Multimode Relay MT

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



F0161-A

Features

- 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

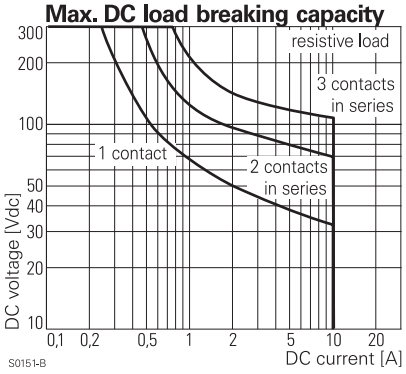
Mechanical engineering, plant control

Technical data of approved types on request

Contact data

Configuration	2 C/O contact or 3 C/O contact	
Type of contact	single contacts	bifurcated contacts
Rated current	10 A	4 A
Rated voltage / max.breaking voltage AC	250 Vac / 440 Vac	
Maximum breaking capacity AC	2500 VA	500 VA
Make current (max. 4 s at duty cycle 10%)	20 A	8 A
Contact material	AgNi 90/10	
Minimum contact load	24 V, 10 mA / 20 mV, 1 mA gold plated	

Max. DC load breaking capacity



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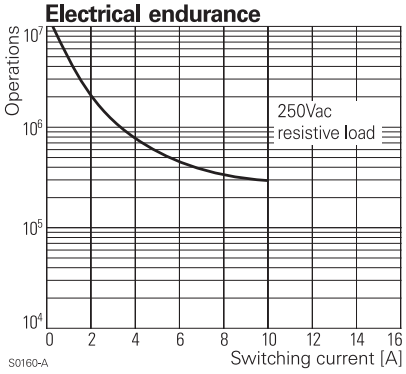
Contact ratings

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

Electrical endurance



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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

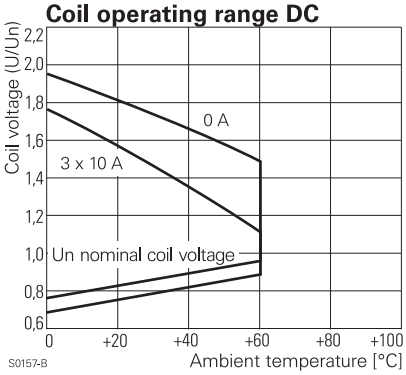
Coil versions, DC-coil

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

Coil operating range DC



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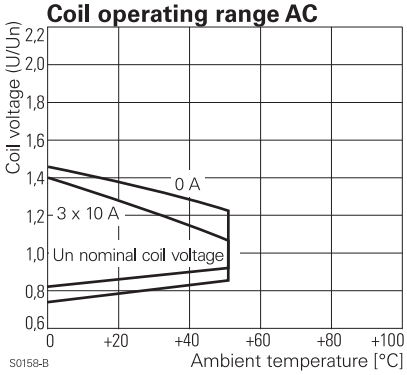
Coil versions, AC-coil

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±10%	381.7
012	12	9.6	4.8	15.6	24±10%	182.5
024	**24**	**19.2**	**9.6**	**31.2**	**86±10%**	**94.2**
048	48	38.4	19.2	62.4	345±10%	47.5
060	60	48.0	24.0	78.0	544±10%	37.8
115	115	92.0	46.0	149.5	2000±10%	20.6
230	**230**	**184.0**	**92.0**	**299.0**	**8300±12%**	**10.1**

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

Coil operating range AC



Insulation

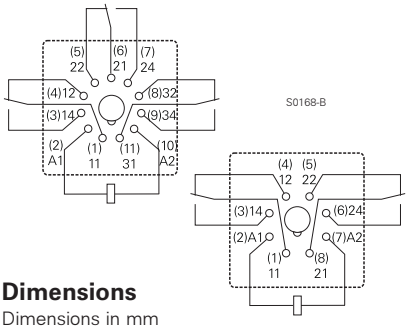
Dielectric strength	coil-contacts	2500 V_{rms}
	open contact circuit	1500 V_{rms}
	adjacent contacts	2500 V_{rms}
Clearance / creepage		2.8 / 4 mm
Insulation to IEC 60664		
Voltage rating		250 V
Pollution degree		3
Overvoltage category		III
Insulation to VDE 0110b (2/79)		C / 250
Tracking resistance of relay base		CTI 175

Other data

Flammability class according to UL 94		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 contact / N/C contact		>50 / 10 g
Category of protection (IEC 61810)		RT I - dust protected
Relay weight		80 g
Packaging unit		25 pcs.
Accessories		see accessories MT

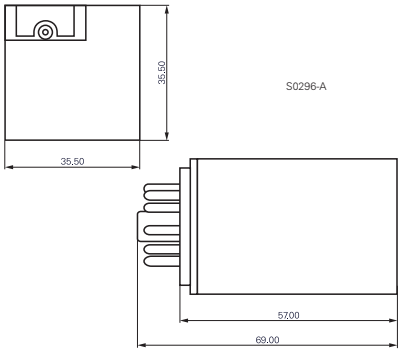
Terminal assignment

View on solder pins



Dimensions

Dimensions in mm



Product key

M	T						

Type

Contact configuration

2 2 C/O contacts, 8-pole
3 3 C/O contacts, 11-pole

Contact material

2 AgNi 90/10
3 AgNi 90/10, gold plated
B AgNi 90/10, bifurcated contacts, gold plated

Version

1 DC with test button
3 DC with test button and bipolar LED
6 AC with test button
8 AC with test button and LED

Coil

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

Other types on request

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Product key	Contact configuration	Contact material	Version	Coil	Part number
MT221012	2 C/O contacts	AgNi 90/10	DC	12 Vdc	4-1393090-9
MT221024	8 pole		with test button	24 Vdc	5-1393090-0
MT221048				48 Vdc	5-1393090-1
MT221060				60 Vdc	5-1393090-2
MT221110				110 Vdc	5-1393090-3
MT221220				220 Vdc	5-1393090-4
MT223024			DC+LED+test button	24 Vdc	5-1393090-7
MT226012			AC	12 Vac	6-1393090-3
MT226024			test button	24 Vac	6-1393090-4
MT226048				48 Vac	6-1393090-5
MT226115				115 Vac	6-1393090-7
MT226230				230 Vac	6-1393090-8
MT228024			AC+LED	24 Vac	6-1393090-9
MT228115			test button	115 Vac	7-1393090-0
MT228230				230 Vac	7-1393090-1
MT321012	3 C/O contacts	AgNi 90/10	DC	12 Vdc	6-1393091-8
MT321024	11 pole		with test button	24 Vdc	7-1393091-0
MT321048				48 Vdc	7-1393091-1
MT321060				60 Vdc	7-1393091-2
MT321110				110 Vdc	7-1393091-4
MT321220				220 Vdc	7-1393091-7
MT323024			DC+LED+test button	24 Vdc	8-1393091-4
MT3230C4			DC+LED+PD+TB	24 Vdc	7-1393091-9
MT326012			AC	12 Vac	9-1393091-6
MT326024			test button	24 Vac	9-1393091-7
MT326048				48 Vac	9-1393091-8
MT326115				115 Vac	0-1393092-1
MT326230				230 Vac	0-1393092-2
MT328024			AC+LED	24 Vac	0-1393092-4
MT328115			test button	115 Vac	0-1393092-7
MT328230				230 Vac	0-1393092-8
MT331024		AgNi 90/10	DC	24 Vdc	1-1393092-1
MT331110		gold plated	with test button	110 Vdc	1-1393092-3
MT331220				220 Vdc	1-1393092-5
MT333024			DC+LED+test button	24 Vdc	1-1393092-8
MT3330C4			DC+LED+PD+TB	24 Vdc	1-1393092-6
MT333110			DC+LED	110 Vdc	2-1393092-0
MT333220			test button	220 Vdc	2-1393092-2
MT336115			AC	115 Vac	2-1393092-5
MT336230			test button	230 Vac	2-1393092-6
MT338024			AC+LED	24 Vac	2-1393092-7
MT338115			test button	115 Vac	8-1415025-1
MT338230				230 Vac	2-1393092-8

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