

Multimode Relay MT

- 2 / 3 pole 10 A, 2 CO or 3 CO 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
- RoHS compliant (Directive 2002/95/EC) as per product date code 0415



FO161-A

Applications

Mechanical engineering, plant control

Approvals

VDE REG.-Nr. 6182, **CE** US E214025
 Technical data of approved types on request

Contact data

Contact configuration	2 CO or 3 CO		
Contact set	single cont.	single cont.	bifurcated
Type of interruption	micro disconnection		
Rated current	10 A	10 A	4 A
Rated voltage / max. switching voltage AC	240/400 VAC		
Maximum breaking capacity AC	2500 VA	2500 VA	500 VA
Limiting making capacity, max 20 ms	20 A	20 A	8 A
Contact material	AgNi90/10	AgNi90/10 gold plated	AgNi90/10 gold plated
Minimum contact load	12V/10mA	20mV/1mA	20mV/1mA
Mechanical endurance	20x10 ⁶ cycles		
Rated frequency of operation with / without load	20/100 min ⁻¹		

Contact ratings

Type	Load	Cycles
MT321	10 A, 250 VAC, CO contact, cosφ=1, 360/h, df 50%, 35°C	2.2x10 ⁵
MT321	I _{on} 50 A, I _{off} 5 A, 3x440 VAC, NO, cosφ=0.3, AC15, normal cond.	6x10 ³
MT321	I _{on} 30 A, I _{off} 3 A, 3x440 VAC, NC, cosφ=0.3, AC15, normal cond.	6x10 ³
MT3..	2 A, 125 V, L/R 30 ms, 3 NO contacts in series, 1800/h, DF 10%	1x10 ⁵
MT2..	0.7 A, 125 V, L/R 20 ms, 2 NO contacts in series, 1800/h, DF 10%	2x10 ⁵
MT2..	1 A, 125 V, L/R 20 ms, 2 NO contacts in series, 1800/h, DF 10%	4x10 ⁴

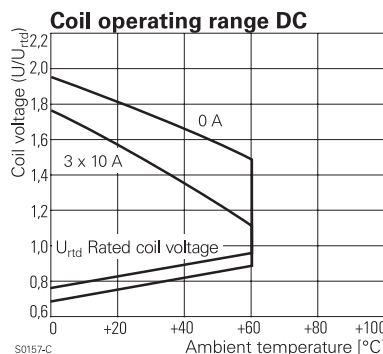
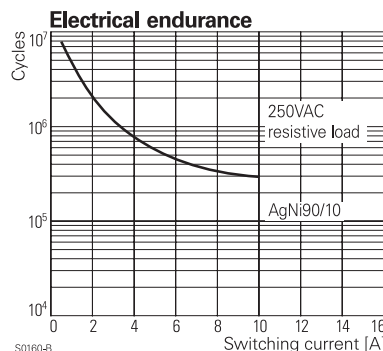
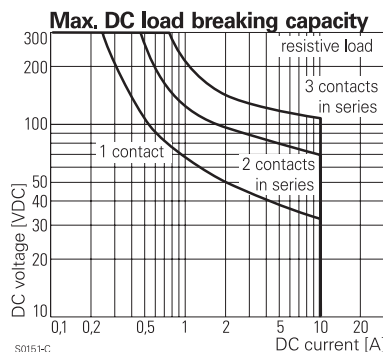
Coil data

Rated coil voltage range	DC coil	6...220 VDC
	AC coil	6...230 VAC
Coil power	DC coil	1.2 W
	AC coil	2.3 VA
Operative range	2	

Coil versions, DC-coil

Coil code	STD	PD*)	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power W
006	0A6		6	4.5	0.6	32±10%	1.1
012	0B2		12	9.0	1.2	110±10%	1.3
024	0C4		24	18.0	2.4	475±10%	1.2
048	0E8		48	36.0	4.8	2000±10%	1.2
060	0G0		60	45.0	6.0	2850±10%	1.3
110	1B0		110	82.5	11.5	10000±12%	1.2
220	2C0		220	165.0	22.0	40000±15%	1.2

All figures are given for coil without preenergization, at ambient temperature +23°C
 *) Protection diode PD; standard polarity: 2-pole relays: +2 / -7, 3-pole relays: +2 / -10



Multimode Relay MT (Continued)

Coil versions, AC-coil 50/60 Hz

Coil code	Rated voltage	Operate voltage	Release voltage	Coil resistance	Rated coil power
	VAC	50/60Hz	50/60Hz	Ohm	50/60Hz VA
006	6	4.8 / 5.1	2.4	5.3±10%	2.29/1.98
012	12	9.6 / 10.2	4.8	24±10%	2.19/1.86
024	24	19.2 / 20.4	9.6	86±10%	2.26/1.95
048	48	38.4 / 40.8	19.2	345±10%	2.28/1.97
060	60	48.0 / 51.0	24.0	544±10%	2.27/1.96
115	115	92.0 / 97.8	46.0	2000±10%	2.37/2.00
230	230	184.0 / 195.5	92.0	8300±12%	2.32/1.96

All figures are given for coil without preenergization, at ambient temperature +23°C

Insulation

Dielectric strength coil-contact circuit	2500 V _{rms}
open contact circuit	1500 V _{rms}
adjacent contact circuits	2500 V _{rms}
Clearance / creepage coil-contact circuit	≥ 2.8/4.0 mm
adjacent contact circuits	≥ 2.8/4.0 mm
Material group of insulation parts	≥ IIIa
Insulation to IEC 60664-1	
Type of insulation coil-contact circuit	basic
open contact circuit	functional
adjacent contact circuits	basic
Rated insulation voltage	250 V
Pollution degree	2
Rated voltage system	240/400 V
Overvoltage category	III

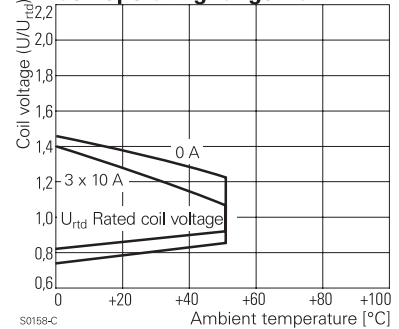
Other data

RoHS - Directive 2002/95/EC	compliant as per product date code 0415
Ambient temperature range DC coil	-40...+60°C
AC coil	-45...+50°C
Operate- / release time	12/5 ms
Bounce time NO / NC contact	4 ms
Vibration resistance (function) NO / NC contact	5/2 g
Shock resistance (function) NO / NC contact	50/10 g
Category of protection	RTI - dust protected
Relay weight	80 g
Packaging unit	25 pcs

Accessories

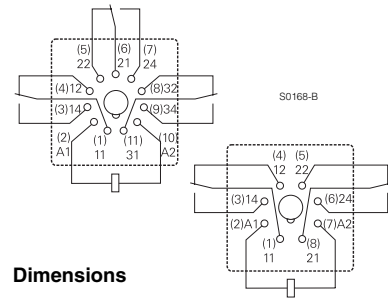
For details see datasheet Accessories Multimode Relay MT

Coil operating range AC

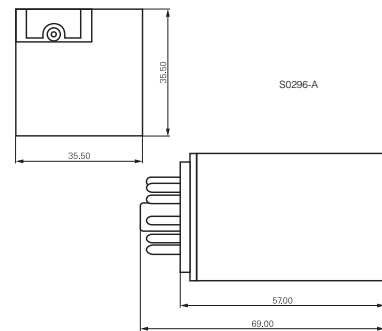


Terminal assignment

Bottom view on pins



Dimensions



Product key

Type	M	T				
Contact configuration	2	3	3 CO contacts, 11-pin			
Contact material	2	B	AgNi 90/10 bifurcated contacts, gold plated			
	3		AgNi 90/10, gold plated			
Version	1	6	AC with test button			
	3	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 CO contacts 8-pin	AgNi 90/10	DC	12 VDC	4-1393090-9		
MT221024			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 CO contacts 11-pin	AgNi 90/10	DC	12 VDC	6-1393091-8
MT321024					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+PT+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 gold plated			DC	24 VDC	1-1393092-1
MT331110					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		