your benefit is the easy handling of our MRS-Housing Bracket.



Solid State Relay S 4 A



Connection Diagram



Design

DESCRIPTION

Solid state relays are suitable for switching lamp loads, ohmic and inductive loads. They switch silent and are absolutely wear-free. They are compatible with conventional ISO mini-relays in terms of size and connector design. Solid state relays are short-circuit-proof, overload-proof and over-temperature protected. They switch off faster at short circuit than a fuse and have a low idle current requirement of approx. 50 mA. There is a solid state relay with positive or negative control.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	03 6819
Type-approval	E1 ECE R10
Number of pins	4
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Number of pins	4
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Max. continuous current	4 A
Quiescent current (KI.30)	max. 100 µA
Lifespan	>20.000.000 operations

ORDER OPTIONS

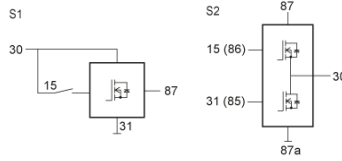
Name	Type	Model	Connection diagram	Order no.
Solid state relay S 9-30 V 4 A	A	Normally open contact	S1	1.018.300.00E

ACCESSORIES

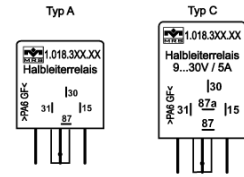
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Housing bracket	1.017.080.00



Solid State Relay H 5 A



Connection Diagram



Design

DESCRIPTION

This solid state relay is suitable for switching lamp loads, ohmic and inductive loads. They switch silent and are absolutely wear-free. They are compatible with conventional ISO mini-relays in terms of size and connector design. Solid state relays are short-circuit-proof, overload-proof and over-temperature protected. They switch off faster at short circuit than a fuse and have a low idle current requirement of approx. 50 mA. There is a semiconductor relay with positive or negative control.

GENERAL DATA

Name	Value
Weight	35 g
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	03 6819
Type-approval	E1 ECE R10
Number of pins	4
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Number of pins	4
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Maximum continuous current	4 A
rated current	5 A
Max. switching current (1sec)	15 A
Quiescent current	500 µA

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Solid state relay 9-30 V 5 A	C	Half bridge	S2	1.018.360.00E

ACCESSORIES

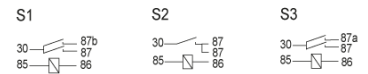
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Housing bracket	1.017.080.00



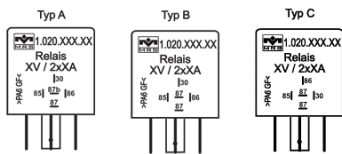
Front



Plug



Connection Diagram



Design

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Relay ST DS RDPS/5-12 12 V 2x20 A	A	Double normally open contact	S1	1.020.179.00E
Relay ST DS RDPS/5-12R 12 V 2x20 A	A	Double normally open contact with resistor		1.020.186.00E
Relay ST DS RDP/5-12 12 V 2x20 A	A	Double normally open contact with mounting bracket	S1	1.020.183.00E
Relay V23134- M0052-C642 12 V 2x25 A	A	Double normally open contact	S1	1.020.176.00E
Relay V23134- M1052-C642 12 V 2x25 A L	A	Double normally open contact with mounting bracket	S1	1.020.180.00E
Relay ST S RLP/5-12 12 V 40 A	B	Normally open contact 2 x 87 with mounting bracket	S2	1.020.187.00E

ACCESSORIES

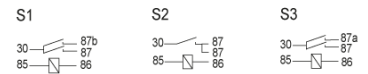
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



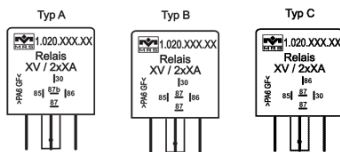
Relay with special terminals 24V



Plug



Connection Diagram



Design

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V

ORDER OPTIONS

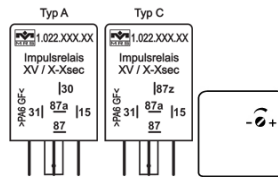
Name	Type	Model	Connection diagram	Order no.
Relay ST DS RDPS/5-24 24V 2x10A	A	Double normally open contact	S1	1.020.279.00E
Relay ST DS RDPS/5-24D 24V 2x10A	A	Double normally open contact with diode		1.020.284.00E
Relay ST DS RDP/5-24 24V 2x10A	A	Double normally open contact with mounting bracket	S1	1.020.283.00E
Relay V23134- M0053-C642 24V 2x15A	A	Double normally open contact	S1	1.020.276.00E
Relay V23134- M1053-C642 24V 2x15A L	A	Double normally open contact with mounting bracket	S1	1.020.280.00E
Relay ST S RLP/5-24 24V 22A	B	Normally open contact 2 x 87	S2	1.020.270.00E

ACCESSORIES

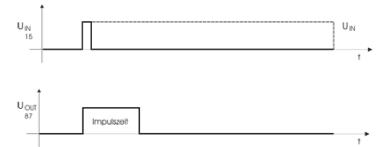
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



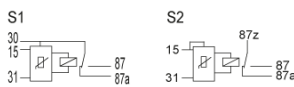
Pulse Relay adjustable 12 V



Design



Function Diagram



Connection Diagram

DESCRIPTION

Pulse relays can be adjusted when consumers are to be switched on or off for a time-defined range. You can choose from five time ranges by default (see table). Within the selected time range, the pulse time can be changed via potentiometer. We realize other time ranges on request. Please specify the desired time range when ordering. Circuit diagram S1: Operating voltage is applied to terminal 30. If the voltage is fixed briefly or permanently at Terminal 15, the relay will immediately pull on the set time and then fall off again. Circuit diagram S2: Operating voltage is applied to terminal 87z. If the voltage is short or permanent at Terminal 15, the relay will immediately pull in for the set time and then fall off again. Control and contacts are separated from each other and can thus be placed in a chain of links. All schematics: The duration of the control signal does not affect the duration of the output pulse (i.e. the relay is not retriggerable). The exact pulse length can be set with the potentiometer within the given time interval. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	03 3218
Type-approval	e1 – 72/245/EWG
Number of pins	5
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Max. output current (87, 87a)	15 A
Quiescent current (12V)	250 µA
Pulse duration	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

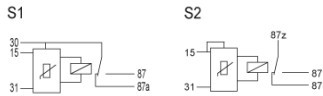
Name	Type	Model	Connection diagram	Order no.
Pulse Relay adjustable 12 V	A	Individual pulse time (see below)	S1	1.022.115.xxE
Pulse Relay adjustable 12 V	C	Individual pulse time (see below)	S2	1.022.114.xxE
Pulse Relay adjustable 12 V	A	Time Interval: 0,5 - 5 seconds	S1	1.022.115.01E
Pulse Relay adjustable 12 V	A	Time Interval: 1 - 30 seconds	S1	1.022.115.02E
Pulse Relay adjustable 12 V	A	Time Interval: 0,5 - 60 seconds	S1	1.022.115.03E
Pulse Relay adjustable 12 V	A	Time Interval: 30 - 900 seconds	S1	1.022.115.04E
Pulse Relay adjustable 12 V	A	Time Interval: 0,5 - 4000 seconds	S1	1.022.115.05E
Pulse Relay adjustable 12 V	C	Time Interval: 0,5 - 5 seconds	S2	1.022.114.01E
Pulse Relay adjustable 12 V	C	Time Interval: 1 - 30 seconds	S2	1.022.114.02E
Pulse Relay adjustable 12 V	C	Time Interval: 0,5 - 60 seconds	S2	1.022.114.03E
Pulse Relay adjustable 12 V	C	Time Interval: 30 - 900 seconds	S2	1.022.114.04E
Pulse Relay adjustable 12 V	C	Time Interval: 0,5 - 4000 seconds	S2	1.022.114.05E

ACCESSORIES

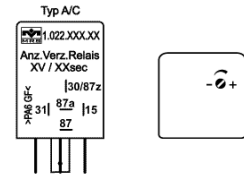
Required accessories	Article number
Software tool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



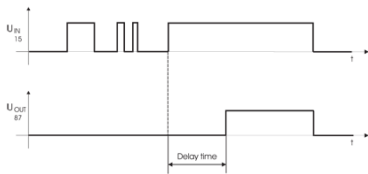
Time Relay with Switch On Delay adjustable 12V



Connection Diagram



Design



Function Diagram

DESCRIPTION

With time relays adjustable the exact delay time can be set via potentiometer within the selected time range. You can choose from five time ranges by default (see table). We realize other time ranges on request. Please specify the desired time range when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is applied to terminal 15, the relay will move on after the set time has elapsed. If the voltage is removed at Terminal 15, the relay drops off immediately. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	03 3218
Type-approval	e1 - 72/245/EWG
Number of pins	5
In-/Outputs (total)	2
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	250 µA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

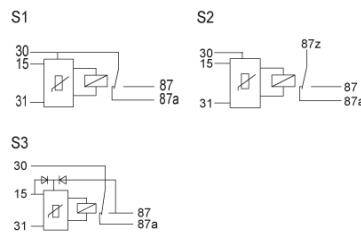
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch On Delay adjustable 12 V	A	Individual delay time (see below)	S1	1.022.112.xxE
Time Relay with Switch On Delay adjustable 12 V	C	Individual delay time (see below)	S2	1.022.110.xxE
Time Relay with Switch On Delay adjustable 12 V	A	Time Interval: 0,5 - 5 seconds	S1	1.022.112.01E
Time Relay with Switch On Delay adjustable 12 V	A	Time Interval: 1 - 30 seconds	S1	1.022.112.02E
Time Relay with Switch On Delay adjustable 12 V	A	Time Interval: 0,5 - 60 seconds	S1	1.022.112.03E
Time Relay with Switch On Delay adjustable 12 V	A	Time Interval: 30 - 900 seconds	S1	1.022.112.04E
Time Relay with Switch On Delay adjustable 12 V	A	Time Interval: 0,5 - 4000 seconds	S1	1.022.112.05E
Time Relay with Switch On Delay adjustable 12 V	C	Time Interval: 0,5 - 5 seconds	S2	1.022.112.01E
Time Relay with Switch On Delay adjustable 12 V	C	Time Interval: 1 - 30 seconds	S2	1.022.112.02E
Time Relay with Switch On Delay adjustable 12 V	C	Time Interval: 0,5 - 60 seconds	S2	1.022.112.03E
Time Relay with Switch On Delay adjustable 12 V	C	Time Interval: 30 - 900 seconds	S2	1.022.112.04E
Time Relay with Switch On Delay adjustable 12 V	C	Time Interval: 0,5 - 4000 seconds	S2	1.022.112.05E

ACCESSORIES

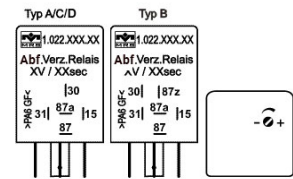
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



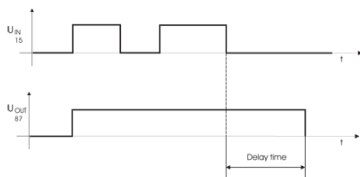
Time Relay with Switch Off Delay adjustable 12V



Connection Diagram



Design



Function Diagram

DESCRIPTION

With adjustable time relays the exact delay time can be set via potentiometer within the selected time range. You can choose from five time ranges by default (see table). We realize other time ranges on request. Please specify the desired time range when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is applied to terminal 15, the relay will immediately pull on. If the voltage is removed at Terminal 15, the relay falls off after the set time has elapsed. Circuit diagram S3: The relay does not consume a quiescent current by the diode circuitry after the drop. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	03 3218
Type-approval	e1 - 72/245/EWG
Number of pins	5
In-/Outputs (total)	2
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	250 µA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

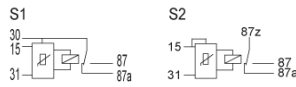
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch Off Delay adjustable 12 V	A	Individual delay time (see below)	S1	1.022.113.xxE
Time Relay with Switch Off Delay adjustable 12 V	B	Individual delay time (see below)	S2	1.022.116.xxE
Time Relay with Switch Off Delay adjustable 12 V	D	Individual delay time (see below)	S3	1.022.111.xxE
Time Relay with Switch Off Delay adjustable 12 V	A	Time Interval: 0,5 - 5 seconds	S1	1.022.113.01E
Time Relay with Switch Off Delay adjustable 12 V	A	Time Interval: 1 - 30 seconds	S1	1.022.113.02E
Time Relay with Switch Off Delay adjustable 12 V	A	Time Interval: 0,5 - 60 seconds	S1	1.022.113.03E
Time Relay with Switch Off Delay adjustable 12 V	A	Time Interval: 30 - 900 seconds	S1	1.022.113.04E
Time Relay with Switch Off Delay adjustable 12 V	A	Time Interval: 0,5 - 4000 seconds	S1	1.022.113.05E
Time Relay with Switch Off Delay adjustable 12 V	B	Time Interval: 0,5 - 5 seconds	S2	1.022.116.01E
Time Relay with Switch Off Delay adjustable 12 V	B	Time Interval: 1 - 30 seconds	S2	1.022.116.02E
Time Relay with Switch Off Delay adjustable 12 V	B	Time Interval: 0,5 - 60 seconds	S2	1.022.116.03E
Time Relay with Switch Off Delay adjustable 12 V	B	Time Interval: 30 - 900 seconds	S2	1.022.116.04E
Time Relay with Switch Off Delay adjustable 12 V	B	Time Interval: 0,5 - 4000 seconds	S2	1.022.116.05E
Time Relay with Switch Off Delay adjustable 12V	D	Time Interval: 0,5 - 5 seconds	S3	1.022.111.01E
Time Relay with Switch Off Delay adjustable 12 V	D	Time Interval: 1 - 30 seconds	S3	1.022.111.02E
Time Relay with Switch Off Delay adjustable 12 V	D	Time Interval: 0,5 - 60 seconds	S3	1.022.111.03E
Time Relay with Switch Off Delay adjustable 12 V	D	Time Interval: 30 - 900 seconds	S3	1.022.111.04E
Time Relay with Switch Off Delay adjustable 12 V	D	Time Interval: 0,5 - 4000 seconds	S3	1.022.111.05E

ACCESSORIES

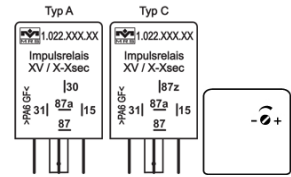
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



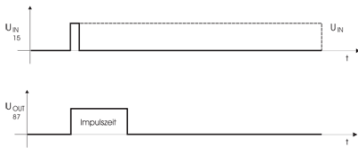
Pulse Relay adjustable 24 V



Connection Diagram



Design



Function Diagram

DESCRIPTION

Pulse relays can be adjusted when consumers are to be switched on or off for a time-defined range. You can choose from five time ranges by default (see table). Within the selected time range, the pulse time can be changed via potentiometer. We realize other time ranges on request. Please specify the desired time range when ordering. Circuit diagram S1: Operating voltage is applied to terminal 30. If the voltage is fixed briefly or permanently at Terminal 15, the relay will immediately pull on the set time and then fall off again. Circuit diagram S2: Operating voltage is applied to terminal 87z. If the voltage is short or permanent at Terminal 15, the relay will immediately pull in for the set time and then fall off again. Control and contacts are separated from each other and can thus be placed in a chain of links. All schematics: The duration of the control signal does not affect the duration of the output pulse (i.e. the relay is not retriggerable). The exact pulse length can be set with the potentiometer within the given time interval. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	03 3218
Type-approval	e1 – 72/245/EWG
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Max. output current (87, 87a)	15 A
Quiescent current (24V)	250 µA
Pulse duration	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

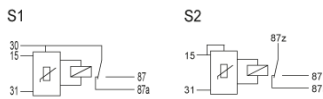
Name	Type	Model	Connection diagram	Order no.
Pulse Relay adjustable 24 V	A	Individual pulse time (see below)	S1	1.022.215.xxE
Pulse Relay adjustable 24 V	C	Individual pulse time (see below)	S2	1.022.214.xxE
Pulse Relay adjustable 24 V	A	Time Interval: 0,5 - 5 seconds	S1	1.022.215.01E
Pulse Relay adjustable 24 V	A	Time Interval: 1 - 30 seconds	S1	1.022.215.02E
Pulse Relay adjustable 24 V	A	Time Interval: 0,5 - 60 seconds	S1	1.022.215.03E
Pulse Relay adjustable 24 V	A	Time Interval: 30 - 900 seconds	S1	1.022.215.04E
Pulse Relay adjustable 24 V	A	Time Interval: 0,5 - 4000 seconds	S1	1.022.215.05E
Pulse Relay adjustable 24 V	C	Time Interval: 0,5 - 5 seconds	S2	1.022.214.01E
Pulse Relay adjustable 24 V	C	Time Interval: 1 - 30 seconds	S2	1.022.214.02E
Pulse Relay adjustable 24 V	C	Time Interval: 0,5 - 60 seconds	S2	1.022.214.03E
Pulse Relay adjustable 24 V	C	Time Interval: 30 - 900 seconds	S2	1.022.214.04E
Pulse Relay adjustable 24 V	C	Time Interval: 0,5 - 4000 seconds	S2	1.022.214.05E

ACCESSORIES

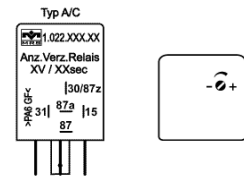
Required accessories	Article number
Software tool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



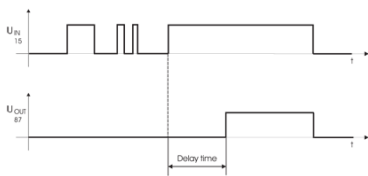
Time Relay with Switch On Delay adjustable 24V



Connection Diagram



Design



Function Diagram

DESCRIPTION

With time relays adjustable the exact delay time can be set via potentiometer within the selected time range. You can choose from five time ranges by default (see table). We realize other time ranges on request. Please specify the desired time range when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is applied to terminal 15, the relay will move on after the set time has elapsed. If the voltage is removed at Terminal 15, the relay drops off immediately. Circuit diagram S2: The contacts are separate from the control and can therefore be used in links. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	03 3218
Type-approval	e1 - 72/245/EWG
Number of pins	5
In-/Outputs (total)	2
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	250 µA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

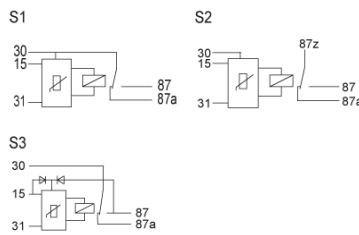
Name	Type	Model	Connection diagram	Order no.
Time Relay with Switch On Delay adjustable 24 V	A	Individual delay time (see below)	S1	1.022.212.xxE
Time Relay with Switch On Delay adjustable 24 V	C	Individual delay time (see below)	S2	1.022.210.xxE
Time Relay with Switch On Delay adjustable 24 V	A	Time Interval: 0,5 - 5 seconds	S1	1.022.212.01E
Time Relay with Switch On Delay adjustable 24 V	A	Time Interval: 1 - 30 seconds	S1	1.022.212.02E
Time Relay with Switch On Delay adjustable 24 V	A	Time Interval: 0,5 - 60 seconds	S1	1.022.212.03E
Time Relay with Switch On Delay adjustable 24 V	A	Time Interval: 30 - 900 seconds	S1	1.022.212.04E
Time Relay with Switch On Delay adjustable 24 V	C	Time Interval: 0,5 - 5 seconds	S2	1.022.210.01E
Time Relay with Switch On Delay adjustable 24 V	A	Time Interval: 0,5 - 4000 seconds	S1	1.022.212.05E
Time Relay with Switch On Delay adjustable 24 V	C	Time Interval: 1 - 30 seconds	S2	1.022.210.02E
Time Relay with Switch On Delay adjustable 24 V	C	Time Interval: 0,5 - 60 seconds	S2	1.022.210.03E
Time Relay with Switch On Delay adjustable 24 V	C	Time Interval: 30 - 900 seconds	S2	1.022.210.04E
Time Relay with Switch On Delay adjustable 24 V	C	Time Interval: 0,5 - 4000 seconds	S2	1.022.210.05E

ACCESSORIES

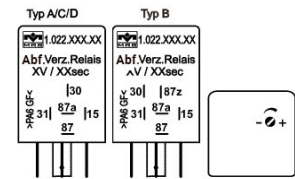
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



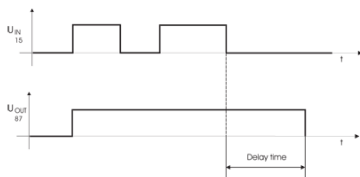
Time Relay with Switch Off Delay adjustable 24V



Connection Diagram



Design



Function Diagram

DESCRIPTION

With adjustable time relays the exact delay time can be set via potentiometer within the selected time range. You can choose from five time ranges by default (see table). We realize other time ranges on request. Please specify the desired time range when ordering. All schematics: Operating voltage is applied to terminal 30/87z. If the voltage is applied to terminal 15, the relay will immediately pull on. If the voltage is removed at Terminal 15, the relay falls off after the set time has elapsed. Circuit diagram S3: The relay does not consume a quiescent current by the diode circuitry after the drop. Housing forms can be found in the section housing and basic body.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	03 3218
Type-approval	e1 – 72/245/EWG
Number of pins	5
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	5
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	250 µA
Time delay	By customer request
Programming system	MRS Realizer

ORDER OPTIONS

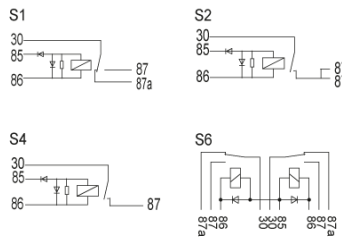
Name	Type	Model	Connection diagram	Order no.
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	A	Individual delay time (see below)	S1	1.022.213.xxE
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	B	Individual delay time (see below)	S2	1.022.216.xxE
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	D	Individual delay time (see below)	S3	1.022.211.xxE
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	A	Time Interval: 0,5 - 5 seconds	S1	1.022.213.01E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	A	Time Interval: 1 - 30 seconds	S1	1.022.213.02E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	A	Time Interval: 0,5 - 60 seconds	S1	1.022.213.03E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	A	Time Interval: 30 - 900 seconds	S1	1.022.213.04E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	A	Time Interval: 0,5 - 4000 seconds	S1	1.022.213.05E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	B	Time Interval: 0,5 - 5 seconds	S2	1.022.216.01E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	B	Time Interval: 1 - 30 seconds	S2	1.022.216.02E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	B	Time Interval: 0,5 - 60 seconds	S2	1.022.216.03E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	B	Time Interval: 30 - 900 seconds	S2	1.022.216.04E
Time Relay Micro PLC with Switch Off Delay adjustable 24V	B	Time Interval: 0,5 - 4000 Seconds	S2	1.022.216.05E
Time Relay Micro PLC Micro PLC with Switch Off Delay adjustable 24 V	C	Time Interval: 0,5 - 5 seconds	S3	1.022.211.01E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	C	Time Interval: 1 - 30 seconds	S3	1.022.211.02E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	C	Time Interval: 0,5 - 60 seconds	S3	1.022.211.03E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	C	Time Interval: 30 - 900 seconds	S3	1.022.211.04E
Time Relay Micro PLC with Switch Off Delay adjustable 24 V	C	Time Interval: 0,5 - 4000 seconds	S3	1.022.211.05E

ACCESSORIES

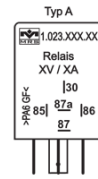
Required accessories	Article number
Software tool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Special Relay



Connection Diagram



Design

DESCRIPTION

Special Relays include all relay versions which are not offered as part of our standard product program. By way of example several specialty relays that can be ordered with various types of snubber circuits e.g. decoupling diode and/or recovery diode are shown below. Other designs are possible on request.

GENERAL DATA

Name	Value
Housing material	Plastic
Operating voltage	9-30 V
Number of pins	5/9

TECHNICAL DATA

Name	Value
Processor	8 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Programming system	MRS Realizer

ORDER OPTIONS

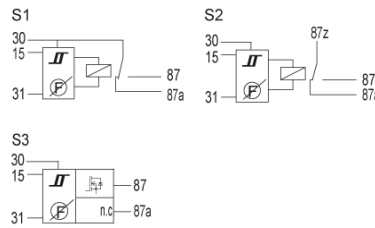
Name	Type	Model	Connection diagram	Order no.
Special Relay W 12 V 20 A	Two-way contact	recovery decoupling diode	S1	1.023.154.00E
Special Relay W 24 V 20 A	Two-way contact	standard	S1	1.023.250.00E
Special Relay DR 12 V 2x 10 A	Double relay	standard	S6	1.023.180.00E
Special Relay DR 12 V 2x 10 A	Double relay	recovery diode	S6	1.023.182.00E
Special Relay DR 24 V 2x 10 A	Double relay	standard	S6	1.023.280.00E
Special Relay DR 24 V 2x 10 A	Double relay	recovery diode	S6	1.023.282.00E

ACCESSORIES

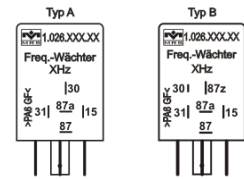
Required accessories	Article number
Housing bracket	1.017.080.00



Frequency Monitor 12 V



Connection Diagram



Design

DESCRIPTION

The frequency monitor measures the input signal frequency applied to terminal 15 and energizes/deenergizes the output when the signal frequency exceeds/drops below the defined threshold frequency. The threshold frequency can be selected from the 10 - 1.000 Hz frequency range. In addition, combinations including custom delay times are possible. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 8091
Type-approval	UNECE R 10 Rev. 05
Number of pins	6
In-/Outputs (total)	2
Operating voltage	12 V

TECHNICAL DATA

Name	Value
Number of pins	6
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	250 µA
Programming system	MRS Realizer
switching frequency	customer specific
continuous current limit	10 A open / 15 A close

ORDER OPTIONS

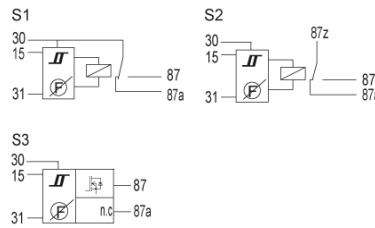
Name	Type	Model	Connection diagram	Order no.
Frequency Monitor 12 V	A	Individual frequency (see below)	S1	1.026.111.xxxE
Frequency Monitor 12 V	B	Individual frequency (see below)	S2	1.026.112.xxxE

ACCESSORIES

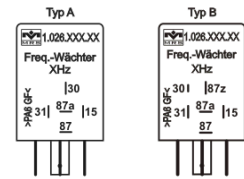
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Frequency Monitor 24 V



Connection Diagram



Design

DESCRIPTION

The frequency monitor measures the input signal frequency applied to terminal 15 and energizes/deenergizes the output when the signal frequency exceeds/drops below the defined threshold frequency. The threshold frequency can be selected from the 10 - 1.000 Hz frequency range. In addition, combinations including custom delay times are possible. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 8091
Type-approval	UNECE R 10 Rev. 05
Number of pins	6
In-/Outputs (total)	2
Operating voltage	24 V

TECHNICAL DATA

Name	Value
Number of pins	6
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	250 µA
Programming system	MRS Realizer
switching frequency	customer specific
continuous current limit	10 A open / 15 A close

ORDER OPTIONS

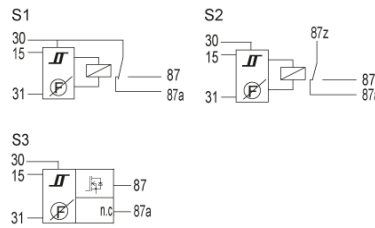
Name	Type	Model	Connection diagram	Order no.
Frequency Monitor 24 V	A	Individual frequency (see below)	S1	1.026.211.xxxE
Frequency Monitor 24 V	B	Individual frequency (see below)	S2	1.026.212.xxxE

ACCESSORIES

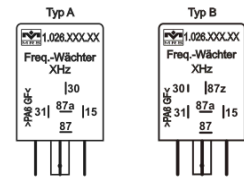
Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Frequency Monitor 9-30 V



Connection Diagram



Design

DESCRIPTION

The frequency monitor measures the input signal frequency applied to terminal 15 and energizes/deenergizes the output when the signal frequency exceeds/drops below the defined threshold frequency. The threshold frequency can be selected from the 10 - 1.000 Hz frequency range. In addition, combinations including custom delay times are possible. Please refer to the chapter housing and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Type-approval number	05 8091
Type-approval	UNECE R 10 Rev. 05
Number of pins	6
In-/Outputs (total)	2
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Number of pins	6
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Programming system	MRS Realizer
switching frequency	customer specific
continuous current limit	10 A open / 15 A close

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Frequency Monitor 9-30 V	A	xxx = frequency in hz	S3	1.026.311.xxxE

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Housing bracket	1.017.080.00
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Socket package watertight 40 mm	114265
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Control M1 12 V



Plug



Angled

DESCRIPTION

The M1 control with an operating voltage of 12 V is a small, powerful and cost-effective controller. In addition to the compact time relay, this compact version features a pulse relay, a step switching relay, a blinking sensor and other functions on request. The mentioned functions are stored by default and only have to be configured and parameterized. Of course, all standard functions can also be ordered preset directly from the factory.

GENERAL DATA

Name	Value
Weight	35 g
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	2
Operating voltage	12 V
Protection class	IP53
Type-approval number	05 7281
Type-approval	E1 - ECE R10

TECHNICAL DATA

Name	Value
Number of pins	6
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Quiescent current (12V)	1 mA
Programming system	MRS Realizer
continuous current limit	30 A (at 85°C, 8h)
Max. switching voltage	75 VDC

ORDER OPTIONS

Name	Type	Connection diagram	Order no.
Controller M1 compact OR1 12 V	A	S1	1.028.101.00E
Controller M1 compact OR1 12 V	B	S2	1.028.102.00E
Controller M1 compact OR1 12 V	C	S3	1.028.103.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Control M1 24 V



Group



Front



Rear



Plug



Angled

DESCRIPTION

The M1 control with an operating voltage of 24 V is a small, powerful and cost-effective controller. In addition to the compact time relay, this compact version features a pulse relay, a step switching relay, a blinking sensor and other functions on request. The mentioned functions are stored by default and only have to be configured and parameterized. Of course, all standard functions can also be ordered preset directly from the factory.

GENERAL DATA

Name	Value
Weight	35 g
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	2
Operating voltage	24 V
Protection class	IP53
Type-approval number	04 7281
Type-approval	E1 - ECE R10

TECHNICAL DATA

Name	Value
Number of pins	6
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Relay outputs	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Quiescent current (24V)	1 mA
Programming system	MRS Realizer
continuous current limit	30 A (bei 85°C, 8h)
Max. switching voltage	75 VDC

ORDER OPTIONS

Name	Type	Connection diagram	Order no.
Controller M1 compact OR1 24 V	A	S1	1.028.201.00E
Controller M1 compact OR1 24 V	B	S2	1.028.202.00E
Controller M1 compact OR1 24 V	C	S3	1.028.203.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Proportional Amplifier 9-30 V



Group



Front



Rear



Side



Plug

DESCRIPTION

The Proportional Amplifier serves as flow rate regulator for proportional valves. It is used in many hydraulic applications. The microcontrollerbased current regulator provides a constant output current proportional to the set point value 0-10 Volt or 0-20 mA. Fluctuations in supply voltage and temperature are compensated for which ensures constant flow rates. To counteract stiction and hysteresis effects a dither frequency can be added (superimposed small rectangular ripple frequency). Please refer to the section housings and base plates for additional housing options.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
Operating voltage	9-30 V
Protection class	IP53

TECHNICAL DATA

Name	Value
Number of pins	9
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Maximum continuous current	3 A
Programming system	MRS Realizer
Quiescent current	250 µA

ORDER OPTIONS

Name	Model	Connection diagram	Order no.
Proportional Amplifier 9-30 Vin	Voltage setpoint w/o potentiometer	S1	1.030.310.00E
Proportional amplifier 9-30 Vin + Poti	Voltage setpoint with potentiometer	S1	1.030.311.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Housing bracket	1.017.080.00



DIN rail adaptor without relays



Top view

DESCRIPTION

With 12 / 24 V signals inputs and outputs can be switched on the input terminals of the DIN Rail Adapter. Mount your relay easily and safely via the DIN Rail Adapter on your top-hat rail.



CAN I/O SPS / RS485 Gateway

DESCRIPTION

The compact car-compatible CAN I/O PLC / RS485 Gateway module is used to extend existing can controls, but can also be used as a standalone plc controller. Graphical programming with the software tool CANgraph and suitable flash programming tool or programming with a C-development system.

GENERAL DATA

Name	Value
Weight	75 g
Dimensions	60 × 60 × 30 mm
Housing material	Plastics
Connector type	Molex Mini Fit Junior
Type-approval number	e1 – 72/245/EWG
Type-approval	03 5385
In-/Outputs (total)	14
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Protection class	Up to IP53
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	22
In-/Outputs (total)	14
I/Os	8
Inputs (total)	6
Inputs (analog)	6
Outputs (total)	8
Outputs (PWM capable)	6
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
RS485 Interfaces	1
Temperature range	-40 to 85 °C
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Switch-on voltage	6 V
Overload protection (\geq)	33 V
Current consumption	30 mA
Programming system	MRS Developers Studio
Quiescent current (24V)	300 μ A
Quiescent current (12V)	190 μ A
reverse polarity protection	yes

ORDER OPTIONS

Name	Model	Order no.
CAN I/O PLC / RS485 Gateway	CAN-Bus and RS485 interface	1.033.320.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106817
Connector package for CAN I/O Modul / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106940
Cable boot	102892
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



CAN I/O PLC / RS485 Gateway

DESCRIPTION

The compact car-compatible CAN I/O PLC / RS485 Gateway module is used to extend existing can controls, but can also be used as a standalone plc controller. Graphical programming with the software tool CANgraph and suitable flash programming tool or programming with a C-development system. Use the most versatile MRS product CAN I/O PLC to use it in all conceivable applications with gateway processes. The CAN I/O PLC with Revision G offers you significantly higher protection against accidental contact due to the new cover blade. You also benefit from improved reverse polarity protection and reduced quiescent current consumption. Program your desired function easily and quickly with our software tool MRS Developers Studio. You can program more complex applications using C code.

GENERAL DATA

Name	Value
Weight	75 g
Dimensions	60 × 60 × 30 mm
Housing material	Plastics
Connector type	Molex Mini Fit Junior
Type-approval number	UNECE R10 Rev. 05
Type-approval	05 8238
In-/Outputs (total)	14
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Protection class	Up to IP53
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	22
In-/Outputs (total)	14
I/Os	8
Inputs (total)	6
Inputs (analog)	6
Outputs (total)	8
Outputs (PWM capable)	6
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
RS485 Interfaces	1
Temperature range	-40 to 85 °C
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Switch-on voltage	6 V
Overload protection (\geq)	33 V
Current consumption	30 mA
Programming system	MRS Developers Studio
Quiescent current (24V)	300 μ A
Quiescent current (12V)	190 μ A
reverse polarity protection	yes

ORDER OPTIONS

Name	Model	Order no.
CAN I/O SPS / RS485 Gateway	CAN-Bus und RS485Schnittstelle	1.033.320.0001E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106817
Connector package for CAN I/O Modul / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106940
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



[Translate to Commonwealth English:]
CAN I/O SPS / RS232 Gateway

DESCRIPTION

The compact car-compatible CAN I/O PLC / RS232 Gateway module is used to extend existing can controls, but can also be used as a standalone plc controller. Graphical programming with the software tool CANgraph and suitable flash programming tool or programming with a C-development system.

GENERAL DATA

Name	Value
Weight	75 g
Dimensions	60 × 60 × 30 mm
Housing material	Plastics
Connector type	Molex Mini Fit Junior
Type-approval number	e1 – 72/245/EWG
Type-approval	03 5385
In-/Outputs (total)	14
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Protection class	IP53
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	22
In-/Outputs (total)	14
I/Os	8
Inputs (total)	6
Inputs (analog)	6
Outputs (total)	8
Outputs (PWM capable)	6
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
RS232 interfaces	1
Temperature range	-40 to 85 °C
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Switch-on voltage	6 V
Overload protection (\geq)	33 V
Current consumption	30 mA
Programming system	MRS Developers Studio
Quiescent current (24V)	300 μ A
Quiescent current (12V)	190 μ A
reverse polarity protection	yes

ORDER OPTIONS

Name	Model	Order no.
CAN I/O PLC / RS485 Gateway	CAN-Bus and RS485 interface	1.033.320.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106817
Connector package for CAN I/O Modul / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106940
Cable boot	102892
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



CAN I/O PLC / RS232 Gateway

DESCRIPTION

The compact car-compatible CAN I/O PLC / RS232 Gateway module is used to extend existing can controls, but can also be used as a standalone plc controller. Graphical programming with the software tool CANgraph and suitable flash programming tool or programming with a C-development system. Use the most versatile MRS product CAN I/O PLC to use it in all conceivable applications with gateway processes. The CAN I/O PLC with Revision G offers you significantly higher protection against accidental contact due to the new cover blade. You also benefit from improved reverse polarity protection and reduced quiescent current consumption. Program your desired function easily and quickly with our software tool MRS Developers Studio. You can program more complex applications using C code.

GENERAL DATA

Name	Value
Weight	75 g
Dimensions	60 × 60 × 30 mm
Housing material	Plastics
Connector type	Molex Mini Fit Junior
Type-approval number	UNECE R10 Rev. 05
Type-approval	05 8238
In-/Outputs (total)	14
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Protection class	IP53
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	22
In-/Outputs (total)	14
I/Os	8
Inputs (total)	6
Inputs (analog)	6
Outputs (total)	8
Outputs (PWM capable)	6
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
RS232 interfaces	1
Temperature range	-40 to 85 °C
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Switch-on voltage	6 V
Overload protection (\geq)	33 V
Current consumption	30 mA
Programming system	MRS Developers Studio
Quiescent current (24V)	300 μ A
Quiescent current (12V)	190 μ A
reverse polarity protection	yes

ORDER OPTIONS

Name	Model	Order no.
CAN I/O PLC / RS485 Gateway	CAN-Bus and RS485 interface	1.033.320.00

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106817
Connector package for CAN I/O Modul / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106940
Cable boot	102892
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



CAN I/O PLC

DESCRIPTION

The versatile CAN I/O PLC with 14 inputs and outputs impresses with its compact design and its operating voltage range of 9 to 30 volts. It provides 8 I/Os that can be configured as inputs or outputs and 6 analog inputs. The small module has an impressive variety of available configurations. The perfectly dimensioned housing is ideal for tight installation spaces. The CAN Controller can be used either as an I/O module in a CAN network or as an independent and intelligent PLC. The most versatile product in MRS Electronic's portfolio is highly flexible and can be used in all conceivable applications in which control processes must be implemented. With the graphic programmability using MRS Developers Studio, you can even program your functions yourself, quickly and easily. This module is equipped with a CAN interface and can also be fitted with a RS232 or RS485 interface.

GENERAL DATA

Name	Value
Weight	75 g
Dimensions	60 × 60 × 30 mm
Housing material	Plastic
Connector type	Molex Mini Fit Junior
In-/Outputs (total)	14
Operating voltage	9-30 V (12 V Code B & 24 V Code E)
Protection class	Up to IP53
Type-approval number	E1 - UN/ECE-R10
Type-approval	03 5385
CE-conformity	compliant
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	22
In-/Outputs (total)	14
I/Os	8
Inputs (total)	6
Inputs (analog)	6
Outputs (total)	8
Outputs (PWM capable)	6
Outputs (digital)	2
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	Up to IP53
Operating voltage	9-30 V (12 V Code B & 24 V Code E)
Switch-on voltage	6 V
Overload protection (\geq)	33 V
Current consumption	30 mA
Quiescent current (24V)	300 μ A
Quiescent current (12V)	190 μ A
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Order no.
CAN I/O PLC	6 analog inputs, 8 I/O's	1.033.300.00E
CAN I/O PLC - RPM	6 analog inputs, 8 I/O's (2x frequency input)	1.033.302.00E
CAN I/O & CAN PLC - Current In	6 analog inputs, 8 I/Os (3x current input)	1.033.303.00E
CAN I/O & CAN PLC - PWM Out	6 analog inputs, 8 I/Os (6x PWM)	1.033.304.00E
CAN I/O & CAN PLC - 5 V Output	6 analog inputs, 8 I/Os (5 V output)	1.033.305.00E
CAN I/O & CAN PLC - Current In, PWM Out	6 analog inputs, 8 I/Os (3x current input, 6x PWM)	1.033.306.00E
CAN I/O & CAN SPS - ANAs 30 V	6 analog inputs, 8 I/Os (ANAs 30 V)	1.033.308.00E
CAN I/O & CAN PLC - RPM, PWM	6 analog inputs, 8 I/Os (2x RPM, 6x PWM)	1.033.309.00E
CAN I/O & CAN PLC - Low Speed	6 analog inputs, 8 I/Os (low speed)	1.033.310.00E
CAN I/O & CAN PLC - Current In	6 analog inputs, 8 I/Os (4x Current-Input)	1.033.30A.00E
CAN I/O & CAN PLC with 5 V Output + Pull ups	6 analog inputs, 8 I/Os (3x Pull up)	1.033.30B.00E
CAN I/O & CAN PLC - Pull up	6 analog inputs, 8 I/Os (3x Pull up)	1.033.30C.00E
CAN I/O & CAN PLC - PT1000	6 analog inputs, 8 I/Os (3x PT1000)	1.033.30D.00E
CAN I/O & CAN PLC - RPM 4,5 V / PWM	6 analog inputs, (2x RPM 4,5 V / 2x PWM)	1.033.30E.00E
CAN I/O & CAN PLC - PU / Freq-IN	6 analog inputs, 8 I/Os (PU / Freq-IN)	1.033.30H.00E
CAN I/O & CAN PLC - PT1000 / RS232	6 analog inputs, 8 I/Os (5x PT1000 / RS232)	1.033.33J.00E
CAN I/O & CAN PLC - RPM, PWM, VRef	6 analog inputs, (2x RPM, 6 x PWM, VRef)	1.033.30K.00E

ACCESSORIES

Required accessories	Article number
Starter Kit - CAN I/O PLC	1.100.110.00
Software tool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106817
Connector package for CAN I/O Modul / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106940
Cable boot	102892
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



CAN I/O

DESCRIPTION

The compact CAN I/O PLC with 14 inputs and outputs and an operating voltage range from 9 to 30 V convinces with numerous assembly variants. In addition to eight I/Os that can be configured as inputs or outputs, there are six analog inputs. The practically dimensioned housing is ideal for tight installation spaces. This module is equipped with a CAN interface and can be extended by an RS232 or RS485 interface. The CAN I/O PLC can be used as an I/O module in a CAN network as well as a stand-alone and intelligent PLC. Use the most versatile MRS product CAN I/O PLC to use it in all conceivable applications with control processes. The CAN I/O PLC with Revision G offers you significantly higher protection against accidental contact due to the new cover blade. You also benefit from improved reverse polarity protection and reduced quiescent current consumption. Program your desired function easily and quickly with our software tool MRS Developers Studio. You can program more complex applications using C code.

GENERAL DATA

Name	Value
Weight	75 g
Dimensions	60 × 60 × 30 mm
Housing material	Plastic
Connector type	Molex Mini Fit Junior
In-/Outputs (total)	14
Operating voltage	9-30 V (12 V Code B & 24 V Code E)
Protection class	Up to IP53
Type-approval number	E1 - UN/ECE-R10
Type-approval	03 5385
CE-Conformity	compliant
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	22
In-/Outputs (total)	14
I/Os	8
Inputs (total)	6
Inputs (analog)	6
Outputs (total)	8
Outputs (PWM capable)	6
Outputs (digital)	2
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	Up to IP53
Operating voltage	9-30 V (12 V Code B & 24 V Code E)
Switch-on voltage	6 V
Overload protection (\geq)	33 V
Current consumption	30 mA
Quiescent current (24V)	300 μ A
Quiescent current (12V)	190 μ A
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Order no.
CAN I/O PLC	6 analog inputs, 8 I/Os	1.033.300.0001E
CAN I/O PLC - RPM	6 analog inputs, 8 I/Os (2x frequency capable inputs)	1.033.302.0001E
CAN I/O PLC - Current-IN	6 analog inputs, 8 I/Os (3x current inputs)	1.033.303.0001E
CAN I/O PLC - PWM	6 analog inputs, 8 I/Os (6x PWM Outputs)	1.033.304.0001E
CAN I/O PLC - 5 V OUT	6 analog inputs, 8 I/Os (5 Vref Outputs)	1.033.305.0001E
CAN I/O PLC - Current-IN, PWM	6 analog inputs, 8 I/Os (3x current inputs / 6x PWM Outputs)	1.033.306.0001E
CAN I/O PLC - ANAs 30 V	6 analog inputs (can evaluate up to 30 V), 8 I/Os	1.033.308.0001E
CAN I/O PLC - RPM, PWM-OUT	6 analog inputs, 8 I/Os (2x RPM Inputs, 6x PWM Outputs)	1.033.309.0001E
CAN I/O PLC - 5 V output + Pull-Ups	6 analog inputs, 8 I/Os (3x Pull-Ups, 5 Vref Output)	1.033.30B.0001E
CAN I/O PLC - Pull-Up	6 analog inputs, 8 I/Os (3x Pull-Up)	1.033.30C.0001E
CAN I/O PLC - PT1000	6 analog inputs, 8 I/Os (3x PT1000 Inputs)	1.033.30D.0001E
CAN I/O PLC - RPM 4,5 V, PWM	6 analog inputs, 8 I/Os (2x RPM Inputs 4,5 V / 6x PWM Outputs)	1.033.30E.0001E
CAN I/O PLC - RPM, PWM, VRef	6 analog inputs, 8 I/Os (2x RPM Inputs, 6x PWM Outputs, 5 Vref Output)	1.033.30K.0001E
CAN I/O PLC - PWM, PT1000	6 analog inputs, 8 I/Os (6x PWM Outputs, 3x PT1000 Inputs)	1.033.30P.0001E
CAN I/O PLC - CANopen	6 analog inputs, 8 I/Os	1.033P.300.0001E
CAN I/O PLC - CANopen PWM, 5 V OUT	6 analog inputs, 8 I/Os (6x PWM Outputs, 5Vref Output)	1.033P.305.0001E

ACCESSORIES

Required accessories	Article number
Starter Kit - CAN I/O PLC	1.100.110.00
Software tool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106817
Connector package for CAN I/O Modul / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106940



Control M3 12 V



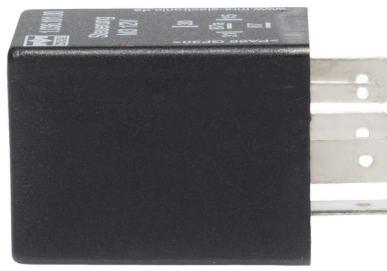
Group



Front



Rear



Side



Plug

DESCRIPTION

The M3 controller is a powerful and cost-effective controller. In addition to the unprogrammed control M3 there is the control in the programmed versions: Pulse relay, step switch relay, blinker as well as other functions on request. The mentioned functions are stored by default and only have to be configured and parameterized. Of course, all standard functions can also be ordered preset directly from the factory.

GENERAL DATA

Name	Value
Weight	42 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 2,8 mm, Flachstecker 6,3 mm
In-/Outputs (total)	2
Operating voltage	12 V
Protection class	IP53
Type-approval number	04 7282
Type-approval	E1 - ECE R10

TECHNICAL DATA

Name	Value
Number of pins	6
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Maximum continuous current	30 A
Quiescent current (12V)	1 mA
Programming system	MRS Realizer
Max. switching current	75 VDC
Max. switch-on current	100 A
Max. switching current	60 A

ORDER OPTIONS

Name	Type	Connection diagram	Order no.
Controller M3 LB1 12 V	A	S1	1.036.101.00E
Controller M3 LB3 12 V	B	S2	1.036.102.00E
Controller M3 LB2 12 V	C	S3	1.036.103.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Control M3 24 V



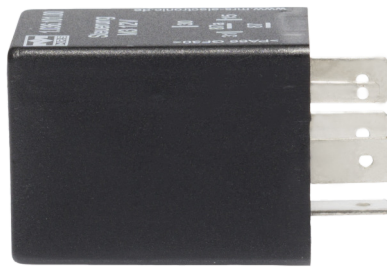
Group



Front



Rear



Side



Plug

DESCRIPTION

The M3 controller is a powerful and cost-effective controller. In addition to the unprogrammed control M3 there is the control in the programmed versions: Pulse relay, step switch relay, blinker as well as other functions on request. The mentioned functions are stored by default and only have to be configured and parameterized. Of course, all standard functions can also be ordered preset directly from the factory.

GENERAL DATA

Name	Value
Weight	42 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 2,8 mm, Flachstecker 6,3 mm
In-/Outputs (total)	2
Operating voltage	24 V
Protection class	IP53
Type-approval number	04 7282
Type-approval	E1 - ECE R10

TECHNICAL DATA

Name	Value
Number of pins	6
In-/Outputs (total)	2
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Processor family	Texas Instruments MSP 430
Processor	16 bit
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Maximum continuous current	30 A
Quiescent current (24V)	1 mA
Programming system	MRS Realizer
Max. switching voltage	75 VDC
Max. switching current	60 A
Max. switch-on current	100 A

ORDER OPTIONS

Name	Type	Connection diagram	Order no.
Controller M3 LB1 24 V	A	S1	1.036.201.00E
Controller M3 LB3 24 V	B	S2	1.036.202.00E
Controller M3 LB2 24 V	C	S3	1.036.203.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Realizer	1.100.000.01
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Motor Control 5A CAN



Group



Front



Rear



Side



Plug

DESCRIPTION

The Motor Controller 5 A CAN is a microcontrollerbased module for automotive and other applications. User configuration and programming facilitate implementation of a wide range of applications. The very compact form factor supports versatile use.

GENERAL DATA

Name	Value
Weight	60 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm (Anschlüsse 15, 30, 31, 87, 87a), Flachstecker 2,8 mm (Anschlüsse C, X, H, L)
In-/Outputs (total)	4
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	04 6879
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	4
Inputs (total)	3
Inputs (digital)	3
Inputs (analog)	3
Outputs (total)	1
Outputs (PWM capable)	1
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Current consumption (\leq)	30 mA
Maximum continuous current	3 A
Quiescent current (24V)	1.5 mA
Quiescent current (12V)	0.8 mA
Programming system	MRS Developers Studio

ORDER OPTIONS

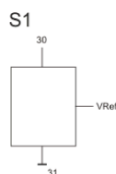
Name	Model	Order no.
Motorcontroller 5 A CAN	Power on Pin 15	1.037.300.00E
Motorcontroller 5 A CAN	Power on Pin 30	1.037.300.10E
Motorcontroller 5 A CAN	Power on Pin 30 and frequency inputs on X,C	1.037.300.11E
Motorcontroller 5 A CAN	Power on Pin 15 and frequency inputs on X,C	1.037.300.01E

ACCESSORIES

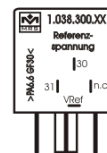
Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Starter Kit - Motor Controller 5 A CAN	1.100.110.08
PCAN-USB Interface	105358
Cable set to programm Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Voltage converter (reference voltage)-Relay



Connection Diagram



Design

DESCRIPTION

More detailed information can be found on the website and the data sheets of the respective manufacturers.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Housing material	Plastic
Number of pins	5
Operating voltage	9-30 V (5V version), 16-30 V (12V version)

TECHNICAL DATA

Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V (5V version), 16-30 V (12V version)
Current limit Vref	500 mA
output voltage	5 V/12 V

ORDER OPTIONS

Name	Type	Connection diagram	Order no.
Reference voltage 5 V	A	S1	1.038.300.05E
Reference voltage 12 V	A	S1	1.038.300.12E

ACCESSORIES

Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355



CAN Gateway Module

DESCRIPTION

The compact car-compatible can gateway module with PLC function is used for the simple expansion of existing vehicle functions with low wiring requirements. It is freely programmable and equipped with 3 can interfaces.

GENERAL DATA

Name	Value
Dimensions	89 × 95 × 35 mm
Housing material	Plastics
Connector type	3x 18-poliger Molex Mini Fit Junior
Type-approval number	05 6588
Type-approval	UNECE R 10 Rev.05.
In-/Outputs (total)	30
Protection class	IP53
Protokols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	54
In-/Outputs (total)	30
Inputs (total)	20
Inputs (analog)	20
Outputs (total)	10
Outputs (digital)	4
Relay outputs	6
Processor family	Freescale HCS12
Processor	16 bit
CAN interfaces	3
Temperature range	-40 to 85 °C
Programming system	MRS Developers Studio
Quiescent current (24V)	0.6 mA
Quiescent current (12V)	0.3 mA

ORDER OPTIONS

Name	Model	Order no.
CAN gateway module HS	3 x high-speed	1.042.100.00E
CAN gateway module LS	2 x low-speed, 1 x high-speed	1.042.110.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Starter Kit - CAN Gateway Module	1.100.110.17
PCAN-USB Interface	105358
Cable set to program CAN Gateway Module / CAN Relay Box	109639
Connector package CAN Gateway Module / CAN Relay Box	109637
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



Voltage Converter (DC/DC) 2A - Relay

DESCRIPTION

If an input voltage is applied to terminal 30 between 9-30V, the reference voltage of 5 V/10 V or 5 V/17 V is provided to terminal Vref.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 40 mm
Housing material	Plastic
Number of pins	5
Operating voltage	12 V (5/10V version), 19-30V (5/17V version)

TECHNICAL DATA

Name	Value
Number of pins	5
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V (5/10V version), 19-30V (5/17V version)
Current consumption (≤)	2 A

ORDER OPTIONS

Name	Order no.
DC/DC 2 A with 5 V / 10 V VRef.	1.044.300.00E
DC/DC 2A with 5 V / 17 V VRef.	1.044.300.17E

ACCESSORIES

Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00



Touch Panel

DESCRIPTION

The Touch Panel is a user-friendly keyboard. The polycarbonate front panel makes the module resistant to liquids, oils, as well as dirt-repellent and impact-resistant. Use the Touch Panel for your application in commercial vehicles. The LED backlight is dimmable and can be adapted to your needs.

GENERAL DATA

Name	Value
Weight	250 g
Dimensions	155 × 96 × 24.2 mm
Housing material	Plastic housing with polycarbonate panel
Connector type	Molex MicroFit 8pol
Type-approval number	05 7140
Type-approval	E1 - ECE R10
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP54
Operating voltage	9-30 V
Current consumption	30 mA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Order no.
Touch Panel	1.046.300.00

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Connector package for Touch Panel	112321
Cable set to program Touch Panel	113131
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



CAN Relay Box



Front



Rear



Plug



Side



Angled

DESCRIPTION

The CAN Relay Box is the appropriate product when you want to determine potential-free, switching output signals that must be connected. You can set the signal potential yourself and individually for your application. The 12 potential-free relays can be activated using CAN messages. The module can be integrated into your network as a separate PLC or as a simple I/O module. The box is very compact and thus space-saving, but still very versatile because relays and control functions are integrated into one device. This reduces the wiring outlay in your application.

GENERAL DATA

Name	Value
Dimensions	89 × 95 × 35 mm
Housing material	Plastics
Connector type	3x 18-poliger Molex Mini Fit Junior
In-/Outputs (total)	25
Operating voltage	9-30 V
Protection class	IP53

TECHNICAL DATA

Name	Value
Number of pins	54
In-/Outputs (total)	25
Inputs (total)	13
Inputs (analog)	13
Outputs (total)	12
Relay outputs	12
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Current consumption (≤)	1 A
External overcurrent protection	1 A
Quiescent current (24V)	500 µA
Quiescent current (12V)	210 µA
Programming system	MRS Developers Studio
performance per relay	4 A permanent load

ORDER OPTIONS

Name	Model	Order no.
CAN Relay Box HS	High-Speed	1.047.300.00E
CAN Relay Box LS	Low-Speed	1.047.310.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Starter Kit - CAN Relay Box HS	1.100.110.24
PCAN-USB Interface	105358
Cable set to program CAN Gateway Module / CAN Relay Box	109639
Connector package CAN Gateway Module / CAN Relay Box	109637
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085

DESCRIPTION

The Load Dump Protection Module is used to protect against voltage spikes.

GENERAL DATA

Name	Value
Dimensions	30 × 30 × 30 mm
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V

ORDER OPTIONS

Name	Order no.
Load dump protection module	1.051.300.00E

ACCESSORIES

Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355



CAN I/O PLC Waterproof

DESCRIPTION

The versatile and waterproof CAN I/O PLC Waterproof with 14 inputs and outputs in one compact design and an operating voltage range of 9 to 30 volts. It provides 8 I/Os that can be configured as inputs or outputs and 6 analog inputs, of which 2 can be used as digital inputs. In addition, with the 5 volt reference output it provides the option to supply additional sensors with voltage. It is completely software compatible with CAN I/O PLC and is the alternative when IP68 protection is required. It is dust-proof and provides full protection against impact as well as protection against continuous submersion. The small module has an impressive variety of available configurations. The perfectly dimensioned housing is ideal for tight installation spaces. The CAN Controller can be used either as an I/O module in a CAN network or as an independent and intelligent PLC. The most versatile product in MRS Electronic's portfolio is highly flexible and can be used in all conceivable applications in which control processes must be implemented. With the graphic programmability using MRS Developers Studio, you can even program your functions yourself, quickly and easily. This module is equipped with a CAN interface and can also be fitted with an RS232 or RS485 interface.

GENERAL DATA

Name	Value
Weight	170 g
Dimensions	60 × 60 × 30 mm
Housing material	Waterproof molded plastic housing
Connector type	Sicma 211 PL249S0005
In-/Outputs (total)	14
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Protection class	Up to IP6K6
Type-approval number	047181
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	24
In-/Outputs (total)	14
I/Os	8
Inputs (total)	6
Inputs (digital)	6
Inputs (analog)	2
Outputs (total)	8
Outputs (PWM capable)	6
Outputs (PWM capable, integrated current measurement INA)	2
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
RS232 interfaces	1
RS485 Interfaces	1
Temperature range	-40 to 85 °C
Protection class	Up to IP6K6
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Switch-on voltage	8 V
Overload protection (\geq)	33 V
Current consumption (\leq)	30 mA
Quiescent current (24V)	97 μ A
Quiescent current (12V)	8.5 μ A
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Order no.
CAN I/O & CAN PLC Waterproof	6 analog inputs; 8 I/Os	1.053.300.0000E
CAN I/O & CAN PLC Waterproof	6 analog inputs; 8 I/Os; RPM + 5 V Ref	1.053.302.0000E
CAN I/O & CAN PLC Waterproof	6 analog inputs; 8 I/Os; current inputs	1.053.303.0000E
CAN I/O & CAN PLC Waterproof RPM+5 V / Perm.ON	6 analog inputs; 8 I/Os; RPM, 5 V / Perm. ON	1.053.302.1200E
CAN I/O & CAN PLC Waterproof RPM+5 V Ref III	6 analog inputs; 8 I/Os; RPM, 5 V	1.053.304.1200E
CAN I/O & CAN PLC Waterproof RPM+8 V	6 analog inputs; 8 I/Os; RPM, 8 V	1.053.305.0000E
CAN I/O & CAN PLC Waterproof Pull-Up	6 analog inputs; 8 I/Os; Pull-up	1.053.306.0000E
CAN I/O & CAN PLC Waterproof - CANopen	6 analog inputs; 8 I/Os, CANopen,	1.053P.300.000E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Starter Kit - CAN I/O PLC Waterproof	1.100.110.32
PCAN-USB Interface	105358
Cable set to programm CAN I/O PLC Waterproof	112342
Connector package CAN I/O PLC WP / WP PRO V2 / CC16WP	110421
Crimp contact FCI Sicma 2.8 mm 1,0 – 2,5mm ²	109947
Crimp contact FCI Sicma 1,5 mm 1,0 – 2,0 mm ²	109949
Dummy FCI filler plug	110268
Protection cap	111441
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



CAN I/O PLC Waterproof / RS485
Gateway

DESCRIPTION

The compact car-compatible CAN I/O PLC Waterproof / RS485 Gateway module is used to extend existing can controls, but can also be used as a standalone plc controller. Graphical programming with the software tool CANgraph and suitable flash programming tool or programming with a C-development system.

GENERAL DATA

Name	Value
Weight	170 g
Dimensions	60 × 60 × 30 mm
Housing material	Waterproof molded plastic housing
Connector type	Sicma 211 PL249S0005
In-/Outputs (total)	14
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Protection class	Up to IP6K6
Type-approval number	047181
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	24
In-/Outputs (total)	14
I/Os	8
Inputs (total)	6
Inputs (digital)	6
Inputs (analog)	2
Outputs (total)	8
Outputs (PWM capable)	6
Outputs (PWM capable, integrated current measurement INA)	2
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
RS232 interfaces	1
RS485 Interfaces	1
Temperature range	-40 to 85 °C
Protection class	Up to IP6K6
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Switch-on voltage	8 V
Overload protection (\geq)	33 V
Current consumption (\leq)	30 mA
Quiescent current (24V)	97 μ A
Quiescent current (12V)	8.5 μ A
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Order no.
CAN I/O PLC Waterproof / RS485 Gateway	CAN-Bus and RS485 interface	1.053.310.0000E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm CAN I/O PLC Waterproof	112342
Connector package CAN I/O PLC WP / WP PRO V2 / CC16WP	110421
Crimp contact FCI Sicma 2.8 mm 1,0 – 2,5mm ²	109947
Crimp contact FCI Sicma 1,5 mm 1,0 – 2,0 mm ²	109949
Dummy FCI filler plug	110268
Protection cap	111441
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



CAN I/O PLC Waterproof / RS232
Gateway

DESCRIPTION

The compact car-compatible CAN I/O PLC Waterproof / RS232 Gateway module is used to extend existing can controls, but can also be used as a standalone plc controller. Graphical programming with the software tool CANgraph and suitable flash programming tool or programming with a C-development system.

GENERAL DATA

Name	Value
Weight	170 g
Dimensions	60 × 60 × 30 mm
Housing material	Waterproof molded plastic housing
Connector type	Sicma 211 PL249S0005
In-/Outputs (total)	14
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Protection class	IP68
Type-approval number	047181
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	24
In-/Outputs (total)	14
I/Os	8
Inputs (total)	6
Inputs (digital)	6
Inputs (analog)	2
Outputs (total)	8
Outputs (PWM capable)	6
Outputs (PWM capable, integrated current measurement INA)	2
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
RS232 interfaces	1
RS485 Interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP68
Operating voltage	9-30 V (12 V (Code C), 24 V (Code E))
Switch-on voltage	8 V
Overload protection (\geq)	33 V
Current consumption (\leq)	30 mA
Quiescent current (24V)	97 μ A
Quiescent current (12V)	8.5 μ A
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Order no.
CAN I/O PLC Waterproof / RS232 Gateway	CAN-Bus and RS232 interface	1.053.320.1000E

ACCESSORIES

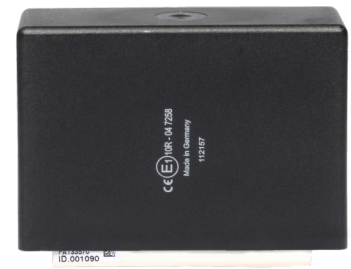
Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm CAN I/O PLC Waterproof	112342
Connector package CAN I/O PLC WP / WP PRO V2 / CC16WP	110421
Crimp contact FCI Sicma 2.8 mm 1,0 – 2,5mm ²	109947
Crimp contact FCI Sicma 1,5 mm 1,0 – 2,0 mm ²	109949
Dummy FCI filler plug	110268
Protection cap	111441
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



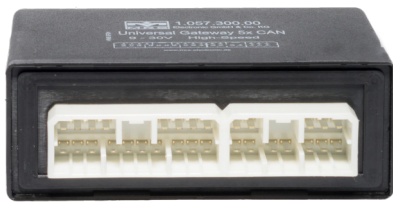
Group



Front



Rear



Plug



Side



Angled Standing

DESCRIPTION

The Universal Gateway 5x Can by MRS allows data exchange between CAN-Bus systems. The open and flexible design, tailored to automotive applications, allows a quick adaptation to customer-specific requirements even for small quantities.

GENERAL DATA

Name	Value
Weight	110 g
Dimensions	95 × 65 × 35 mm
Housing material	Plastics
Connector type	070 Multilock
In-/Outputs (total)	9
Operating voltage	9-30 V
Protection class	IP54
Type-approval number	05 7258
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	30
In-/Outputs (total)	9
Inputs (total)	5
Inputs (analog)	1
Outputs (total)	4
Processor family	Freescale HCS12
Processor	16 bit
CAN interfaces	5
Temperature range	-40 to 85 °C
Protection class	IP54
Operating voltage	9-30 V
Current consumption (\leq)	200 mA
Quiescent current (24V)	3.2 mA
Quiescent current (12V)	120 μ A
Programming system	MRS Developers Studio
Frequency inputs	4

ORDER OPTIONS

Name	Model	Order no.
Universal Gateway 5x CAN	standard	1.057.300.00E
Universal Gateway 5x CAN FREQ-IN	with frequency inputs	1.057.300.01E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Starter Kit - Universal Gateway 5x CAN Freq-IN	1.100.110.31
PCAN-USB Interface	105358
Cable set to program Universal Gateway 5x CAN	109260
Connector package for Universal Gateway 5x CAN	109203
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



Motor Control 30A CAN

DESCRIPTION

With this powerful control, two configurable ramps allow you to accelerate or decelerate up to two DC motors.

GENERAL DATA

Name	Value
Weight	425 g
Dimensions	78 × 124 × 47 mm
Housing material	Aluminum, potted
Connector type	Sicma 211 PL249S0005
In-/Outputs (total)	9
Operating voltage	9-30 V
Protection class	IP00 (must be protected by the user)
Type-approval number	05 8378
Type-approval	E1 - ECE R10

TECHNICAL DATA

Name	Value
Number of pins	24
In-/Outputs (total)	9
I/Os	4
Inputs (total)	3
Inputs (digital)	3
Inputs (analog)	3
Outputs (total)	2
Outputs (PWM capable)	2
Processor family	Freescale S08DZ60
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP00 (must be protected by the user)
Operating voltage	9-30 V
Overload protection (\geq)	33 V
Current consumption	50 mA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Order no.
30 A motor controller, half bridge + full bridge	half bridge + full bridge	1.064.300.00E
30 A motor controller, half bridge	half bridge	1.064.300.01E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Connector package and accessories for Motor Controller 30 A CAN	300733
Cable set to program Motor Controller 30 A CAN	501269



Solid State Relay SSR 5 A

DESCRIPTION

The MRS solid state relay has high capacitive and inductive peak current capacity and is perfectly suited for switching resistive and inductive loads. Compared to mechanical relays, the solid state relay has no moving contacts so it is maintenance and wear-free with a silent activation. The current feedback via the additional 5th pin offers useful diagnostic output. Due to the compact size and the connector, the relay is compatible with conventional ISO mini relays. The solid state relay can be ordered with positive or negative control. Solid state relays from MRS feature a long service life, short response times and low quiescent current requirement of approx. 50 μ A. They are short-circuit proof, overload-proof, and over temperature protected. They are ideally suited for your wide range of applications with high switching cycle counts.

GENERAL DATA

Name	Value
Weight	20 g
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	05 8639
Type-approval	E1
Number of pins	5
In-/Outputs (total)	3
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	3
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Outputs (digital)	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Switch-on voltage	6 V
Overload protection (\geq)	33 V
Current consumption (\leq)	20 μ A
Max. switching current	5 A

ORDER OPTIONS

Name	Type	Model	Order no.
Solid State Relay SSR 5 A	C	Positive control	1.069.300.05E
Solid State Relay SSR 5 A	C	Negative control	1.069.301.05E

ACCESSORIES

Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Solid State Relay SSR 15 A

DESCRIPTION

The MRS solid state relay has high capacitive and inductive peak current capacity and is perfectly suited for switching resistive and inductive loads. Compared to mechanical relays, the solid state relay has no moving contacts so it is maintenance and wear-free with a silent activation. The current feedback via the additional 5th pin offers useful diagnostic output. Due to the compact size and the connector, the relay is compatible with conventional ISO mini relays. The solid state relay can be ordered with positive or negative control. Solid state relays from MRS feature a long service life, short response times and low quiescent current requirement of approx. 50 μ A. They are short-circuit proof, overload-proof, and over temperature protected. They are ideally suited for your wide range of applications with high switching cycle counts.

GENERAL DATA

Name	Value
Weight	40 g
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	05 8639
Type-approval	E1
Number of pins	5
In-/Outputs (total)	3
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	3
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Outputs (digital)	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Switch-on voltage	6 V
Overload protection (\geq)	33 V
Current consumption (\leq)	20 μ A
Max. switching current	15 A

ORDER OPTIONS

Name	Model	Order no.
Solid State Relay SSR 15 A	Positive control	1.069.300.15E
Solid State Relay SSR 15 A	Negative control	1.069.301.15E

ACCESSORIES

Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Solid State Relay SSR 25 A

DESCRIPTION

The MRS solid state relay has high capacitive and inductive peak current capacity and is perfectly suited for switching resistive and inductive loads. Compared to mechanical relays, the solid state relay has no moving contacts so it is maintenance and wear-free with a silent activation. The current feedback via the additional 5th pin offers useful diagnostic output. Due to the compact size and the connector, the relay is compatible with conventional ISO mini relays. The solid state relay can be ordered with positive or negative control. Solid state relays from MRS feature a long service life, short response times and low quiescent current requirement of approx. 50 μ A. They are short-circuit proof, overload-proof, and over temperature protected. They are ideally suited for your wide range of applications with high switching cycle counts.

GENERAL DATA

Name	Value
Weight	40 g
Dimensions	30 × 30 × 30 mm
Housing material	Plastics
Type-approval number	05 8639
Type-approval	E1
Number of pins	5
In-/Outputs (total)	3
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
Number of pins	5
In-/Outputs (total)	3
Inputs (total)	1
Inputs (digital)	1
Outputs (total)	1
Outputs (digital)	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Switch-on voltage	6 V
Overload protection (\geq)	33 V
Current consumption (\leq)	20 μ A
Max. switching current (1sec)	15 A
Max. switching current	25 A

ORDER OPTIONS

Name	Model	Order no.
Solid State Relay SSR 25 A	Negative control	1.069.301.25E
Solid State Relay SSR 25 A	Positive control	1.069.300.25E

ACCESSORIES

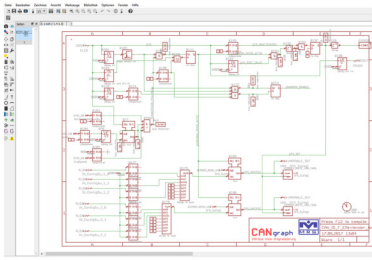
Required accessories	Article number
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



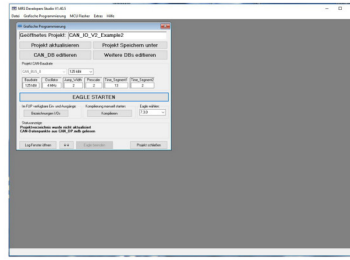
Softwaretool MRS Realizer

DESCRIPTION

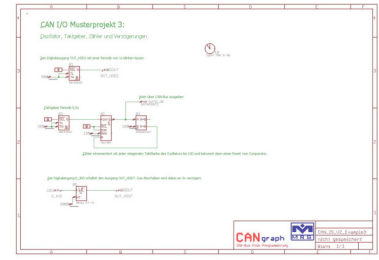
The programming tool MRS Realizer is a suitable software for easy and fast programming of MRS-Controllers M1, M3, Micro PLC and the MRS-Proportional amplifier. Parameterization is easy by way of the relay contacts, thus you can save valuable time for open the housing. Easily create your own programs for your application via the Z-Graph. Therefore you will find graphic function blocks (based on IEC61131) in EAGLE. You can download the new AUTODESK EAGLE version according to your needs and requirements at: <http://www.autodesk.com/products/eagle/overview>. For the application with our products we recommend to use the EAGLE standard version. Benefit from the easy handling of the MRS-Realizer. You do not need a sound programming knowledge, basic knowledge of digital technology is sufficient to quickly create programs with the MRS-Realizer.



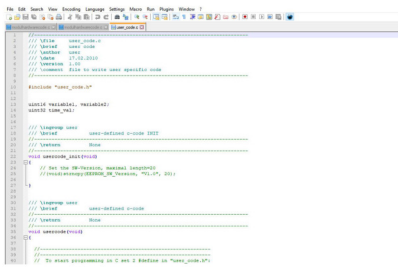
Softwaretool MRS Developers Studio



Start screen



Program example



Program C-code

DESCRIPTION

The MRS Developers Studio was developed for the programming of our CAN products. Programming is carried out graphically, or in the case of complex applications, in „C code“ via the easy-to-use user interface. All CAN products have a CAN bootloader that is permanently active on the modules. A new program can be flashed at any time during operation via the bootloader. The graphical programming is similar to the FUP (function diagram) according to IEC61131. For that reason, no extensive programming knowledge is required. A basic knowledge of digital technology is sufficient to create programs with the MRS Developers Studio. The MRS Developers Studio includes the Eagle graphical user interface and the MCU Flasher. The programming interface EAGLE by CAD-sofort is no longer part of our software. You can download the current version of CAD-Soft EAGLE version 8 according to your needs directly at Autodesk. Here you can decide which EAGLE license you need. You can choose between free, standard and premium-version. The MCU Flasher also supports uploading of files (.s19) which were created with Codewarrior. An individual Codewarrior license is only required if the code size exceeds 32 kB. A new .s19-File can be uploaded (flashed) via the USB-CAN interface and CAN bootloader. Compatible USB CAN interfaces are PEAK IPEH-002021, Vector VN16XX and Sontheim CANfox.

ORDER OPTIONS

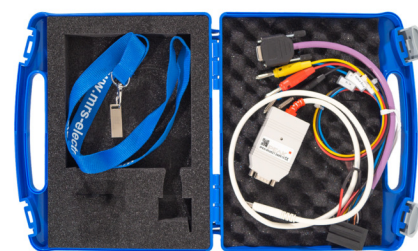
Name	Type	Order no.
MRS Developers Studio Bundle	MRS Developers Studio SW CD with PCAN USB Interface	1.100.100.09
MRS Developers Studio Light	MRS Developers Studio SW CD without PCAN USB Interface	1.100.100.10



Starter Kit - CAN I/O



CAN I/O Module



Starter Kit Internal

DESCRIPTION

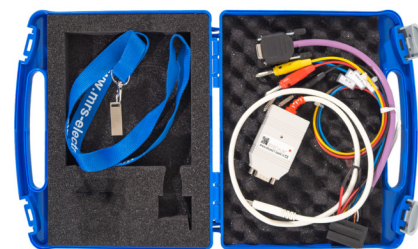
The compact MRS-Starter Kit - CAN I/O PLC provides everything you need for your first application with MRS. In addition to the high-quality CAN I/O PLC, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - CAN RS485 Gateway



CAN RS485 Gateway



Starter Kit Content

DESCRIPTION

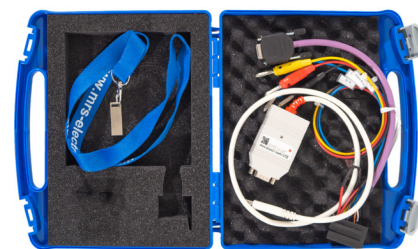
The compact MRS-Starter Kit - CAN/RS485 Gateway provides everything you need for your first application with MRS. In addition to the high-quality CAN/RS485 Gateway, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - Prop CAN



Prop CAN



Starter Kit Content

DESCRIPTION

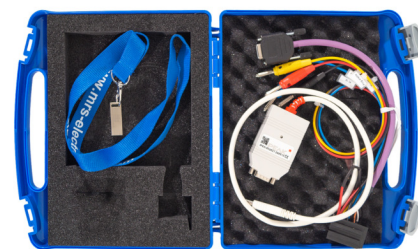
The compact MRS-Starter Kit - PROP CAN provides everything you need for your first application with MRS. In addition to the high-quality PROP CAN, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - Motorsteuerung 5A CAN



Motorsteuerung 5A CAN



Starter Kit Content

DESCRIPTION

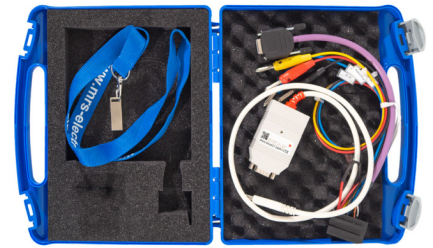
The compact MRS-Starter Kit - Motor Control 5 A CAN Gateway provides everything you need for your first application with MRS. In addition to the high-quality Motor Control 5 A CAN, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - 6-fold Prop CAN



6-fold Prop CAN



Starter Kit Content

DESCRIPTION

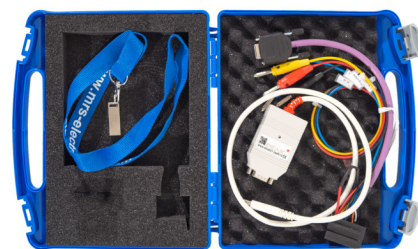
The compact MRS-Starter Kit - 6-fold PROP CAN provides everything you need for your first application with MRS. In addition to the high-quality 6-fold PROP CAN, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - CAN Gateway Module



CAN Gateway Module



Starter Kit Content

DESCRIPTION

The compact MRS-Starter Kit - CAN Gateway Module provides everything you need for your first application with MRS. In addition to the high-quality CAN Gateway Module, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - Micro PLC CAN



Micro PLC CAN



Starter Kit Content

DESCRIPTION

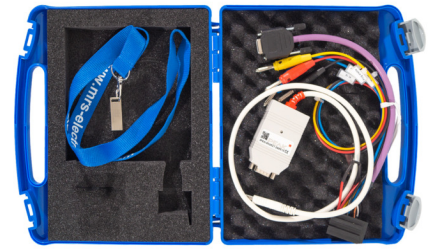
The compact MRS-Starter Kit - Micro PLC CAN provides everything you need for your first application with MRS. In addition to the high-quality Micro PLC CAN, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - Micro Gateway CAN CAN LIN



Micro Gateway CAN CAN LIN



Starter Kit Content

DESCRIPTION

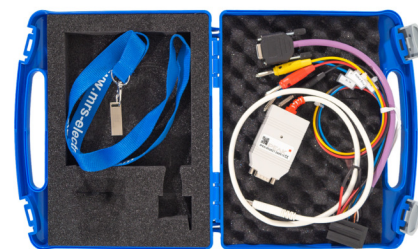
The compact MRS-Starter Kit - Micro Gateway CAN CAN LIN provides everything you need for your first application with MRS. In addition to the high-quality Micro Gateway CAN CAN LIN, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



[Translate to Commonwealth English:]
Starter Kit - CAN Relais Box HS



[Translate to Commonwealth English:]
CAN Relais Box HS



Starter Kit Content

DESCRIPTION

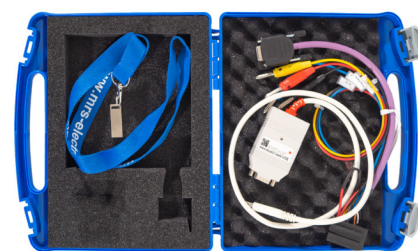
The compact MRS-Starter Kit - CAN Relay Box HS provides everything you need for your first application with MRS. In addition to the high-quality CAN Relay Box HS, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - M2600 ECO CAN PLC



M2600 ECO CAN PLC



Starter Kit Content

DESCRIPTION

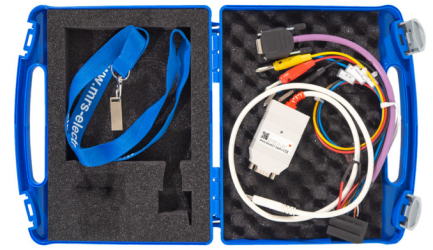
The compact MRS-Starter Kit - M2600 ECO CAN PLC provides everything you need for your first application with MRS. In addition to the high-quality M2600 ECO CAN PLC, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - Micro PLC CAN 4 I/O



Micro PLC CAN 4 I/O



Starter Kit Content

DESCRIPTION

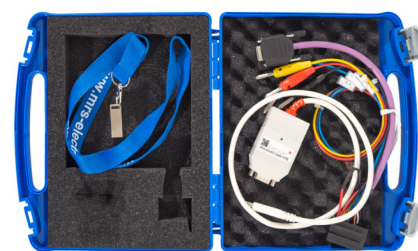
The compact MRS-Starter Kit - Micro PLC CAN 4 I/O provides everything you need for your first application with MRS. In addition to the high-quality Micro PLC CAN 4 I/O, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit – Universal Gateway 5x CAN
FREQ-IN



Universal Gateway 5x CAN FREQ-IN



Starter Kit Content

DESCRIPTION

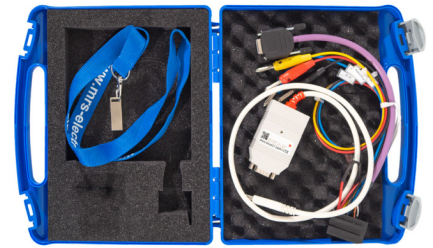
The compact MRS-Starter Kit – Universal Gateway 5x CAN FREQ-IN provides everything you need for your first application with MRS. In addition to the high-quality Universal Gateway 5x CAN FREQ-IN, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - CAN I/O Waterproof



CAN I/O Waterproof



Starter Kit Content

DESCRIPTION

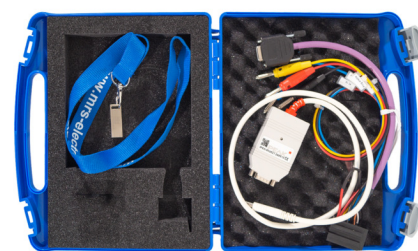
The compact MRS-Starter Kit - CAN I/O PLC Waterproof provides everything you need for your first application with MRS. In addition to the high-quality CAN I/O PLC Waterproof, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Micro PLC CAN 4 ANA



Starter Kit – Micro PLC CAN 4 ANA



Starter Kit Content

DESCRIPTION

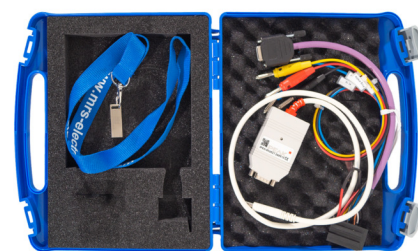
The compact MRS-Starter Kit – Micro PLC CAN 4 ANA provides everything you need for your first application with MRS. In addition to the high-quality Micro PLC CAN 4 ANA, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Starter Kit - Micro PLC CAN LIN



Micro PLC CAN LIN



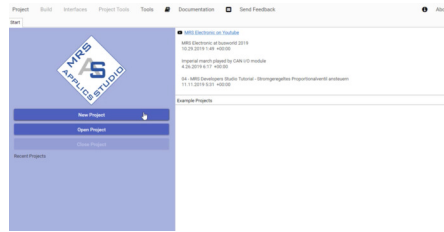
Starter Kit Content

DESCRIPTION

The compact MRS-Starter Kit - Micro PLC CAN LIN provides everything you need for your first application with MRS. In addition to the high-quality Micro PLC CAN LIN, the Starter Kit includes the associated software with programming adapter, a cable set and a tailor-made plug package. The included software with programming adapter is compatible with all MRS-CAN products and can be used for other applications. Get to know the MRS products through the Starter Kit and benefit from our reduced package price. You can start programming your application immediately with your individual Starter Kit and save valuable time.



Applics Studio



Screenshot Applics Studio

DESCRIPTION

The MRS Applics Studio is the new program tool for linked up controls of the new generation (32 bits) of MRS Electronic. All functions of the predecessor's studio MRS Developers were improved. Now with the own developed graphic program surroundings and the improved program possibilities it is even easier to be programmed your application. You find the documentation online under: applics.dev Note: The Applics Studio is currently only used for programming the CAN I/O – CC16WP.

ORDER OPTIONS

Name	Type	Order no.
MRS Applics Studio Bundle	MRS Applics Studio Software with PCAN USB Interface	1.100.200.00
MRS Applics Studio	MRS Applics Studio Software without PCAN USB Interface	1.100.200.01



Micro PLC CAN 12 V



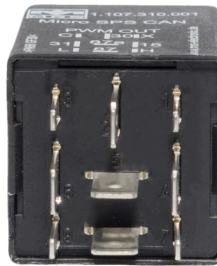
Front



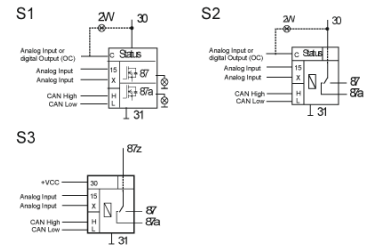
Rear



Side



Plug



Connection Diagram

DESCRIPTION

The Micro PLC CAN is a small control system for automotive applications. Free configuration and programmability offer a wide range of applications in the automotive sector. Control and readout are done via the CAN bus (ISO 11898-2). Freescale Processor with Flash technology (option of multiple programming). There are 2 analogue and/or 1 analogue input/1 digital output and 2 overload-proof Highside power outputs (alternative relay output) available. Complex applications can be realized in C. The functions as well as the measured values are controllable and readable via the CAN bus. Programming is possible using the software MRS Developers Studio, graphically with CANgraph. The use of the powerful processor makes the Micro PLC CANopen and SAE J1939 capable.

GENERAL DATA

Name	Value
Weight	31 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	4
Operating voltage	12 V
Protection class	IP53
Type-approval number	04 7362
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	4
Inputs (total)	3
Inputs (analog)	3
Outputs (total)	1
Relay outputs	1
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	12 V
Switch-on voltage	8.5 V
Overload protection (\geq)	33 V
Current consumption (\leq)	27 mA
Quiescent current (12V)	26 mA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Micro PLC CAN 12 V	A	relais, changeover switch	S2	1.107.110.00E
Micro PLC CAN 12 V	A	With Frequency Input	S2	1.107.110.01E
Micro PLC CAN 12 V	A	With Potentiometer	S2	1.107.110.03E
Micro PLC CAN 12 V	A	Pin 4: 0-33,6 V	S2	1.107.110.0AE
Micro PLC CAN 12 V	B	relais, changeover switch	S3	1.107.112.00E
Micro PLC CAN 12 V	B	Voltage monitoring KL15	S3	1.107.114.00E

ACCESSORIES

Required accessories	Article number
Starter Kit - Micro PLC CAN	1.100.110.22
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket package watertight 40 mm	114265
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Micro PLC CAN 24 V



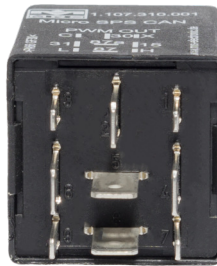
Front



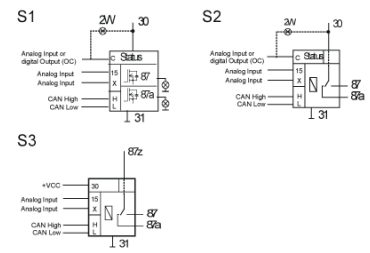
Rear



Side



Plug



Connection Diagram

DESCRIPTION

The Micro PLC CAN is a small control system for automotive applications. Free configuration and programmability offer a wide range of applications in the automotive sector. Control and readout are done via the CAN bus (ISO 11898-2). Freescale Processor with Flash technology (option of multiple programming). There are 2 analogue and/or 1 analogue input/1 digital output and 2 overload-proof Highside power outputs (alternative relay output) available. Complex applications can be realized in C. The functions as well as the measured values are controllable and readable via the CAN bus. Programming is possible using the software Mrs Developers studio, graphically with CANgraph. The use of the powerful processor makes the Micro PLC CANopen and SAE J1939 capable.

GENERAL DATA

Name	Value
Weight	30.2 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	4
Operating voltage	24 V
Protection class	IP53
Type-approval number	04 7362
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	4
Inputs (total)	3
Inputs (analog)	3
Outputs (total)	1
Relay outputs	1
Processor family	Freescale HSC08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	24 V
Current consumption (\leq)	25 mA
Quiescent current (24V)	27 mA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Micro PLC CAN 24 V	A	relais, changeover switch	S2	1.107.210.00E
Micro PLC CAN 24 V	A	Voltage monitoring KL15	S2	1.107.211.08E
Micro PLC CAN 24 V	B	relais, changeover switch	S3	1.107.212.00E
Micro PLC CAN 24 V	B	Freq. Input	S3	1.107.212.01E
Micro PLC CAN 24 V	B	120Ω CAN-BUS Terminal Resistance	S3	1.107.212.04E

ACCESSORIES

Required accessories	Article number
Starter Kit - Micro PLC CAN	1.100.110.22
Software tool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket package watertight 40 mm	114265
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355



Micro PLC CAN 9-30 V



Group



Front



Rear



Plug



Side

DESCRIPTION

The Micro PLC CAN is a small control system for automotive applications. Free configuration and programmability offer a wide range of applications in the automotive sector. Control and readout are done via the CAN bus (ISO 11898-2). Freescale Processor with Flash technology (option of multiple programming). There are 2 analogue and/or 1 analogue input/1 digital output and 2 overload-proof Highside power outputs (alternative relay output) available. Complex applications can be realized in C. The functions as well as the measured values are controllable and readable via the CAN bus. Programming is possible using the software Mrs Developers studio, graphically with CANgraph. The use of the powerful processor makes the Micro PLC CANopen and SAE J1939 capable.

GENERAL DATA

Name	Value
Weight	30.2 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	5
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	04 7362
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	5
Inputs (total)	3
Inputs (digital)	3
Inputs (analog)	3
Outputs (total)	2
Outputs (PWM capable)	2
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Current consumption (≤)	27 mA
Max. output current (87, 87a)	5.5 A
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Micro PLC CAN 9-30 V	A	2 x PWM Out	S1	1.107.310.001E
Micro PLC CAN 9-30 V	A	2 x Freq. Input / 2 x PWM Out	S1	1.107.310.061E
Micro PLC CAN 9-30 V	A	5 V Freq. Input / 2x PWM Out	S1	1.107.310.071E
Micro PLC CAN 9-30 V	A	Voltage monitoring KL15 / 2x PWM Out	S1	1.107.311.001E
Micro PLC CAN 9-30 V	A	CANopen / 2 x PWM Out	S1	1.107P.310.001E

ACCESSORIES

Required accessories	Article number
Starter Kit - Micro PLC CAN	1.100.110.22
Software tool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to program Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket package watertight 40 mm	114265
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



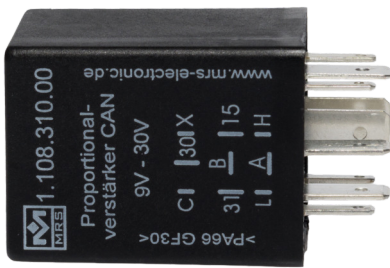
PROP CAN



Front



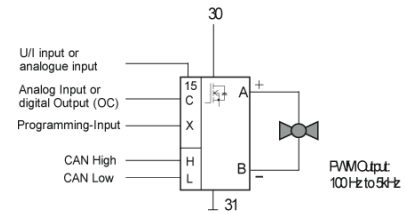
Rear



Side



Plug



Connection Diagram

DESCRIPTION

The PROP CAN valve controller with CAN bus regulates the flow rate of a proportional valve. It can be used in many hydraulic applications. CAN high speed or CAN low speed, alternatively RS485, can be used to communicate with other modules and supports easy integration into existing systems. The microcontroller-based current regulator provides a constant output current proportional to the set point value 0 - 10 Volt or 0 - 20 mA. Control and data download via CAN bus interface is supported. Supply voltage and temperature fluctuations are compensated which ensures constant flow rates. To counteract stiction and hysteresis effects a dither frequency can be adjusted (superimposed small rectangular ripple frequency). Please refer to the section housings and base plates for additional housing options.

GENERAL DATA

Name	Value
Weight	58 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	3
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	047521
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	3
Inputs (total)	2
Inputs (analog)	2
Outputs (total)	1
Outputs (PWM capable)	1
Processor family	Freescale HSC08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Maximum continuous current	3 A
Programming system	MRS Developers Studio
Quiescent current	250 µA (stand-by)

ORDER OPTIONS

Name	Model	Connection diagram	Order no.
Prop CAN 9-30V	Desired voltage / Current with CAN-bus	S1	1.108.310.00E

ACCESSORIES

Required accessories	Article number
Starter Kit - PROP CAN	1.100.110.03
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket package watertight 40 mm	114265
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



6-fold PROP CAN



Plug



Side

DESCRIPTION

The economical, automotivegrade, 6 Fold PROP CAN amplifier regulates the flow rate of proportional valves. The integrated microcontroller allows adjustment of output current and dither frequency by the user.

GENERAL DATA

Name	Value
Dimensions	65 × 95 × 35 mm
Housing material	Plastic
Connector type	Tyco JPT
In-/Outputs (total)	15
Operating voltage	9-30 V
Protection class	IP53
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	22
In-/Outputs (total)	15
Inputs (total)	8
Inputs (analog)	8
Outputs (total)	7
Outputs (PWM capable, integrated current measurement INA)	6
Outputs (digital)	1
Processor family	Freescale HSC08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Switch-on voltage	9 V
Overload protection (\geq)	32 V
Max. output current (87, 87a)	2.5 A
Programming system	MRS Developers Studio
Outputs, usable at the same time	4
Quiescent current (Standby)	<500 μ A
Quiescent current (inactive / outputs not loaded)	30 mA

ORDER OPTIONS

Name	Model	Casing	Order no.
6-fold Prop CAN	Without frequency inputs	plastic housing	1.109.300.00E
6-fold Prop CAN - 2 x freq.-input	2 x freq.-IN	plastic housing	1.109.300.01E

ACCESSORIES

Required accessories	Article number
Starter Kit - 6-fold PROP CAN	1.100.110.15
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm 6-fold PROP CAN	109291
Connector package for 6-fold PROP CAN	109383
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



Micro PLC CAN 4 I/O



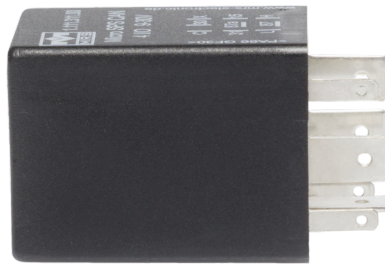
Group



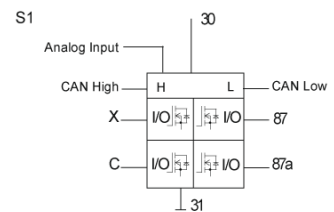
Front



Plug



Side



Connection Diagram

DESCRIPTION

The Micro PLC CAN 4 I/O is a very small controller for automotive applications. The module is user configurable / programmable for a wide range of automotive applications. Control and data readout is via CAN-Bus. The small controller has four I/Os that can be programmed as input or output. The CAN-Bus module also has an analogue input and can be easily implemented in an existing can bus network.

GENERAL DATA

Name	Value
Weight	27 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	5
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	04 7199
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	5
I/Os	4
Inputs (total)	5
Inputs (analog)	5
Outputs (total)	4
Processor family	Freescale HSC08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Current consumption (≥)	25 mA
Quiescent current (24V)	460 µA
Quiescent current (12V)	300 µA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Connection diagram	Order no.
Micro PLC CAN 4 I/O		S1	1.111.311.00E
Micro PLC CAN 4 I/O	CANopen	S1	1.111P311.00E

ACCESSORIES

Required accessories	Article number
Starter Kit - Micro PLC CAN 4 I/O	1.100.110.30
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Housing bracket	1.017.080.00
PCAN-USB Interface	105358
Cable set to programm Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket package watertight 40 mm	114265
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



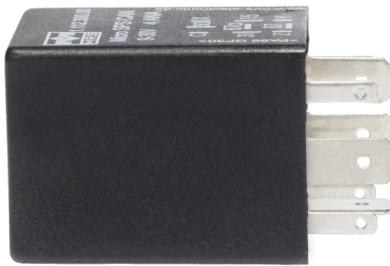
Micro PLC CAN 4 ANA



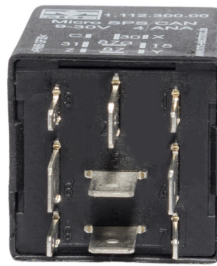
Front



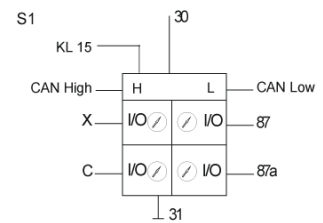
Rear



Side



Plug



Connection Diagram

DESCRIPTION

The Micro PLC CAN 4 ANA offers many possible applications with one analog input and four I/Os, whose function can be individually defined. These I/Os can be used as four analog outputs for currents from 0 to 24 mA and voltages from 0 to 10 V. They can also be configured as analog inputs. Additionally, the controller provides the option to configure two of the four I/Os as frequency inputs.

GENERAL DATA

Name	Value
Weight	30.2 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	5
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	04 7522
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	5
I/Os	4
Inputs (total)	4
Inputs (digital)	4
Inputs (analog)	4
Outputs (total)	4
Processor family	Freescale HSC08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Current consumption (ε)	25 mA
Programming system	MRS Developers Studio
Quiescent current	250 µA

ORDER OPTIONS

Name	Model	Connection diagram	Order no.
Micro PLC CAN 4 ANA			1.112.300.00E
Micro PLC CAN 4 ANA	CANopen	S1	1.112P300.00E

ACCESSORIES

Required accessories	Article number
Starter Kit - Micro PLC CAN 4 ANA	1.100.110.43
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Housing bracket	1.017.080.00
PCAN-USB Interface	105358
Cable set to programm Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket package watertight 40 mm	114265
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Micro PLC CAN LIN



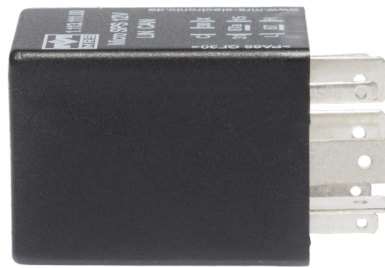
Group



Front



Rear



Side



Plug

DESCRIPTION

The most compact Gateway of MRS Electronic is the Micro PLC CAN LIN. This gateway has been developed and built on the basis of a micro PLC CAN. It offers a wide range of functions, wrapped in a 30 x 30 x 40 mm compact plastic housing. It has 9 pins with a CAN and LIN interface. The product can be delivered as LIN Slave or as LIN Master circuitry and is perfect for tight installation spaces.

GENERAL DATA

Name	Value
Weight	27 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
Type-approval number	05 7069
Type-approval	E1 - ECE R10
In-/Outputs (total)	4
Operating voltage	12 V
Protection class	IP53
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	4
Inputs (total)	4
Inputs (digital)	4
Inputs (analog)	4
Outputs (total)	2
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
LIN interfaces	1
Temperature range	-40 to 85 °C
Operating voltage	12 V
Current consumption	30 mA
Maximum continuous current	500 mA
Programming system	MRS Developers Studio
Quiescent current (12V)	50 µA

ORDER OPTIONS

Name	Model	Order no.
Micro PLC CAN LIN Slave wiring	Slave wiring	1.113.111.00E
Micro PLC CAN LIN Master wiring	Master wiring	1.113.111.03E

ACCESSORIES

Required accessories	Article number
Starter Kit - Micro PLC CAN LIN	1.100.110.45
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket package watertight 40 mm	114265
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



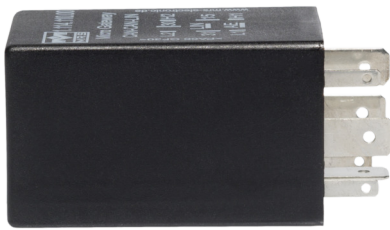
Micro Gateway



Front



Rear



Side



Plug



Angled

DESCRIPTION

The Micro Gateway is a compact gateway for automotive applications. Due to its small size and easy installation, it offers a wide range of applications. The gateway in the 30 x 30 x 50 mm plastic housing offers four different assembly variants.

GENERAL DATA

Name	Value
Weight	72 g
Dimensions	30 x 30 x 50 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	1
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	057139
Type-approval	E1 - ECE R10

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	1
Inputs (total)	1
Inputs (analog)	1
Processor family	Freescale HCS12
Processor	16 bit
CAN interfaces	2
LIN interfaces	2
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Current consumption	60 mA
Quiescent current (24V)	124 µA
Quiescent current (12V)	50 µA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Type	Model	Connection diagram	Order no.
Micro Gateway	A	CAN-CAN-LIN	S1	1.114.110.00E
Micro Gateway		12 V, 2 x CAN-Bus (120 Ohm), LIN (12V)	S1	1.114.110.0012E
Micro Gateway 2xCAN-2xLIN	C	CAN-CAN-LIN-LIN	S3	1.114.130.0000E
Micro Gateway		24 V, 2 x CAN, LIN (24V)	S1	1.114.210.0012E
Micro Gateway		24 V, 2 x CAN, 2 x LIN (24V)	S3	1.114.230.0012E
Micro Gateway	B	CAN-CAN	S2	1.114.300.00E
Micro Gateway	B	2 x CAN-Bus (120 Ohm)	S2	1.114.300.0011E
Micro Gateway		12V, CAN-CAN-LIN	S4	1.114.111.0000E

ACCESSORIES

Required accessories	Article number
Starter Kit - Micro Gateway CAN CAN LIN	1.100.110.23
Software tool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to program Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket package watertight 50 mm	300048
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Motor Control 10A CAN



Front



Rear



Side



Plug



Angled

DESCRIPTION

The Motor Controller 10 A CAN is a microcontrollerbased module for automotive and other applications. User configuration and programming facilitate implementation of a wide range of applications and the very compact form factor supports versatile use.

GENERAL DATA

Name	Value
Weight	60.2 g
Dimensions	30 × 30 × 40 mm
Housing material	Plastics
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
In-/Outputs (total)	4
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	05 7515
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	4
Inputs (total)	3
Inputs (digital)	3
Inputs (analog)	3
Outputs (total)	1
Outputs (PWM capable)	1
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Current consumption (≤)	25 mA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Order no.
Motorcontroller 10 A CAN	With potentiometer	1.117.300.00E
Motorcontroller 10 A CAN	CANopen	1.117P.300.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



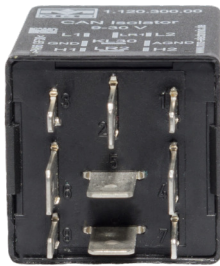
CAN Isolator



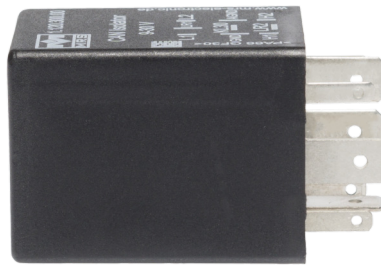
Group



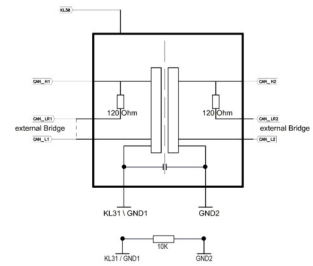
Front



Plug



Side



Block Diagram

DESCRIPTION

The can isolator serves as a connection point between electrically isolated control units. The galvanic separation between CAN1 and CAN2 allows you to connect the module to two different voltage potentials.

GENERAL DATA

Name	Value
Weight	27 g
Dimensions	40 × 30 × 30 mm
Housing material	Plastics (PA66 GF30)
Connector type	Flachstecker 6,3 mm, Flachstecker 2,8 mm
Operating voltage	9-30 V
Protection class	IP 53
Type-approval number	047515
Type-approval	E1 - ECE R10

TECHNICAL DATA

Name	Value
Number of pins	9
CAN interfaces	2
Temperature range	40 to 85 °C
Protection class	IP 53
Operating voltage	9-30 V
Current consumption (\leq)	1 mA

ORDER OPTIONS

Name	Casing	Order no.
CAN Isolator	G2	1.120.300.00E

ACCESSORIES

Required accessories	Article number
Socket package watertight 40 mm	114265
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



4-in-1 Motor Control



Front



Rear



Plug

DESCRIPTION

Motor control with 4x5 A motor outputs for DC motors and integrated current monitoring. In many outdoor electronics applications, there is an increasing demand for small motor control units that can drive several DC motors cost-effectively via different bus systems. That is the point, where the 4-in-1 Motor Control Comes into Action.

GENERAL DATA

Name	Value
Weight	137 g
Dimensions	95 × 65 × 35 mm
Housing material	Plastics
Connector type	2x KFZ-Stecker Tyco JPT 90° 6pol. (3x2), 1x KFZ-Stecker Tyco JPT 90° 9pol. (3x3)
In-/Outputs (total)	10
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	05 7815
Type-approval	E1 - ECE R10

TECHNICAL DATA

Name	Value
Number of pins	21
In-/Outputs (total)	10
Inputs (total)	3
Inputs (analog)	3
Outputs (total)	7
Outputs (PWM capable)	4
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Current consumption	0 A
Programming system	MRS Developers Studio
Motor outputs, controllable simultaneously	2
Motor full-bridge	4
Quiescent current	250 µA

ORDER OPTIONS

Name	Order no.
4-in-1 Motor Controller CAN	1.122.300.00E

ACCESSORIES

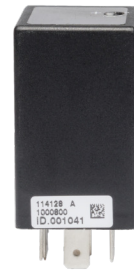
Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Cable set for 4-in-1 Motor Controller	500349
Connector package for 4-fold Motor Controller	300187
PCAN-USB Interface	105358



Motor Control 10A CAN PRO



Front



Rear



Angled



Side



Plug

DESCRIPTION

The Motor Control 10 A CAN PRO is a microcontrollerbased module for automotive and other applications. User configuration and programming facilitate implementation of a wide range of applications and the very compact form factor supports versatile use.

GENERAL DATA

Name	Value
Weight	72 g
Dimensions	30 × 30 × 50 mm
Housing material	Plastics
Connector type	GP9/T
In-/Outputs (total)	5
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	057817
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	9
In-/Outputs (total)	5
Inputs (total)	3
Inputs (digital)	3
Inputs (analog)	3
Outputs (total)	2
Outputs (PWM capable)	2
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Programming system	MRS Developers Studio
Quiescent current	820 mA

ORDER OPTIONS

Name	Model	Order no.
Motorcontroller 10A CAN PRO	With potentiometer	1.123.300.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to programm Micro PLC CAN / PROP CAN	109446
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085
Socket package watertight 50 mm	300048
Socket ST FL 9-pin 5 x 6.3 / 4 x 2.8	1.017.002.00
Tab receptacle for latching 2,8 mm 0,5 – 1,0 mm ²	105292
Tab receptacle for latching 6,3 mm 1,0 mm ²	102355
Tab receptacle for latching 6,3 mm 1,5 – 2,5 mm ²	103064



Group

DESCRIPTION

The waterproof CAN I/O PLC Waterproof PRO V2 with 16 I/Os convinces by the various application possibilities in numerous control applications. In addition to eight I/Os that can be configured as inputs or outputs, it offers six analog and two digital inputs. The CAN controller also has integrated protection diodes to limit the free-wheeling voltage generated by the inductive loads. The module can be used to control four current-controlled proportional valves. The 5 Volt reference output allows additional sensors to be supplied with voltage. The own supply voltage can be measured internally via terminal 30. The versatile CAN I/O PLC Waterproof PRO V2 allows you a very flexible, cross-industry use and is due to the high protection class IP6K6 best suited for applications with water, dust and dirt. Thanks to the perfectly dimensioned housing, the controller can also be used in confined spaces. Use the CAN controller as an I/O module in a CAN network as well as an independent and intelligent PLC. With our Softwaretool MRS Developers Studio you can program your function yourself, quickly and easily.

GENERAL DATA

Name	Value
Weight	167 g
Dimensions	60 × 80 × 30 mm
Housing material	Plastics
Connector type	Wasserdichter Stecker HCCPHPE
In-/Outputs (total)	16
Operating voltage	9-30 V (12 V (Code B), 24 V (Code E))
Protection class	Up to IP6K6
Type-approval number	057992
Type-approval	E1 - ECE R10
Protokols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	24
In-/Outputs (total)	16
I/Os	8
Inputs (total)	6
Inputs (digital)	2
Inputs (analog)	6
Outputs (total)	8
Outputs (PWM capable)	6
Outputs (PWM capable, integrated current measurement INA)	4
Outputs (digital)	2
Processor family	Freescale HSC08
Processor	8 bit
CAN interfaces	1
RS232 interfaces	1
RS485 Interfaces	1
Temperature range	-40 to 85 °C
Protection class	Up to IP6K6
Operating voltage	9-30 V (12 V (Code B), 24 V (Code E))
Quiescent current (24V)	138 µA
Quiescent current (12V)	75 µA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Order no.
CAN I/O PLC Waterproof PRO V2	5 V Ref, KL30-Wake-up, CAN-HS, RS232	1.128.301.0000E
CAN I/O PLC Waterproof PRO V2	5Vref, KL15/CAN-Wake-up, CAN-HS, RS232	1.128.301.1000E
CAN I/O PLC Waterproof PRO V2	5 V Ref, KL15/CAN-Wake-up, CAN-HS, RS485	1.128.321.1000E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
PCAN-USB Interface	105358
Cable set to program CAN I/O PLC Waterproof PRO V2 / CC16WP	110490
Connector package CAN I/O PLC WP / WP PRO V2 / CC16WP	110421
Crimp contact FCI Sicma 2.8 mm 1,0 – 2,5mm ²	109947
Crimp contact FCI Sicma 1,5 mm 1,0 – 2,0 mm ²	109949
Dummy FCI filler plug	110268
Protection cap	111441
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



CAN I/O PLC LHS

DESCRIPTION

The compact CAN I/O controller in the lowside and highside version offers four additional lowside outputs in addition to the standard four highside outputs. The perfect solution for controlling mass-controlled actuators and motor bridges.

GENERAL DATA

Name	Value
Weight	75 g
Dimensions	60 × 60 × 30 mm
Housing material	Plastic
Connector type	Molex Mini Fit Junior
In-/Outputs (total)	14
Operating voltage	9-30 V
Protection class	IP53
Type-approval number	058369
Type-approval	E1 - UN/ECE-R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

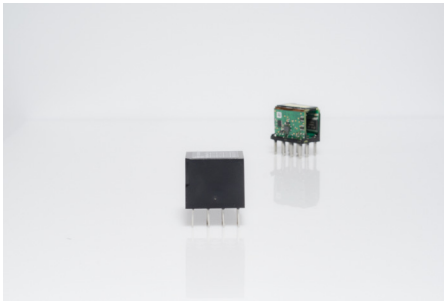
Name	Value
Number of pins	22
In-/Outputs (total)	14
I/Os	8
Inputs (total)	14
Inputs (digital)	14
Inputs (analog)	6
Outputs (total)	8
Outputs (PWM capable)	2
Outputs (digital)	2
Processor family	Freescale HCS08
Processor	8 bit
CAN interfaces	1
LIN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP53
Operating voltage	9-30 V
Switch-on voltage	8 V
Overload protection (\geq)	33 V
Current consumption	30 mA
Quiescent current (24V)	200 μ A
Quiescent current (12V)	150 μ A
Programming system	MRS Developers Studio
Outputs lowside	4

ORDER OPTIONS

Name	Model	Order no.
CAN I/O PLC LHS 5 V Ref	5 Vref	1.129.300.00E
CAN I/O PLC LHS 2x Freq-IN	2x Freq-IN	1.129.301.0001E
CAN I/O PLC LHS + LIN	CAN and LIN Bus	1.129.312.0001E
CANI I/O SPS LHS + LIN (Master) + 2xFreq In	CAN and LIN Bus (M) and 2x Freq In	1.129.322.0001E

ACCESSORIES

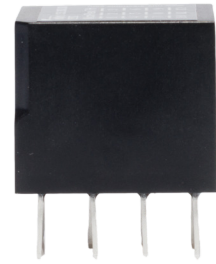
Required accessories	Article number
Softwaretool MRS Developers Studio Bundle	1.100.100.09
Cable set to programm CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106817
Connector package for CAN I/O Modul / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106940
PCAN-USB Interface	105358



Group View



Front



Side

GENERAL DATA

Name	Value
Weight	50 g
Dimensions	30.4 × 23.6 × 36.34 mm
Housing material	PA66 Nylon
Operating voltage	9-30 V
Protection class	IP67

TECHNICAL DATA

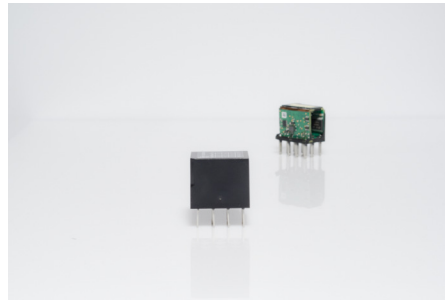
Name	Value
Number of pins	12
I/Os	7
Inputs (total)	7
Inputs (digital)	3
Inputs (analog)	3
Outputs (total)	7
Outputs (PWM capable)	4
Outputs (digital)	3
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP67
Operating voltage	9-30 V
Quiescent current (12V)	6 mA

ORDER OPTIONS

Name	Type	Order no.
[Translate to Commonwealth English:] MicroPlex® 7X CAN Controller	[Translate to Commonwealth English:] 7X	1.132.300.00



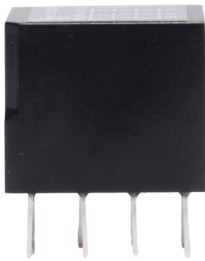
MicroPlex® 7X



Group View



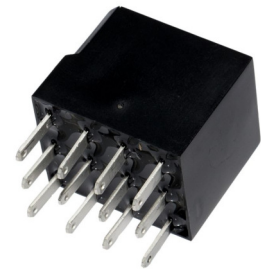
Front



Side



MicroPlex Pinout



Micro Plex Angle

DESCRIPTION

The MicroPlex™ controllers are the smallest and smartest CAN controllers available worldwide. With a footprint of just two Micro 280 style relays and a drag-and-drop configuration tool, even nonsoftware engineers can build their own CAN-Bus enabled power distribution systems.

GENERAL DATA

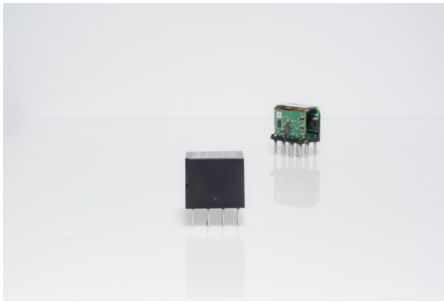
Name	Value
Weight	50 g
Dimensions	30.4 × 23.6 × 36.34 mm
Housing material	PA66 Nylon
Operating voltage	9-30 V
Protection class	IP67

TECHNICAL DATA

Name	Value
Number of pins	12
I/Os	7
Inputs (total)	7
Inputs (digital)	3
Inputs (analog)	3
Outputs (total)	7
Outputs (PWM capable)	4
Outputs (digital)	3
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP67
Operating voltage	9-30 V
Quiescent current (12V)	6 mA

ORDER OPTIONS

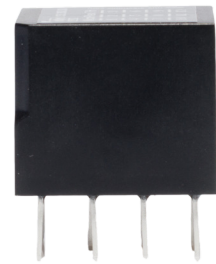
Name	Type	Order no.
[Translate to Commonwealth English:] MicroPlex® 7X CAN Controller	[Translate to Commonwealth English:] 7X	1.132.300.00



Group View



Front



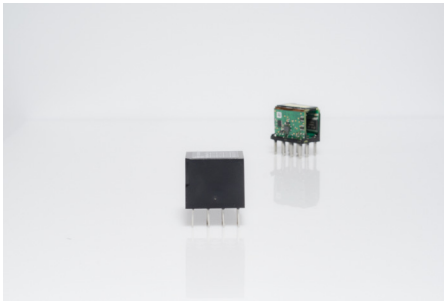
Side

GENERAL DATA

Name	Value
Weight	50 g
Dimensions	30.4 × 23.6 × 36.34 mm
Housing material	PA66 Nylon
Operating voltage	9-30 V
Protection class	IP67

TECHNICAL DATA

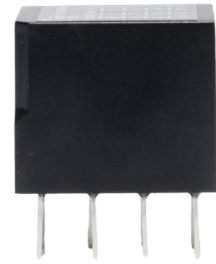
Name	Value
Number of pins	12
I/Os	7
Outputs (total)	7
Outputs (PWM capable)	6
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP67
Operating voltage	9-30 V
Quiescent current (12V)	6 mA



Group View



Front



Side

DESCRIPTION

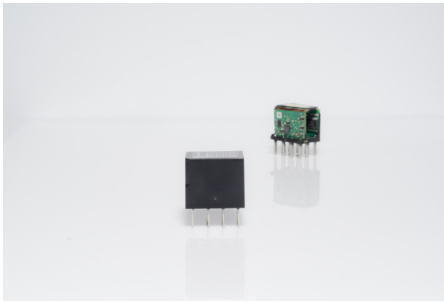
The MicroPlex® controllers are the smallest and smartest CAN controllers available worldwide. With a footprint of just two Micro 280 style relays and a drag-and-drop configuration tool, even nonsoftware engineers can build their own CAN-Bus enabled power distribution systems.

GENERAL DATA

Name	Value
Weight	50 g
Dimensions	30.4 × 23.6 × 36.34 mm
Housing material	PA66 Nylon
Operating voltage	9-30 V
Protection class	IP67

TECHNICAL DATA

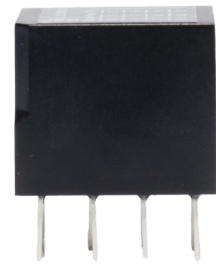
Name	Value
Number of pins	12
I/Os	7
Outputs (total)	7
Outputs (PWM capable)	6
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP67
Operating voltage	9-30 V
Quiescent current (12V)	6 mA



Group View



Front



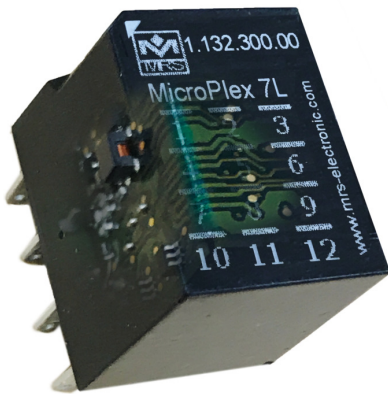
Side

GENERAL DATA

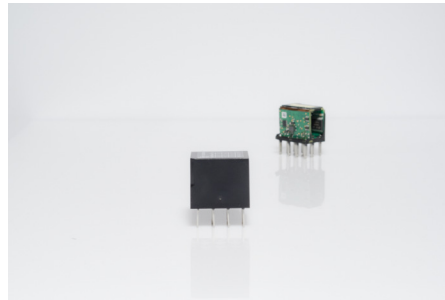
Name	Value
Weight	50 g
Dimensions	30.4 × 23.6 × 36.34 mm
Housing material	PA66 Nylon
Operating voltage	9-30 V
Protection class	IP67

TECHNICAL DATA

Name	Value
Number of pins	12
I/Os	7
Outputs (total)	7
Outputs (PWM capable)	6
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP67
Operating voltage	9-30 V
Quiescent current (12V)	6 mA



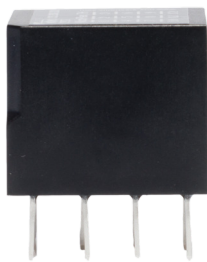
MicroPlex® 7L



Group View



MicroPlex Front



MicroPlex Side



MicroPlex Pinout

DESCRIPTION

The MicroPlex® controllers are the smallest and smartest CAN controllers available worldwide. With a footprint of just two Micro 280 style relays and a drag-and-drop configuration tool, even nonsoftware engineers can build their own CAN-Bus enabled power distribution systems.

GENERAL DATA

Name	Value
Weight	50 g
Dimensions	30.4 × 23.6 × 36.34 mm
Housing material	PA66 Nylon
Operating voltage	9-30 V
Protection class	IP67

TECHNICAL DATA

Name	Value
Number of pins	12
I/Os	7
Outputs (total)	7
Outputs (PWM capable)	6
CAN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP67
Operating voltage	9-30 V
Quiescent current (12V)	6 mA



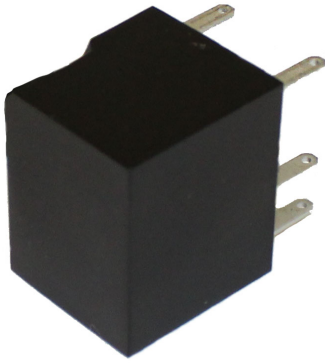
MicroPlex® SSR18

GENERAL DATA

Name	Value
Weight	50 g
Dimensions	30.4 × 23.6 × 36.34 mm
Housing material	PA66 Nylon
Operating voltage	12 V
Protection class	IP67

TECHNICAL DATA

Name	Value
Number of pins	5
I/Os	3
Inputs (digital)	1
Temperature range	-40 to 85 °C
Protection class	IP67
Operating voltage	12 V



Perspective MicroPlex SSR30

GENERAL DATA

Name	Value
Weight	50 g
Dimensions	30.4 × 23.6 × 36.34 mm
Housing material	PA66 Nylon
Operating voltage	12 V
Protection class	IP67

TECHNICAL DATA

Name	Value
Number of pins	7
I/Os	3
Inputs (digital)	1
Temperature range	-40 to 85 °C
Protection class	IP67
Operating voltage	12 V



DESCRIPTION

Our MicroPlex Gateway is the smallest Gateway in the MRS product line, given its small size and easy installation, it offers a wide range of applications. It has 12 pins with two CAN and LIN interfaces, as well as an optional RS232 interface. The product can be delivered as LIN Slave or as LIN Master circuitry and is perfect for tight installation spaces.

GENERAL DATA

Name	Value
Weight	56.69 g
Dimensions	30.48 × 23.5 × 25.9 mm
Housing material	PA66 Nylon
In-/Outputs (total)	3
Operating voltage	9-30 V
Protection class	IP67

TECHNICAL DATA

Name	Value
Number of pins	12
In-/Outputs (total)	3
Inputs (total)	3
Inputs (digital)	2
Inputs (analog)	3
Processor family	NXP
Processor	8 bit
CAN interfaces	4
LIN interfaces	2
RS232 interfaces	2
Temperature range	-40 to 85 °C
Operating voltage	9-30 V
Current consumption	60 mA
Programming system	MRS Developers Studio
Quiescent current (24V)	124 µA
Quiescent current (12V)	50 µA



MicroPlex 1HB

DESCRIPTION

Our MicroPlex Gateway is the smallest Gateway in the MRS product line, given its small size and easy installation, it offers a wide range of applications. It has 12 pins with two CAN and LIN interfaces, as well as an optional RS232 interface. The product can be delivered as LIN Slave or as LIN Master circuitry and is perfect for tight installation spaces.

GENERAL DATA

Name	Value
Weight	56.69 g
Dimensions	30.48 × 23.5 × 25.9 mm
Housing material	PA66 Nylon
Operating voltage	9-30 V
Protection class	IP67

TECHNICAL DATA

Name	Value
Number of pins	12
Inputs (total)	6
Inputs (digital)	5
Inputs (analog)	4
Outputs (total)	2
Outputs (digital)	2
Processor family	NXP
Processor	8 bit
CAN interfaces	2
Temperature range	-40 to 85 °C
Operating voltage	9-30 V
Current consumption	60 mA
Programming system	MRS Developers Studio
Quiescent current (24V)	124 µA
Quiescent current (12V)	50 µA



CAN I/O - CC16WP

DESCRIPTION

The CC16WP is the latest and best CAN I/O generation from MRS Electronic. The core piece, the 32-bit processor, provides you with more processing power and thus faster computing cycle times. You also benefit from more powerful gateway functionality and complex programming options for your applications. Due to the enormously high flexibility of the multifunction inputs, the new CAN I/O is ideally equipped for a wide variety of cross-sector applications. The high protection class IP6K6 can still be achieved. Use the CAN controller as an I/O module in a CAN network as well as a stand-alone and intelligent PLC. With our software tool MRS Applies Studio you can program the functions yourself, quickly and easily.

GENERAL DATA

Name	Value
Dimensions	60 × 77 × 30 mm
Housing material	Plastics
Connector type	HCCPHPE24BKA90F
In-/Outputs (total)	16
Operating voltage	9-30 V
Protection class	IP 6K6 in the correct installation position (plug down)
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	24
In-/Outputs (total)	16
I/Os	8
Inputs (total)	6
Inputs (digital)	1
Inputs (analog)	6
Outputs (total)	8
Outputs (PWM capable)	8
Outputs (PWM capable, integrated current measurement INA)	8
Processor	32 bit
CAN interfaces	2
LIN interfaces	1
RS232 interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP 6K6 in the correct installation position (plug down)
Operating voltage	9-30 V

ORDER OPTIONS

Name	Model	Order no.
CC16WP - CAN-CAN	2x CAN Bus	1.154.300.00
CC16WP - CAN-LIN	1x CAN Bus, 1x LIN Bus	1.154.310.00
CC16WP - CAN-RS232	1x CAN Bus, 1x RS232	1.154.320.00
CC16WP - KL15ON	2x CAN Bus, Electronics Supply KL15, Load Circuit KL30	1.154.300.10
CC16WP - CAN-2xDI	1x CAN Bus, 2x Digital Inputs	1.154.330.00
CC16WP - CAN-LIN 12V	1x CAN Bus, 1x LIN-Bus with 12V LIN-Level for 24V Supply Voltage	1.154.211.00

ACCESSORIES

Required accessories	Article number
Programming Tool Applics Studio	1.100.200.xx
PCAN-USB Interface	105358
Cable set to program CAN I/O PLC Waterproof PRO V2 / CC16WP	110490
Connector package CAN I/O PLC WP / WP PRO V2 / CC16WP	110421
Crimp contact FCI Sicma 2.8 mm 1,0 – 2,5mm ²	109947
Crimp contact FCI Sicma 1,5 mm 1,0 – 2,0 mm ²	109949
Dummy FCI filler plug	110268
Protection cap	111441



Group



Front



Rear



Side



Plug



Angled

DESCRIPTION

The compact M2600 ECO CAN PLC is a high-performance control with a high functionality in a robust V2A half-shell. The MRS-Controller has eight current-controlled PWM outputs. In addition to the 16-bit main microcontroller, the special feature is the second additionally integrated microcontroller (8-bit processor) with a useful watchdog function. Due to the two CAN-Bus interfaces, a gateway function is possible in addition to the typical control function. Optionally, even a third CAN-Bus interface can be used for further functions. Due to the large number of I/O and their high flexibility, the M2600 ECO CAN PLC allows you to use them across all sectors.

GENERAL DATA

Name	Value
Dimensions	150 × 110 × 45 mm
Housing material	V2A Halbschale
Connector type	Tyco JPT
In-/Outputs (total)	26
Operating voltage	9-30 V
Protection class	IP65
Type-approval number	05 7279
Type-approval	E1 - ECE R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	42
In-/Outputs (total)	26
Inputs (total)	14
Inputs (digital)	6
Inputs (analog)	8
Outputs (total)	12
Outputs (PWM capable, integrated current measurement INA)	8
Outputs (digital)	4
Processor family	Freescale HCS12
Processor	16 bit
CAN interfaces	2
RS232 interfaces	1
RS485 Interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP65
Operating voltage	9-30 V
Current consumption	3 mA
External overcurrent protection	30 A
Quiescent current (24V)	30 mA
Quiescent current (12V)	3 mA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Model	Order no.
M2600 ECO CAN PLC	2x CAN High-Speed, RS232	1.261.300.00E
M2600 ECO CAN PLC	3x CAN High-Speed	1.261.303.00E

ACCESSORIES

Required accessories	Article number
Software tool MRS Developers Studio Bundle	1.100.100.09
Starter Kit - M2600 ECO CAN PLC	1.100.110.27
Cable set to program M2600 ECO CAN PLC	108890
Connector package for M2600 ECO CAN PLC	108888
PCAN-USB Interface	105358
Cable FLRY 2 x 0.50 mm ² white/green SL20	113085



M3600 CAN PLC



Group



Front



Rear



Side



Plug

DESCRIPTION

The large CAN controller M3600 from MRS Electronic with its 121 pins extends the product portfolio with a versatile all-rounder. With 3 CAN buses, the controller can either operate three stand-alone bus lines or serve as a hub for CAN bus communication. It has a total of 39 inputs and outputs. 9 digital and 10 analog inputs, 10 I/Os and 10 outputs make the device a versatile product that promises the end user less wiring. The applications of these compact controllers are diverse and can be perfectly adapted to the requirements of the respective industry. Wherever the versatility of various actuators is needed, the M3600 is the ideal solution.

GENERAL DATA

Name	Value
Weight	480 g
Dimensions	39.3 × 110.4 × 179 mm
Housing material	Aluminium
Connector type	Tyco AMPMODU WP
In-/Outputs (total)	39
Operating voltage	9-30 V
Protection class	IP68
Type-approval number	05 8037
Type-approval	ECE-R10
Protocols	CAN Interface 2.0 A/B ISO 11898-2, SAE J1939

TECHNICAL DATA

Name	Value
Number of pins	121
In-/Outputs (total)	39
I/Os	10
Inputs (total)	19
Inputs (digital)	10
Inputs (analog)	9
Outputs (total)	20
Outputs (PWM capable, integrated current measurement INA)	4
Outputs (digital)	16
Processor family	Freescale HCS12
Processor	16 bit
CAN interfaces	3
RS485 Interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP68
Operating voltage	9-30 V
Switch-on voltage	8 V
Overload protection (≥)	33 V
Current consumption	67 mA
Quiescent current (24V)	3.35 mA
Quiescent current (12V)	300 µA
Programming system	MRS Developers Studio

ORDER OPTIONS

Name	Order no.
M3600 CAN PLC	1.300.300.00E

ACCESSORIES

Required accessories	Article number
Softwaretool MRS Developers Studio	1.100.100.xx
Connector package for M3600 CAN PLC	114159
Crimp contact Timer Junior 1,50 – 2,50 mm ²	107665
Crimp contact MQS 0,50 – 0,75 mm ²	109613
Single seal Junior Power Timer 1.5 mm ²	107304
PCAN-USB Interface	105358
Cable set to program M3600 CAN PLC	501246
Cavity Plug package for M3600 CAN PLC	300972



Tab receptacle for latching 6,3 mm

DESCRIPTION

The galvanized, non-insulated MRS-Tab receptacle has a plug width of 6,3 mm and can be used with cable cross sections of 1,0 mm². Due to the integrated latching nose for latching in the connector housing, the tab receptacle can not simply fall out when inserting the relay. The additional groove embossing provides improved contact properties. The 6,3 mm 1,0 mm² snap-in tab receptacle simplifies integration into the socket.



Cable boot



Side View

DESCRIPTION

The cable boot is perfectly suitable for CAN I/O module connections (revision up to E). Due to its high accuracy of fit, it serves as protection against external influences. Benefit from cable boot to ensure that your connections are always optimally protected.



Tab receptacle for latching

DESCRIPTION

The galvanized, non-insulated MRS-Tab receptacle has a plug width of 6,3 mm and can be used with cable cross sections of 1,5 - 2,5 mm². Due to the integrated latching nose for latching in the connector housing, the tab receptacle can not simply fall out when inserting the relay. The additional groove embossing provides improved contact properties. The 6,3 mm 1,5 - 2,5 mm² snap-in tab receptacle simplifies integration into the socket.



Tab receptacle for latching

DESCRIPTION

The galvanized, non-insulated MRS-Tab receptacle has a plug width of 9,5 mm and can be used with cable cross sections of 4,0 - 6,0 mm². Due to the integrated latching nose for latching in the connector housing, the tab receptacle can not simply fall out when inserting the relay. The additional groove embossing provides improved contact properties. The 9,5 mm 4,0 - 6,0 mm² snap-in tab receptacle simplifies integration into the socket.



Tyco Crimp Contact Timer Junior

DESCRIPTION

Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside. The MRS-Crimp contact Timer Junior guarantees high electrical and mechanical safety. Suitable for use with the 4-fold Motor Controller and 6-fold PROP CAN. Your benefit is the considerable simplification that comes with handling.



Crimp Contact Mini Fit Junior Plus HCS
AWG16

DESCRIPTION

Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside. The Crimp Contact Mini Fit Junior Plus HCS AWG16 from MRS is suitable for use with CAN I/O Modul, RS485 Gateway, RS232 Gateway and CAN I/O PLC LHS. The MRS-Crimp contact guarantees high electrical and mechanical safety. Your benefit is the considerable simplification that comes with handling.



Tab receptacle for latching

DESCRIPTION

The galvanized, non-insulated MRS-Tab receptacle has a plug width of 2,8 mm and can be used with cable cross sections of 0,5 - 1,0 mm². Due to the integrated latching nose for latching in the connector housing, the tab receptacle can not simply fall out when inserting the relay. The additional groove embossing provides improved contact properties. The 2,8 mm 0,5 - 1,0 mm² snap-in tab receptacle simplifies integration into the socket.



PCAN-USB Interface

DESCRIPTION

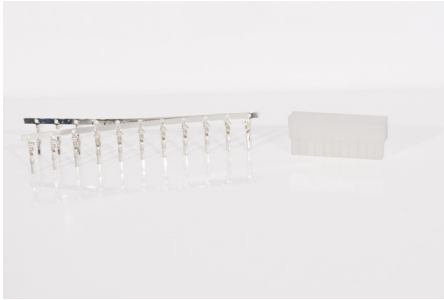
The practical PCAN-USB Interface Cable set establishes the connection between CAN controllers and USB quickly and easily. Therefore it allows an uncomplicated connection to the CAN networks. Due to its compact plastic housing, the PCAN-USB Interface Cable set is also ideally suited for mobile applications. Your benefit is the compatibility of the PCAN-USB Interface Cable set to all connections to CAN-Networks.



Cable set to programm CAN I/O

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the following MRS-Products: CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Connector package for CAN I/O Modul

DESCRIPTION

The MRS-Connector package provides you with the necessary accessories for the plug connection of following MRS-Products: CAN I/O Modul / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS. In addition to the robust mating connector, the package also includes the matching crimp contacts. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the CAN I/O Modul / RS485 Gateway / CAN I/O PLC LHS connector package.

ACCESSORIES

Required accessories	Article number
Cable set to programm CAN I/O / RS485 Gateway / RS232 Gateway / CAN I/O PLC LHS	106817



Micro Timer II Contacts

DESCRIPTION

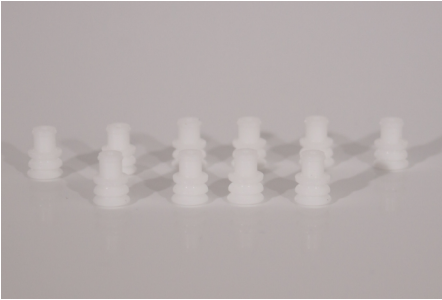
Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside. Micro Timer II Contacts from MRS can be used for cable cross sections from 0,5 – 1 mm². This Timer contact guarantees high electrical and mechanical safety. You can obtain this Crimp contact either with our Connector package (108888) or separately for the use with the M2600 ECO CAN PLC Controller. The considerable simplification that comes with handling is the benefit you receive.



Junior Power Timer Contacts

DESCRIPTION

Junior Power Timer Contacts from MRS can be used for cable cross sections from 1,5 – 2,5 mm². This Timer contact guarantees high electrical and mechanical safety. You can obtain this Crimp contact either with our Connector package (108888) or separately for the use with the M2600 ECO CAN PLC Controller. The considerable simplification that comes with handling is the benefit you receive. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



Single seal Junior Power Timer 1.5 mm²

DESCRIPTION

The single seal serves as seals for the crimp contacts Junior Power Timer 1.5 mm². This seal can be ordered together with our connector package (108888) or separately for use with the M2600 / M3600 ECO CAN PLC controllers. The single seal offers you an optimal protection against foreign bodies, dust or water.



Crimp Contact Mini Fit Junior

DESCRIPTION

The MRS-Crimp Contact Mini Fit Junior guarantees high electrical and mechanical safety. Suitable for use with the CAN I/O Modul AWG 18-20. Your benefit is the considerable simplification that comes with handling. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



Crimp contact Timer Junior

DESCRIPTION

The Crimp contact Timer Junior from MRS can be used for cable cross sections from 1,50 to 2,50 mm². It is included in the Connector package for CAN-PWM Modul and suitable for use with the M3600 CAN PLC. The MRS-Crimp contact Timer Junior guarantees high electrical and mechanical safety. Your benefit is the considerable simplification that comes with handling. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



Tab receptacle for latching

DESCRIPTION

The galvanized, non-insulated MRS-Tab receptacle has a plug width of 4,8 mm and can be used with cable cross sections of 0,5 - 1,0 mm². Due to the integrated latching nose for latching in the connector housing, the tab receptacle can not simply fall out when inserting the relay. The additional groove embossing provides improved contact properties. The 4,8 mm 0,5 - 1,0 mm² snap-in tab receptacle simplifies integration into the socket.



Tab receptacle for latching

DESCRIPTION

The galvanized, non-insulated MRS-Tab receptacle has a plug width of 4,8 mm and can be used with cable cross sections of 1,0 - 2,5 mm². Due to the integrated latching nose for latching in the connector housing, the tab receptacle can not simply fall out when inserting the relay. The additional groove embossing provides improved contact properties. The 4,8 mm 1,0 - 2,5 mm² snap-in tab receptacle simplifies integration into the socket.



0.70 Series Multilock Contact

DESCRIPTION

The 0.70 Series Multilock contact from MRS can be used for cable cross sections from 0,5 – 1,4mm². This Multilock contact guarantees high electrical and mechanical safety. The considerable simplification that comes with handling is the benefit you receive. You can obtain this Crimp contact either with our Connector package (109203) or separately for the use with the Universal Gateway 5x CAN. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



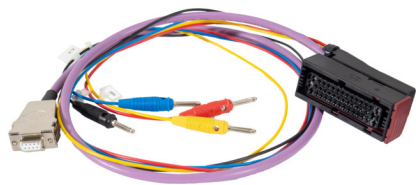
Connector package for M2600 ECO CAN
PLC

DESCRIPTION

The MRS-Connector package provides you with the necessary accessories for the plug connection of your M2600 ECO CAN PLC. In addition to the robust mating connector, the package also includes the matching crimp contacts. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the M2600 ECO CAN PLC connector package.

ACCESSORIES

Required accessories	Article number
Cable set to program M2600 ECO CAN PLC	108890



Cable set to program M2600 CAN PLC

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the M2600 ECO CAN PLC. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Crimp Terminals Female

DESCRIPTION

The MRS-Crimp Terminals Female guarantees high electrical and mechanical safety. Your benefit is the considerable simplification that comes with handling. It is included in the Connector package for Touch panel. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



Connector package for Universal Gateway
5x CAN

DESCRIPTION

The MRS-Connector package provides you with the necessary accessories for the plug connection of your Universal Gateway 5x CAN. In addition to the robust mating connector, the package also includes the matching crimp contacts. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the Universal Gateway 5x CAN connector package.

ACCESSORIES

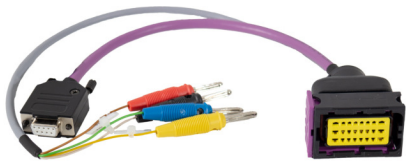
Required accessories	Article number
Cable set to program Universal Gateway 5x CAN	109260



Cable set to program Universal Gateway
(picture similar)

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the Universal Gateway 5x CAN. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Cable set to programm 6-fold PROP CAN
(Picture similar)

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the 6-fold PROP CAN. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Connector package for 6-fold PROP CAN

DESCRIPTION

The MRS-Connector package provides you with the necessary accessories for the plug connection of your 6-fold PROP CAN. In addition to the robust mating connector, the package also includes the matching crimp contacts. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the 6-fold PROP CAN connector package.

ACCESSORIES

Required accessories	Article number
Cable set to programm 6-fold PROP CAN	109291



Cable set to programm Micro PLC CAN

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the following MRS-Products: Micro PLC CAN / PROP CAN. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Crimp contact

DESCRIPTION

The Crimp contact MQS from MRS can be used for cable cross sections from 0,50 – 0,75 mm². Suitable for use with the M3600 CAN PLC. The MRS-Crimp contact MQS guarantees high electrical and mechanical safety. Your benefit is the considerable simplification that comes with handling. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



Connector package CAN Gateway Module
/ CAN Relay Box

DESCRIPTION

The MRS-Connector package provides you with the necessary accessories for the plug connection of following MRS-Products: CAN Gateway Module / CAN Relay Box. In addition to the robust mating connector, the package also includes the matching crimp contacts. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the CAN Gateway Module / CAN Relay Box connector package.

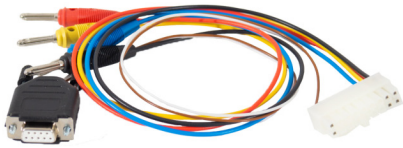
ACCESSORIES

Required accessories

Article number

Cable set to program CAN Gateway Module / CAN Relay Box

109639



Cable set to program CAN Gateway
Module and Relay Box

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the following MRS-Products: CAN Gateway Module / CAN Relay Box. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Crimp contact FCI Sicma

DESCRIPTION

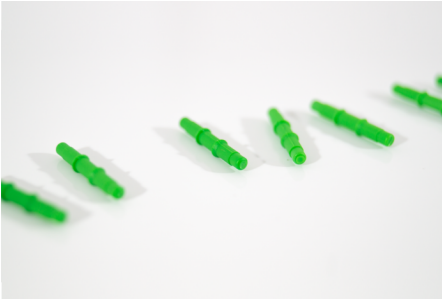
The Crimp contact 2,8 mm from MRS can be used for cable cross sections from 1,0 to 2,5 mm². This Crimp contact guarantees high electrical and mechanical safety. Your benefit is the considerable simplification that comes with handling. It is included in the Connector package CAN I/O PLC Waterproof PRO and suitable for use with the following MRS-Controllers: CAN I/O PLC WP, CAN I/O PLC WP PRO V2, Motor Control 30 A CAN. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



Crimp contact FCI Sicma

DESCRIPTION

The Crimp contact 1,5 mm from MRS can be used for cable cross sections from 1,0 to 2,0 mm². This Crimp contact guarantees high electrical and mechanical safety. Your benefit is the considerable simplification that comes with handling. It is included in the Connector package CAN I/O PLC Waterproof Pro and suitable for use with the the following MRS-Controllers: CAN I/O PLC WP, CAN I/O PLC WP PRO V2, Motor Control 30 A CAN. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



Dummy FCI filler plug

DESCRIPTION

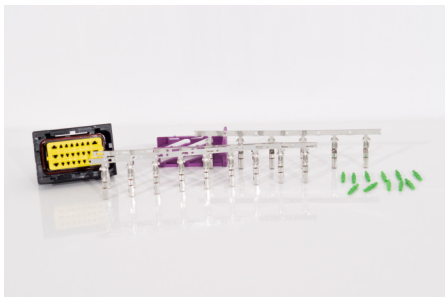
The dummy FCI filler plug serves as a practical seal for the unused contacts of the following controls: CAN I/O PLC, CAN I/O PLC Waterproof, CAN I/O PLC Waterproof PRO V2, CAN I/O PLC LHS. Benefit from easy installation and optimum protection against the penetration of undesirable substances.



Socket package 9-pin relay

DESCRIPTION

The MRS-Socket package provides you with the necessary accessories for the socket of your 9-pin relay. In addition to the sturdy socket (ST FL 9-pin 5x6.3 / 4x2.8), the package also includes the matching tab receptacle. Your benefit is the easy handling of the MRS-Socket.



Connector package CAN I/O PLC WP /
WP PRO V2

DESCRIPTION

The MRS-Connector package provides you with the necessary accessories for the plug connection of following MRS-Products: CAN I/O PLC WP / WP PRO V2. In addition to the robust mating connector, the package also includes the matching crimp contacts. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the CAN I/O PLC WP / WP PRO V2 connector package.

ACCESSORIES

Required accessories

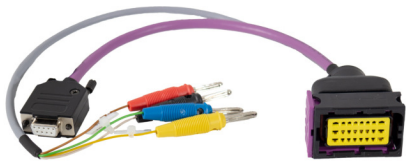
Article number

Cable set to programm CAN I/O PLC Waterproof

112342

Cable set to program CAN I/O PLC Waterproof PRO V2 / CC16WP

110490



Cable set to program CAN I/O PLC
Waterproof Pro V2

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the CAN I/O PLC Waterproof PRO V2. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Protection cap closed



Protection cap open

DESCRIPTION

The protective cap was specially developed to protect exposed lines from foreign bodies and water. Take advantage of easy assembly to secure your connections in the best possible way.



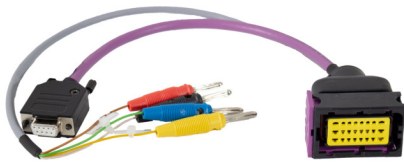
Connector package for Touch Panel
(Picture may vary)

DESCRIPTION

The MRS-Connector package provides you with the necessary accessories for the plug connection of your Touch Panel. In addition to the robust mating connector, the package also includes the matching crimp contacts. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the Touch Panel connector package.

ACCESSORIES

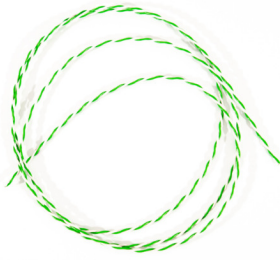
Required accessories	Article number
Cable set to program Touch Panel	113131



Cable set to programm CAN I/O PLC
Waterproof

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the CAN I/O PLC Waterproof. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Cable FLRY 2 x 0.50 mm² white/green
SL20

DESCRIPTION

The FLRY is a vehicle cable with thin-walled, robust PVC insulation, which is perfectly designed for the special conditions in the vehicle. The vehicle cable FLRY has a nominal cross-section of 2x0.50mm² and is stranded with 20 mm lay length (color: white/green). Use the vehicle cable FLRY for space-saving installation in all vehicle areas.



Cable set to program Touch Panel

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the Touch Panel. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Con crimp contact

DESCRIPTION

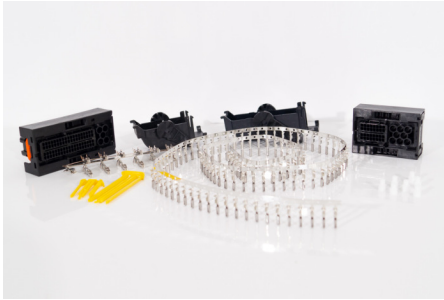
The MRS-Crimp contact guarantees high electrical and mechanical safety. Additionally, suitable as a waterproof plug-in-socket. Your benefit is the considerable simplification that comes with handling. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



Con crimp contact

DESCRIPTION

The MRS Crimp Contact guarantees high electrical and mechanical safety. Your benefit is the considerable simplification that comes with handling. Additionally, suitable as a waterproof plug-in-socket. Through the crimp contact cores of a cable are connected to the tab receptacles, so all cables are always in the correct position. The no longer detachable connection between one or more conductors and the crimp contact is produced by pressure. If crimping is carried out correctly, a gas-tight connection will be created. The structure resulting from the deformation of the crimp barrel and the finely stranded conduit is largely isolated from oxygen and thus almost protected against corrosion inside.



Connector package for M3600 CAN PLC

DESCRIPTION

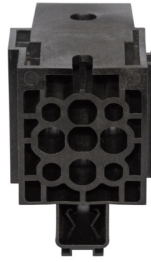
The MRS-Connector package provides you with the necessary accessories for the plug connection of your M3600 CAN PLC. In addition to the robust mating connector, the package also includes the matching crimp contacts. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the M3600 CAN PLC connector package.

ACCESSORIES

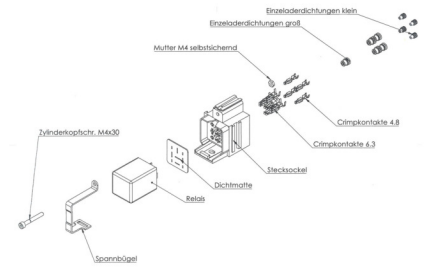
Required accessories	Article number
Cable set to program M3600 CAN PLC	501246



Socket package watertight 40 mm



Back view



Components

DESCRIPTION

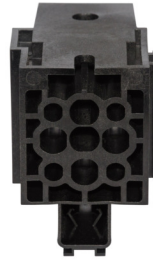
The MRS-Socket package provides you with the necessary accessories for your watertight socket for MRS-Relays (Housing 30 x 30 x 40 mm). The package includes not only the robust socket but also the matching crimp contacts. The clamping bracket (Height: 40 mm), the sealing mat as well as the individual wire seals ensure tightness. Your benefit is the easy handling and impermeability of the patented socket.

GENERAL DATA

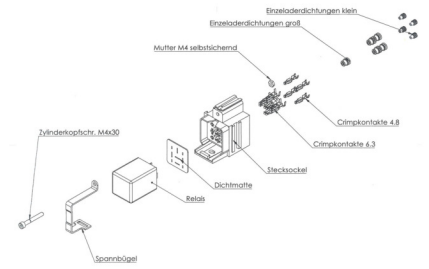
Name	Value
Dimensions	57 x 41 x 54 mm (without metal bracket)
IP protection class	IP6K8
Housing material	PA66 GF30
Weight	48,4 g



Socket package watertight 30 mm



Back view



Components

DESCRIPTION

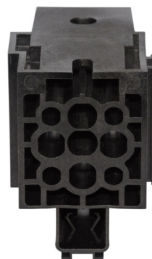
The MRS-Socket package provides you with the necessary accessories for your watertight socket for MRS-Relays (Housing 30 x 30 x 30 mm). The package includes not only the robust socket but also the matching crimp contacts. The clamping bracket (Height: 30 mm), the sealing mat as well as the individual wire seals ensure tightness. Your benefit is the easy handling and impermeability of the patented socket.

GENERAL DATA

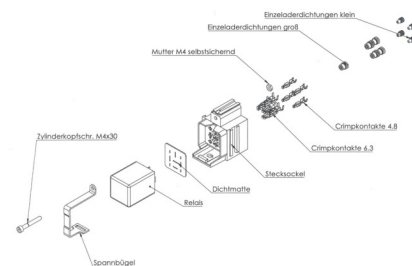
Name	Value
Dimensions	57 x 41 x 54 mm (without metal bracket)
IP protection class	IP6K8
Housing material	PA66 GF30
Weight	48,4 g



Socket package watertight 50 mm



Back view



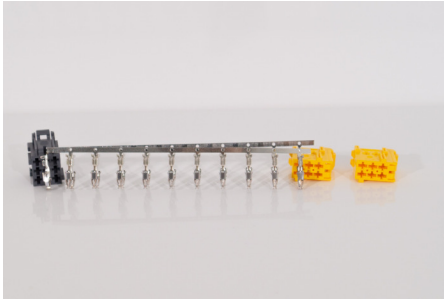
Components

DESCRIPTION

The MRS-Socket package provides you with the necessary accessories for your watertight socket for MRS-Relays (Housing 30 x 30 x 50 mm). The package includes not only the robust socket but also the matching crimp contacts. The clamping bracket (Height: 50 mm), the sealing mat as well as the individual wire seals ensure tightness. Your benefit is the easy handling and impermeability of the patented socket.

GENERAL DATA

Name	Value
Dimensions	57 x 41 x 54 mm (without metal bracket)
IP protection class	IP6K8
Housing material	PA66 GF30
Weight	48,4 g



Connector package for 4-fold Motor Controller

DESCRIPTION

The MRS-Connector package provides you with the necessary accessories for the plug connection of your 4-fold Motor Controller. In addition to the robust mating connector, the package also includes the matching crimp contacts. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the 4-fold Motor Controller connector package.

ACCESSORIES

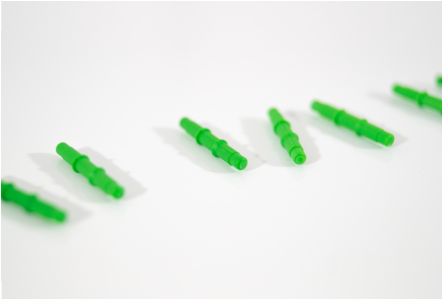
Required accessories	Article number
Cable set for 4-in-1 Motor Controller	500349

DESCRIPTION

The MRS-Connector package provides you with the necessary accessories for the plug connection of your Motor Controller 30A CAN. In addition to the robust mating connector, the package also includes the matching crimp contacts. Other accessories include washers, ring terminals, spring washers, M6 nuts and plastic caps. The suitable MRS-Cable set can be found under Accessories. Start the programming of your application smoothly with the Connector package and accessories for the Motor Controller 30 A CAN.

ACCESSORIES

Required accessories	Article number
Cable set to program Motor Controller 30 A CAN	501269



Cavity Plug package for M3600 CAN PLC
(picture similar)

DESCRIPTION

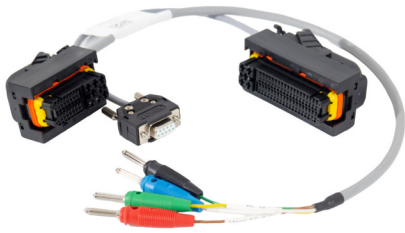
The comprehensive Cavity Plug package is ideally suited for sealing plug connections of the M 3600 CAN PLC. The package includes 5 dummy plugs for JPT contacts and 50 dummy plugs for MQS contacts. The package guarantees you optimal protection against water and foreign bodies at the mating connectors (according to protection class IP68).



Cable set for 4-in-1 Motor Controller

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the 4-in-1 Motor Control. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.



Cable set to program M3600 CAN PLC

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the M3600 CAN PLC. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.

DESCRIPTION

The MRS-Cable set (length about 30 cm) is required for programming the Motor Control 30 A CAN. Simply connect your MRS-Control with the matching MRS-Cable via a D-Sub connection to the PCAN-USB Interface (also compatible with Peak or Vector Interfaces) and start programming your individual application. Programming with the MRS-Cable set is uncomplicated and time-saving.

DESCRIPTION

Fusion is our new generation of Connected Products with a powerful 32-bit ARM Cortex-A9 processor. The Fusion comes packed with a rich set of wired and wireless interfaces, including CAN (3x), LIN (2x), Ethernet, I/O (5), LTE, GPS, WiFi, and Bluetooth.

GENERAL DATA

Name	Value
Weight	270 g
Dimensions	133.35 × 130.18 × 38.1 mm
Housing material	ABS Plastic
Connector type	1x Cinch 581 01 03 013 (Power, GND, CAN, LIN, I/O) 1x GPS SMA connector 1x 3G/LTE SMA connector
Operating voltage	9-30 V

TECHNICAL DATA

Name	Value
In-/Outputs (total)	9
Inputs (total)	5
Inputs (analog)	5
Outputs (total)	4
Outputs (PWM capable)	4
Outputs (digital)	4
Processor family	NXP i.MX6UL, 32-bit Cortex-A7 ARM processor Single Core 696 MHz (automotive grade)
Processor	32 bit
CAN interfaces	3
LIN interfaces	2
Temperature range	-40 to 85 °C
Protection class	IP69K
Operating voltage	9-30 V



Fusion FT15

DESCRIPTION

Fusion is our new generation of Connected Products with a powerful 32-bit ARM Cortex-A9 processor. The Fusion comes packed with a rich set of wired and wireless interfaces, including CAN (3x), LIN (2x), Ethernet, I/O (5), LTE, GPS, WiFi, and Bluetooth.

GENERAL DATA

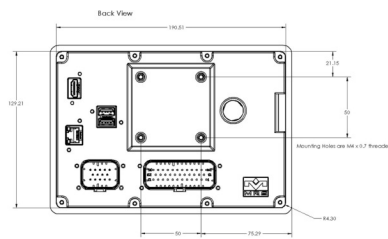
Name	Value
Weight	270 g
Dimensions	133.35 × 130.18 × 38.1 mm
Housing material	ABS Plastic
Connector type	1x Cinch 581 01 03 013 (Power, GND, CAN, LIN, I/O) 1x GPS SMA connector 1x 3G/LTE SMA connector
Operating voltage	9-30 V

TECHNICAL DATA

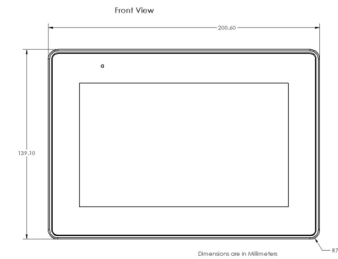
Name	Value
In-/Outputs (total)	9
Inputs (total)	5
Inputs (analog)	5
Outputs (total)	4
Outputs (PWM capable)	4
Outputs (digital)	4
Processor family	NXP i.MX6UL, 32-bit Cortex-A7 ARM processor Single Core 696 MHz (automotive grade)
Processor	32 bit
CAN interfaces	3
LIN interfaces	2
Temperature range	-40 to 85 °C
Protection class	IP20
Operating voltage	9-30 V



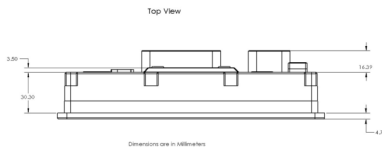
Back



Dimensional Drawing Back



Dimensional Drawing Front



Dimensional Drawing Top

DESCRIPTION

MConn 7 is our new generation of Connected Displays with a powerful 32-bit multi-core ARM Cortex-A9 processor, with 2D, 3D, and Vector Graphics hardware acceleration. Featuring a multi-touch 7" PCAP touch screen, operators can take advantage of many gestures found on tablets today, including pinch-to-zoom, rotation, flick, and many more. It can be programmed to run on Embedded Linux, Android, QNX, or WEC7, depending on the user requirements.

GENERAL DATA

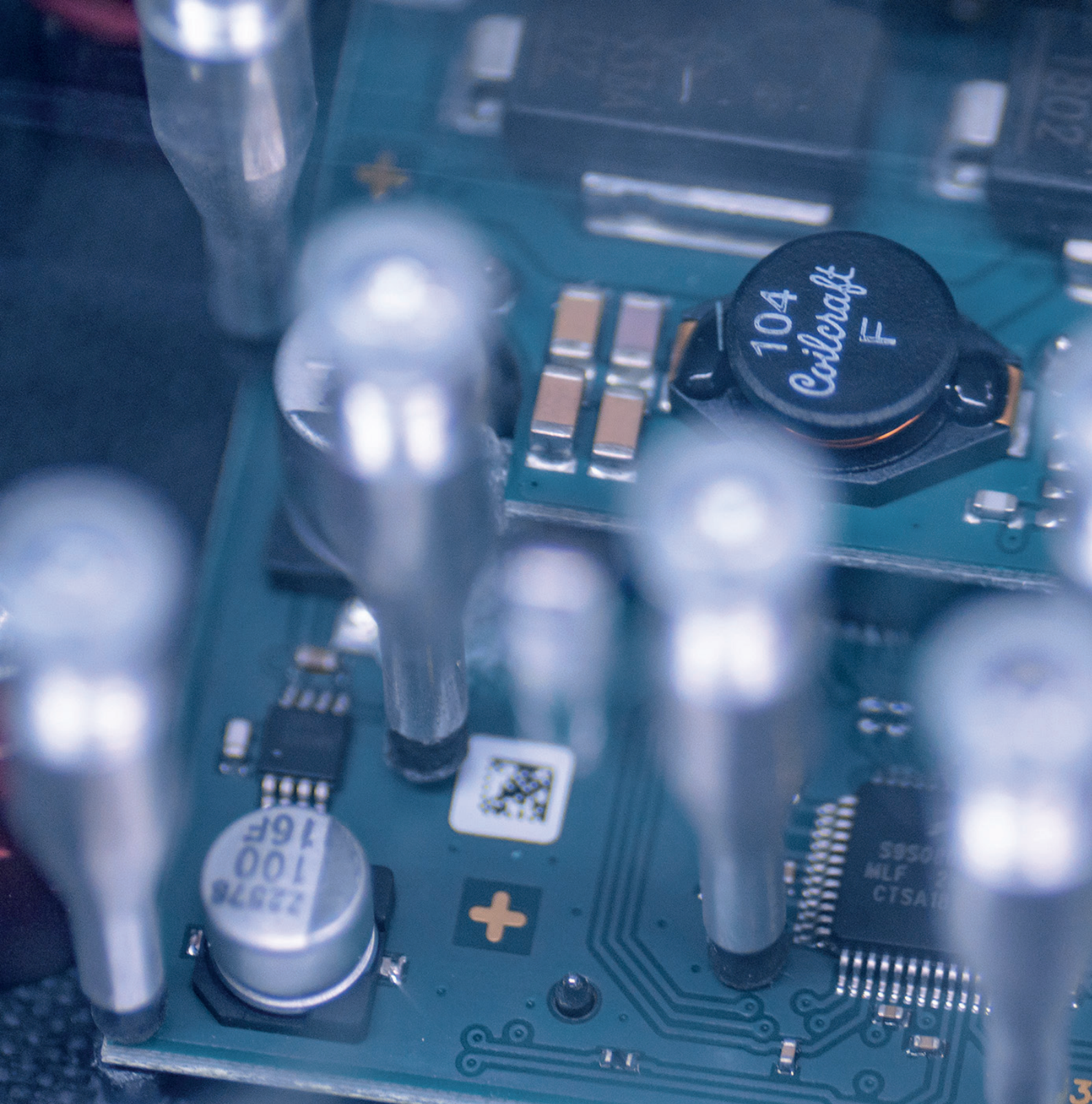
Name	Value
Dimensions	200.6 × 139.1 × 35 mm
Housing material	ABS plastic with Gore membrane
Camera Inputs	4
USB Slot	2
Ethernet interface	1
GPS	1
WIFI	1
Bluetooth	1
Operating voltage	9-32 V

TECHNICAL DATA

Name	Value
In-/Outputs (total)	26
Inputs (total)	22
Inputs (digital)	12
Inputs (analog)	6
Outputs (total)	4
Processor family	Cortex-A9 ARM
Processor	32 bit
CAN interfaces	2
LIN interfaces	1
Temperature range	-40 to 85 °C
Protection class	IP54

ORDER OPTIONS

Name	Order no.
MConn 700 Standard	MC7.41N0.RN00.000L.N
MConn 700 Premium	MC7.44P1.SE12.111L.D
MConn 7 configurable (See in data sheet)	MC7.xxxx.xxxx.xxxx.x



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