

Multimode Relay MT

- 2/3 pole 10A, 2 form C (CO) or 3 form C (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

Typical applications
Mechanical engineering, plant control



F0161-B



Approvals

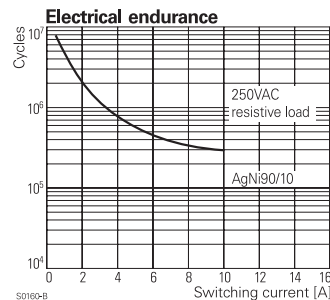
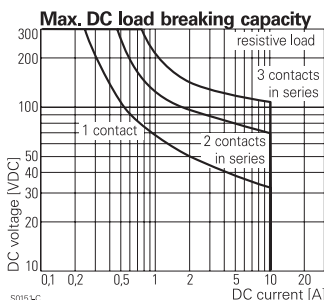
VDE REG.-Nr. 6182, UL E214025
Technical data of approved types on request

Contact Data

| | | | |
|---|--------------------------------|-----------------------|-----------------------|
| Contact arrangement | 2 form C (CO) or 3 form C (CO) | | |
| Rated voltage | 240VAC | | |
| Max. switching voltage | 400VAC | | |
| Rated current | 10A | 10A | 4A |
| Limiting making current, max. 20ms | 20A | 20A | 8A |
| Limiting breaking current | 10A | 10A | 4A |
| Switching power | 2500VA | 2500VA | 500 VA |
| Contact material | AgNi90/10 | AgNi90/10 gold plated | AgNi90/10 gold plated |
| Contact style | single contact | single contact | bifurcated contact |
| Min. recommended contact load | 12V at 10mA | 20mV at 1mA | 20mV at 1mA |
| Initial voltage drop | 30mV at 100mA/6VAC/1kHz | | |
| Frequency of operation, with/without load | 1200/6000h ⁻¹ | | |
| Operate time max., DC coil | 15ms | | |
| Release time max., DC coil | 10ms | | |
| Bounce time max., DC coil, form A/form B | 4/5ms | | |

Contact ratings

| Type | Contact | Load | Cycles |
|------------------|---------------|--|---------------------|
| IEC 61810 | | | |
| MT22 DC coil | C (CO) | 10A, 250VAC, cosφ=1, 35°C | 100x10 ³ |
| MT22 AC coil | C (CO) | 10A, 250VAC, cosφ=1, 35°C | 20x10 ³ |
| MT32 DC coil | C (CO) | 10A, 250VAC, cosφ=1, 35°C | 100x10 ³ |
| MT32 AC coil | C (CO) | 10A, 250VAC, cosφ=1, 35°C | 20x10 ³ |
| MT2 | C (CO) | 10A, 250VAC, resistive, 40° | 30x10 ³ |
| MT2 | A (NO)/B (NC) | B300 40°C | 6.000 |
| MT2 | C (CO) | 4A, 25VAC, resistive, bifurcated, 40°C | 30x10 ³ |
| MT3 | C (CO) | 10A, 250VAC, resistive, 40°C | 30x10 ³ |
| UL 508 | | | |
| MT3 | A (NO)/B (NC) | B300, 40°C | 6.000 |
| MT3 | C (CO) | 4A, 25VAC, resistive, bifurcated, 40°C | 30x10 ³ |



Contact Data (continued)

| | |
|----------------------|-------------------------------|
| Mechanical endurance | |
| DC coil | 20x10 ⁶ operations |
| AC coil | 20x10 ⁶ operations |

Coil Data

| | |
|-------------------------------------|----------------------------|
| Coil voltage range | 6 to 220VDC 6 to 230VAC |
| Operative range, IEC 61810 | 2 |
| Coil insulation system according UL | class 130 (B) |

Coil versions, DC coil

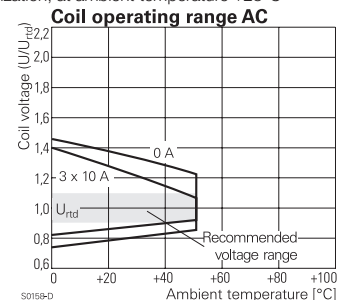
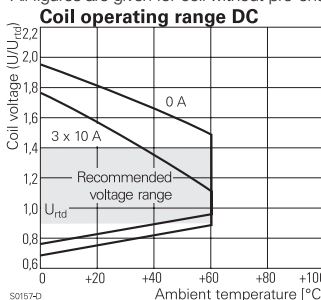
| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% ¹⁾²⁾ | Rated coil power W |
|-----------|-------------------|---------------------|---------------------|---------------------------------------|---------------------|
| 006 | 0A6 | 6 | 4.5 | 0.6 | 32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

1) Coil resistance ±12%, 2) Coil resistance ±15%
3) Protection diode PD; standard polarity: 2-pole relays: +2 / -7, 3-pole relays: +2 / -10
All figures are given for coil without pre-energization, at ambient temperature +23°C

Coil versions, AC coil, 50/60Hz

| Coil code | Rated voltage VAC | Operate voltage VAC | Release voltage VAC | Coil resistance Ω±10% ¹⁾ | Rated coil power 50/60Hz VA |
|-----------|-------------------|---------------------|---------------------|-------------------------------------|-----------------------------|
| 006 | 6 | 4.8/5.1 | 1.8 | 5.3 | 2.29/1.98 |
| 012 | 12 | 9.6/10.2 | 3.6 | 24 | 2.19/1.86 |
| 024 | 24 | 19.2/20.4 | 7.2 | 86 | 2.26/1.95 |
| 048 | 48 | 38.4/40.8 | 14.4 | 345 | 2.28/1.97 |
| 060 | 60 | 48.0/51.0 | 18.0 | 544 | 2.27/1.96 |
| 115 | 115 | 92.0/97.8 | 34.5 | 2000 | 2.37/2.00 |
| 230 | 230 | 184.0/195.5 | 69.0 | 8300 ¹⁾ | 2.32/1.96 |

1) Coil resistance ±12%
All figures are given for coil without pre-energization, at ambient temperature +23°C



Multimode Relay MT (Continued)

Insulation Data

| | |
|------------------------------------|----------|
| Initial dielectric strength | |
| between open contacts | 1500Vrms |
| between contact and coil | 2500Vrms |
| between adjacent contacts | 2500Vrms |
| Clearance/creepage | |
| between contact and coil | ≥2.8/4mm |
| between adjacent contacts | ≥2.8/4mm |
| Material group of insulation parts | IIIa |

Other Data

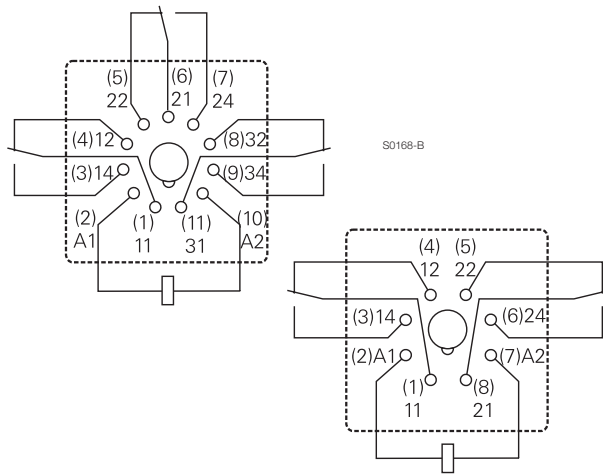
| | |
|---|----------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter | |
| Ambient temperature | |
| DC coil | -40 to +60°C |
| AC coil | -40 to +50°C |
| Category of environmental protection | |
| IEC 61810 | RTI - dust protected |
| Vibration resistance (functional), form A (NO)/form B (NC) | |
| | 5/2g |
| Shock resistance (functional), form A (NO)/form B (NC) | |
| | 50/10g |
| Terminal type | |
| Cover retention, pull/push force | plug-in 100/100N |
| Weight | 80g |
| Packaging unit | 25 pcs. |

Accessories

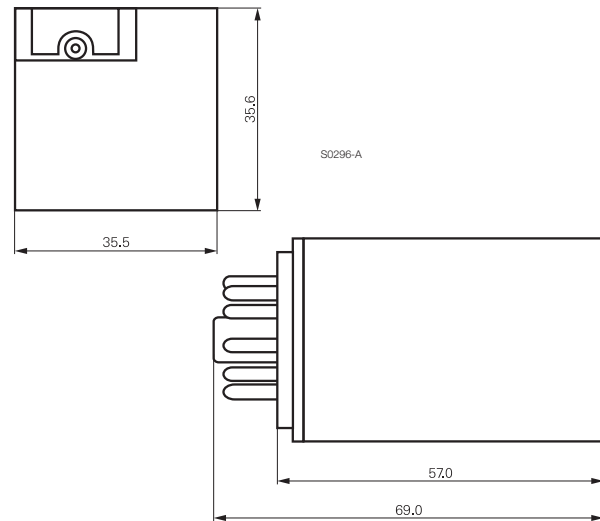
For details see datasheet [Accessories Multimode Relay MT](#)
Note: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

Terminal assignment

Bottom view on pins



Dimensions



Multimode Relay MT (Continued)

Product code structure

Typical product code **MT 3 2 6 230**

| | | | | | |
|------------------------------|---|--|--|--|--|
| Type | MT Multimode Relay MT | | | | |
| Contact configuration | 2 2 form C contacts (2 CO contacts), 8-pin | 3 3 form C (3 CO contacts), 11-pin | | | |
| Contact material | 2 AgNi 90/10 | B AgNi 90/10 bifurcated contacts, gold plated | | | |
| | 3 AgNi 90/10, gold plated | | | | |
| Version | 1 DC with test button | 6 AC with test button | | | |
| | 3 DC with test button and bipolar LED | 8 AC with test button and LED | | | |
| Coil | Coil code: please refer to coil versions table | | | | |
| | Other types on request | | | | |

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