

Multimode Relay MT

2 / 3 pole 10 A, DC- or AC-coil



F0161-A

- 2 C/O or 3 C/O contacts
- Cadmium-free contacts
- DC and AC coils
- Mechanical indicator as standard
- Electrical indicator
- New test system with front operated finger protected push-to-test button and integral locking test tab
- White write on panel

Applications
Mechanical engineering, plant control



Technical data of approved types on request

Contact data

Configuration	2 C/O contacts or 3 C/O contacts	
Type of contact	single cont.	bifurcated cont.
Rated current	10 A	4 A
Rated voltage / max. breaking voltage	250 Vac / 440 Vac	
Rated breaking capacity	2500 VA	500 VA
Make current (max. 4 s at duty cycle 10%)	20 A	8 A
Contact material	AgNi 90/10	

Contact life

Type	Load	Operations	Standard
MT321	10 A, 250 Vac, C/O contact	1x10 ⁵	VDE 0435

Coil data

Nominal voltage	DC coil	6...220 Vdc
	AC coil	6...230 Vac
Nominal coil power	DC coil	typ. 1.2 W
	AC coil	typ. 2.3 VA
Operate category	1 / a	

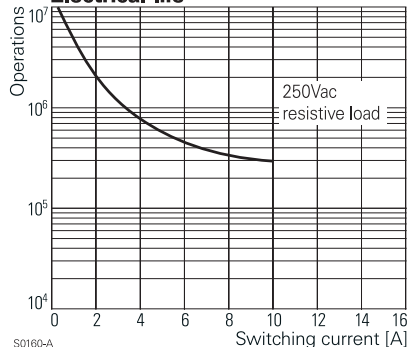
Coil versions, DC-coil

Coil code standard	PD*	Nominal voltage Vdc	Pull-in voltage Vdc	Release voltage Vdc	Coil resistance Ω	Coil current mA
006	0A6	6	4.5	0.6	32±10%	187.5
012	0B2	12	9.0	1.2	110±10%	109.1
024	0C4	24	18.0	2.4	475±10%	50.5
048	0E8	48	36.0	4.8	2000±10%	24.0
060	0G0	60	45.0	6.0	2850±10%	21.1
110	1B0	110	82.5	11.5	10000±12%	11.0
220	2C0	220	165.0	22.0	40000±15%	5.5

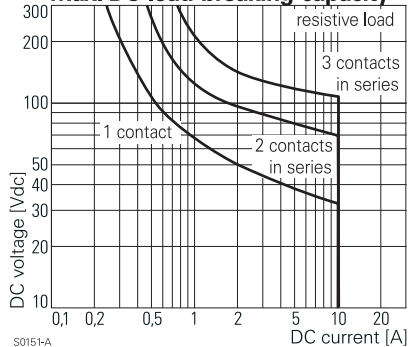
All figures are given for coil without preenergization, at ambient temperature +20°C

* Protection diode PD; standard polarity: 2-pole relays: +2 / -7, 3-pole relays: +2 / -10

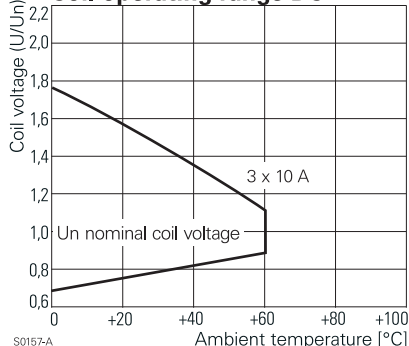
Electrical life



Max. DC load breaking capacity



Coil operating range DC



Multimode Relay MT

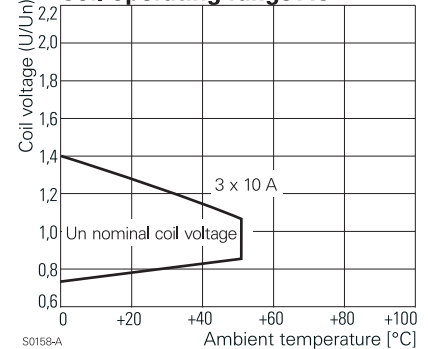
2 / 3 pole 10 A, DC- or AC-coil

Coil versions, AC-coil

Coil code	Nominal voltage Vac	Pull-in voltage Vac	Release voltage Vac	Maximum voltage Vac	Coil resistance Ω	Coil current mA
006	6	4.8	2.4	7.8	$5.3 \pm 10\%$	381.7
012	12	9.6	4.8	15.6	$24 \pm 10\%$	182.5
024	24	19.2	9.6	31.2	$86 \pm 10\%$	94.2
048	48	38.4	19.2	62.4	$345 \pm 10\%$	47.5
060	60	48.0	24.0	78.0	$544 \pm 10\%$	37.8
115	115	92.0	46.0	149.5	$2000 \pm 10\%$	20.6
230	230	184.0	92.0	299.0	$8300 \pm 12\%$	10.1

All figures are given for coil without preenergization, at ambient temperature +20°C

Coil operating range AC



Insulation

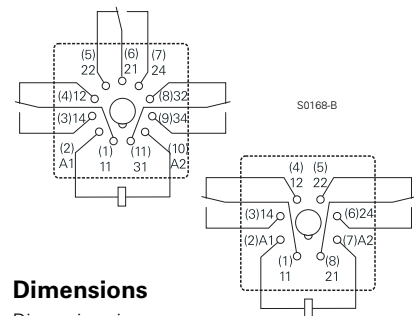
Dielectric strength	coil-contacts	2500 V_{rms}
	open contact circuit	1500 V_{rms}
	adjacent contacts	2500 V_{rms}
Clearance / creepage		2.8 / 4 mm
Insulation to IEC 664/VDE 0110 (1/89)		
	Voltage rating	250
	Pollution degree	3
	Overtoltage category	III
Insulation to VDE 0110b (2/79)		C / 250
Tracking resistance		CTI 175

Other data

Flammability class UL		V-0
Ambient temperature	DC-coil	-45...+60 °C
	AC-coil	-45...+50 °C
Mechanical life		>20x10 ⁶ operations
Max. switching rate at rated- / minimum load		20 min ⁻¹ / 100 min ⁻¹
Operate- / release time		12 / 5 ms
Bounce time		4 ms
Vibration resistance N/O / N/C contact		>5 / 2 g
Shock resistance (function) N/O / N/C		>50 / 10 g
Protection category		IP 50
Relay weight		80 g
Packaging unit		25 pcs.
Accessories		see accessories MT, page 113

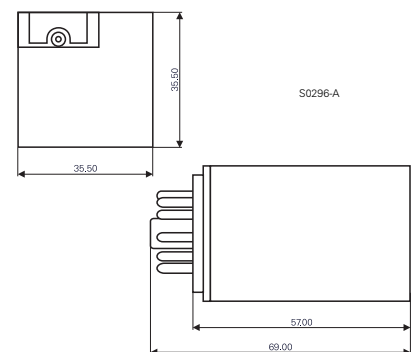
Terminal assignment

View on solder pins



Dimensions

Dimensions in mm



Ordering key

Type	Contact configuration	Contact material	Version	Coil
M T	2 2 C/O contacts, 8-pole	B AgNi 90/10, bifurcated contacts, gold plated	1 DC with test button	
	3 3 C/O contacts, 11-pole		3 DC with test button and LED	
			6 AC with test button	
			8 AC with test button and LED	

Coil code: please refer to coil versions table, preferred types in bold print

Other types on request

Accessories Multimode Relay MT



F0205-A

Socket system MT 78 740 and MT 78 745

- 8/11 pin socket for MT2 / MT3
- Double A2 screw for simple further connection of coil supply
- Snap-on mounting on DIN-rail
- Screw mounting
- Pozidrive screws with rising clamp terminals
- Logical layout of input-/output connections
- With marking area

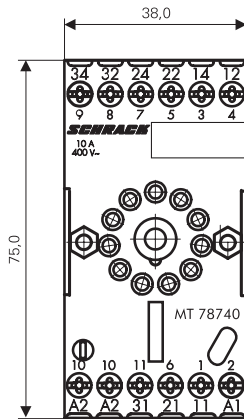
MT 78 740 MT socket with screw-type terminals for MT3

MT 78 745 MT socket with screw-type terminals for MT2

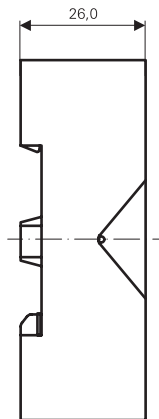


F0200-A

Retaining clip **MR 28 800**



S0366-A



Dimensions in mm



Technical Data

Rated current	10 A
Rated voltage	400 Vac
Dielectric strength coil/cont.	>3000 V _{eff}
Ambient temperature	+80 °C
Protection category	IP 20
Protection against accidental contact meets	VBG 4
Mounting/DIN rail	DIN50022
Wire cross section	2 x 2,5mm ²
Packaging unit	10 Stk.

LED and Protection Modules



F0201-A

F0202-A

LED and Protection modules

Ordering code	Type
MTM T0 0A0	Protection diode 1N4007
MTM U0 524	RC-network 24...115 Vac
MTM U0 730	RC-network 230 Vac
MTM L0 024	LED 24 Vac / Vdc
MTM L0 730	LED 230 Vac

Accessories Multimode Relay MT

MT Function Modules



Function modules

Ordering code	Type
MTM Z0 W00	Delay ON
MTM F0 W00	Multifunction

Technical data - Function modules

Nominal voltage	24...240 Vac / Vac
Mains frequency	48...63 Hz
Precision of time setting	$\pm 0,5 \%$
Readiness for repetition	$\leq 0,5 \%$ or 5 ms
Influence of temperature	$\leq 0,1 \%/^{\circ}\text{C}$
Time range switchable	0,05s...240h in 8 ranges
Ambient temperature	-25...+55 °C

Function modules

Function							
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flasher starting with pause	<table border="0"> <tr> <td>U/t</td> <td></td> </tr> <tr> <td>R</td> <td></td> </tr> </table>	U/t		R			
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flasher starting with pulse	<table border="0"> <tr> <td>U/t</td> <td></td> </tr> <tr> <td>R</td> <td></td> </tr> </table>	U/t		R			
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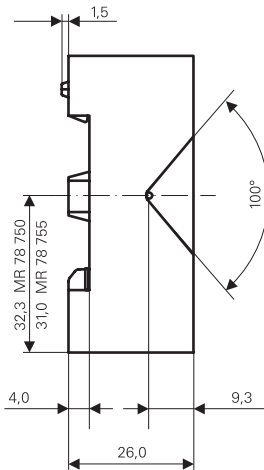
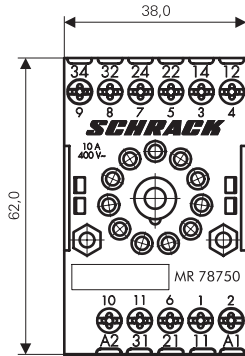
Accessories Multimode Relay MT

MR 78 750 MT3 socket 11 pole

MR 78 755 MT2 socket 8 pole



F0103-A



Retaining clip **MR 28 800**

S0311-A



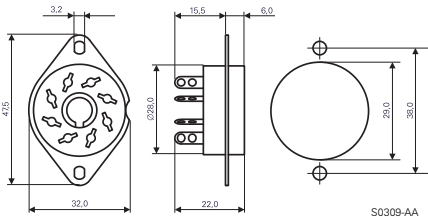
Technical data

Rated current	10 A
Rated voltage	400 Vac
Dielectric strength coil/cont.	>3500 V _{rms}
Insulation cat. (VDE 0110b)	C / 400 Vac
Tracking resistance	CTI 300
Ambient temperature	+80 °C
Protection category	IP 20
Protection against accidental contact meets	VBG 4
Mounting	DIN 50024 / 22
Wire cross section	2 x 2.5 mm ²
Terminal torque	0.8 Nm
max.	1.0 Nm
Packaging unit	25 pcs.

MR 78 710 Socket 8 pole with solder terminals



F0107-A



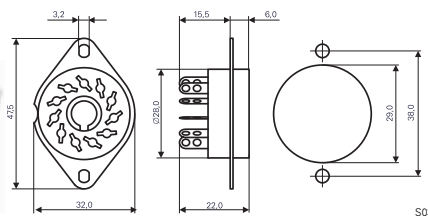
S0309-AA

Retaining clip **RN 28 611**

MR 78 711 Socket 11 pole with solder terminals



F0104-A



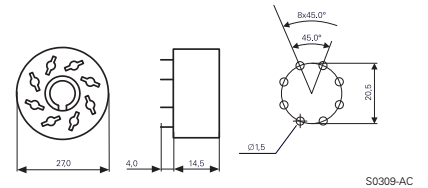
S0309-AB

Retaining clip **RN 28 611**

MR 78 712 Socket 8 pole with PCB terminals



F0105-A

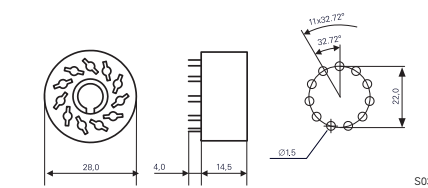


S0309-AC

MR 78 713 Socket 11 pole with PCB terminals



F0106-A

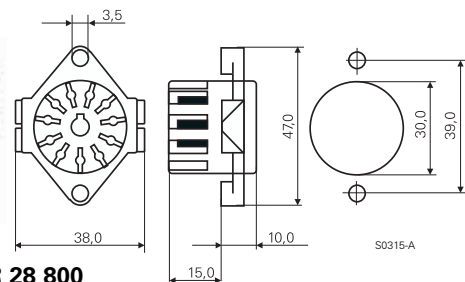


S0309-AD

RN 78 731 Socket 11 pole with Faston connectors



F0181-A



S0315-A

Retaining clip **MR 28 800**

Technical data MR78710...RN78731

Rated current	10 A
Rated voltage	250 Vac
Dielectric strength coil/cont.	>2500 V _{rms}
Ambient temperature	-40...+70 °C

Dimensions in mm