

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

Applications

Mechanical engineering, plant control



F0161-A

Approvals

VDE REG.-Nr. 6182, cULus 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

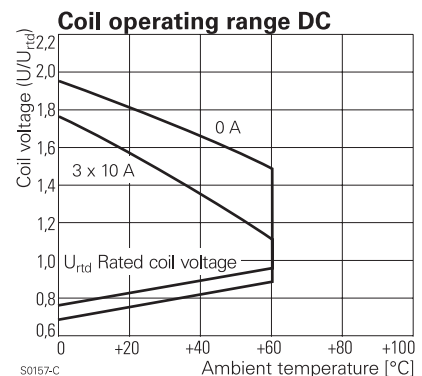
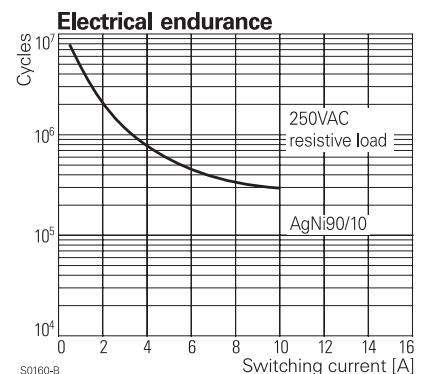
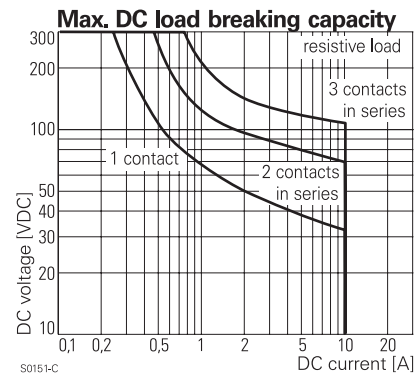
| | |
|----------------------------------|-------------|
| Rated coil voltage range DC coil | 6...220 VDC |
| AC coil | 6...230 VAC |
| Coil power DC coil | 1.2 W |
| AC coil | 2.3 VA |
| Operative range | 1 |

Coil versions, DC-coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ohm | Rated coil power W |
|----------------|-------------------|---------------------|---------------------|---------------------|--------------------|
| STD PD*) | | | | | |
| 006 OA6 | 6 | 4.5 | 0.6 | 32±10% | 1.1 |
| 012 OB2 | 12 | 9.0 | 1.2 | 110±10% | 1.3 |
| 024 OC4 | 24 | 18.0 | 2.4 | 475±10% | 1.2 |
| 048 OE8 | 48 | 36.0 | 4.8 | 2000±10% | 1.2 |
| 060 OG0 | 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



Coil versions, AC-coil 50/60 Hz

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

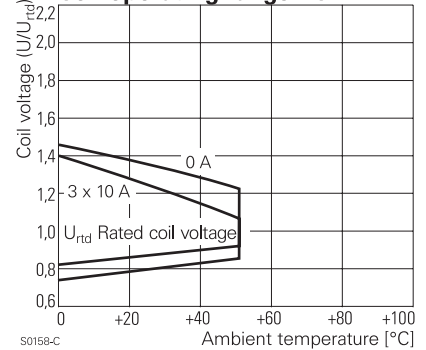
Other data

| | |
|---|---|
| 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 | RT1 - 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

Contact configuration

2 2 CO contacts, 8-pin **3** 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, preferred types in bold print

Other types on request



Multimode Relay MT (Continued)

| 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 | | |