

## Power Relay RM 5/6/B 3mm

- 2 and 3 pole 10/16A, 2 form A (2 NO) or 3 form A (3 NO) contacts
- 3mm contact gap
- DC or AC coil
- Push-to-test button
- Plug-in version, PCB terminals, chassis or DIN rail mount

Typical applications  
Power supplies, pump control.



### Approvals

VDE Cert. No. 40003144, UL E214025  
Technical data of approved types on request.

| Contact Data                              | RM5                     | RM6              | RMB              |
|-------------------------------------------|-------------------------|------------------|------------------|
| Contact arrangement                       | 2 form A<br>2 NO        | 3 form A<br>3 NO | 3 form A<br>3 NO |
| Contact gap                               | 3mm                     | 3mm              | 3mm              |
| Rated voltage                             | 400VAC                  | 230VAC           | 230VAC           |
| Max. switching voltage                    | 440VAC                  | 400VAC           | 400VAC           |
| Rated current                             | 16A                     | 10A              | 16A              |
| Limiting making current, max 20ms         | 30A                     | 25A              | 30A              |
| Switching power                           | 6000VA                  | 3800VA           | 6000VA           |
| Contact material                          | AgNi90/10; AgCdO        |                  |                  |
| Min. recommended contact load             | 24VDC/100mA             |                  |                  |
| Frequency of operation, with/without load | 960/6000h <sup>-1</sup> |                  |                  |
| Operate/release time max., DC coil        | 20/5ms                  |                  |                  |
| Bounce time max., form A, DC coil         | 4ms                     |                  |                  |

### Contact ratings

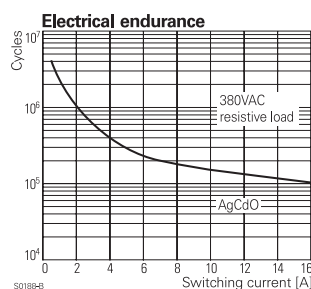
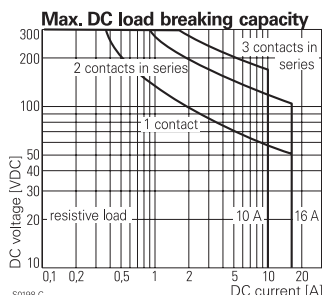
| Type             | Contact | Load                                    | Cycles              |
|------------------|---------|-----------------------------------------|---------------------|
| <b>IEC 61810</b> |         |                                         |                     |
| RM5              | A (NO)  | 16A, 230/400VAC, cosφ=1, 35°C           | 100x10 <sup>3</sup> |
| RM52             | A (NO)  | 12A, 400VAC, cosφ=1, same. pol., 70°C   | 100x10 <sup>3</sup> |
| RM5              | A (NO)  | 10A, 48VDC, 70°C                        | 30x10 <sup>3</sup>  |
| RM5              | A (NO)  | 10A, 400VAC, 70°C                       | 30x10 <sup>3</sup>  |
| RM6              | A (NO)  | 10A, 230/400VAC, cosφ=1, 35°C           | 100x10 <sup>3</sup> |
| RM62 (DC)        | A (NO)  | 12A, 400VAC, cosφ=1, same. pol., 50°C   | 100x10 <sup>3</sup> |
| RMB              | A (NO)  | 16A, 400VAC same polarity, cosφ=1, 40°C | 100x10 <sup>3</sup> |

### UL 508

|     |        |                                        |                     |
|-----|--------|----------------------------------------|---------------------|
| RM5 | A (NO) | 16A, 415VAC, resistive, 50°C           | 100x10 <sup>3</sup> |
| RM5 | A (NO) | 16A, 277VAC, general purpose, 50°C     | 30x10 <sup>3</sup>  |
| RM6 | A (NO) | 10A, 415VAC, resistive, DC-coil, 70°C  | 100x10 <sup>3</sup> |
| RM6 | A (NO) | 10A, 415VAC, resistive, AC-coil, 50°C  | 100x10 <sup>3</sup> |
| RM6 | A (NO) | 10A, 277VAC, gen. purp., DC-coil, 70°C | 30x10 <sup>3</sup>  |
| RM6 | A (NO) | 10A, 277VAC, gen. purp., AC-coil, 50°C | 30x10 <sup>3</sup>  |
| RMB | A (NO) | 16A, 277VAC, general purpose, 25°C     | 30x10 <sup>3</sup>  |

### Mechanical endurance

|         |                               |
|---------|-------------------------------|
| DC coil | 15x10 <sup>6</sup> operations |
| AC coil | 10x10 <sup>6</sup> operations |



### Coil Data

|                                     |                                  |
|-------------------------------------|----------------------------------|
| Coil voltage range                  | 6 to 220 VDC<br>6 to 400 VAC     |
| Operative range, IEC 61810          | 90 to 100% of rated coil voltage |
| Coil insulation system according UL | class 130 (B)                    |

### Coil versions, DC coil

| STD | LED bipolar | Coil code PD <sup>2)</sup> | LED+ PD <sup>2)</sup> | Rated voltage VDC | Coil resistance Ω±10% <sup>1)</sup> | Rated power W |
|-----|-------------|----------------------------|-----------------------|-------------------|-------------------------------------|---------------|
|-----|-------------|----------------------------|-----------------------|-------------------|-------------------------------------|---------------|

### Coil versions, DC coil, RM5, RM6

|     |     |     |     |     |                     |     |
|-----|-----|-----|-----|-----|---------------------|-----|
| 006 | L06 | 0A6 | LA6 | 6   | 24                  | 1.5 |
| 012 | L12 | 0B2 | LB2 | 12  | 86                  | 1.7 |
| 024 | L24 | 0C4 | LC4 | 24  | 345                 | 1.7 |
| 048 | L48 | 0E8 | LE8 | 48  | 1340                | 1.7 |
| 060 | L60 | 0G0 | LG0 | 60  | 2200                | 1.6 |
| 110 | M10 | 1B0 | MB0 | 110 | 7300                | 1.7 |
| 221 | N21 | 2C1 | NC1 | 220 | 30000 <sup>1)</sup> | 1.6 |

### Coil versions, DC coil, RMB

|     |   |   |   |    |      |     |
|-----|---|---|---|----|------|-----|
| 012 | - | - | - | 12 | 62.6 | 2.3 |
| 024 | - | - | - | 24 | 250  | 2.3 |

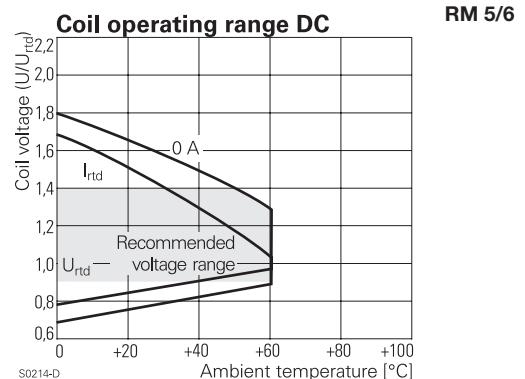
Operate voltage, DC coil 75% of rated coil voltage

Release voltage, DC coil 10% of rated coil voltage

1) Coil resistance ±15%,

2) Protection diode PD; standard polarity: +A1 / -A2.

All figures are given for coil without pre-energization, at ambient temperature +23°C.



**Power Relay RM 5/6/B 3mm (Continued)**

**Coil Data (continued)**

**Coil versions, AC coil**

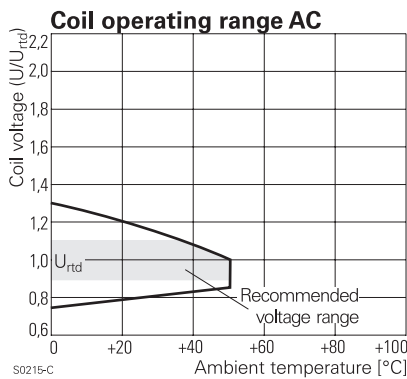
| Coil code | Rated voltage | Operate voltage | Release voltage | Coil resistance        | Rated coil power |
|-----------|---------------|-----------------|-----------------|------------------------|------------------|
| STD LED   | VAC           | 50/60Hz VAC     | 50/60Hz VAC     | $\Omega \pm 10\%^{1)}$ | 50/60Hz VA       |

**Coil versions, AC-coil, RM5, RM6**

|     |     |     |             |       |                     |           |
|-----|-----|-----|-------------|-------|---------------------|-----------|
| 506 | R06 | 6   | 4.8/5.1     | 1.8   | 4.7                 | 2.86/2.36 |
| 512 | R12 | 12  | 9.6/10.2    | 3.6   | 19.5                | 2.71/2.27 |
| 524 | R24 | 24  | 19.2/20.4   | 7.2   | 80                  | 2.62/2.00 |
| 548 | R48 | 48  | 38.4/40.8   | 14.4  | 320                 | 2.60/2.17 |
| 560 | R60 | 60  | 48.0/51.0   | 18.0  | 500                 | 2.62/2.20 |
| 615 | S15 | 115 | 92.0/97.8   | 34.5  | 1850                | 2.65/2.22 |
| 730 | T30 | 230 | 184.0/195.5 | 69.0  | 7500                | 2.69/2.26 |
| 900 | V00 | 400 | 320.0/340.0 | 120.0 | 23500 <sup>1)</sup> | 2.61/2.20 |

1) Coil resistance  $\pm 15\%$ .

All figures are given for coil without pre-energization, at ambient temperature  $+23^\circ\text{C}$ .



| Insulation Data                    | RM5      | RM6                      | RMB      |
|------------------------------------|----------|--------------------------|----------|
| Initial dielectric strength        |          |                          |          |
| between open contacts              | 2500Vrms | 2500Vrms                 | 2500Vrms |
| between contact and coil           | 2500Vrms | 2500Vrms                 | 2500Vrms |
| between adjacent contacts          | 2500Vrms | 2500Vrms                 | 2500Vrms |
| Initial surge withstand voltage    | 4000V    | 4000V                    | 4000V    |
| between contact and coil           | 5000V    | 4000V                    | 4000V    |
| between adjacent contacts, RM5     | 6000V    | -                        | -        |
| Clearance/creepage                 |          |                          |          |
| between contact and coil           |          | $\geq 4.0/14.9\text{mm}$ |          |
| between adjacent contacts          |          | $\geq 6.1/7.3\text{mm}$  |          |
| Material group of insulation parts |          | IIIa                     |          |

| Other Data                                                                                                                                                                                                                              | RM5                       | RM6                                                            | RMB                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------|---------------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a> |                           |                                                                |                           |
| Ambient temperature for mounting/handling                                                                                                                                                                                               |                           | -20 to $40^\circ\text{C}$                                      |                           |
| in operation                                                                                                                                                                                                                            |                           |                                                                |                           |
| DC coil                                                                                                                                                                                                                                 | -40 to $50^\circ\text{C}$ | -40 to $60^\circ\text{C}$                                      | -40 to $50^\circ\text{C}$ |
| AC coil                                                                                                                                                                                                                                 | -40 to $50^\circ\text{C}$ | -40 to $50^\circ\text{C}$                                      | -                         |
| Category of environmental protection                                                                                                                                                                                                    |                           |                                                                |                           |
| IEC 61810                                                                                                                                                                                                                               |                           | RT1 - dust protected                                           |                           |
| Vibration resistance (functional)                                                                                                                                                                                                       |                           | 12 g, 30 to 150 Hz                                             |                           |
| Terminal type                                                                                                                                                                                                                           |                           | PCB-THT, plug-in, quick-connect (QC)                           |                           |
| Cover retention, pull/push force                                                                                                                                                                                                        |                           | 100/100N                                                       |                           |
| Mounting position                                                                                                                                                                                                                       |                           | versions with test button not to be mounted with button on top |                           |
| Weight                                                                                                                                                                                                                                  |                           | 81g                                                            |                           |
| Resistance to soldering heat THT                                                                                                                                                                                                        |                           |                                                                |                           |
| IEC 60068-2-20                                                                                                                                                                                                                          |                           | $270^\circ\text{C}/10\text{s}$                                 |                           |
| Packaging unit                                                                                                                                                                                                                          |                           | 10/25 pcs.                                                     |                           |

**Accessories**

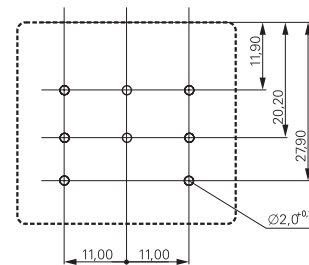
For details see datasheet

[Accessories Power Relay RM](#)

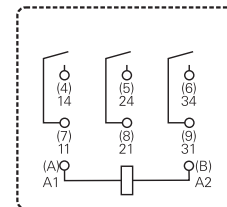
Note: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

**PCB layout / terminal assignment**

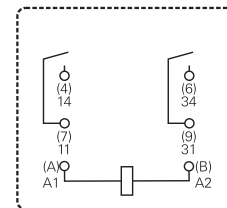
Bottom view on pins



3 form A (3 NO) contacts



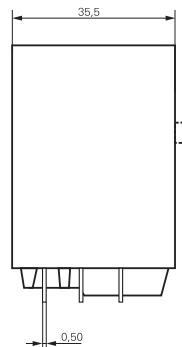
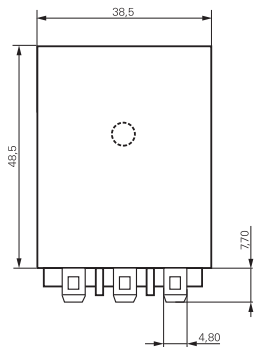
2 form A (2 NO) contacts



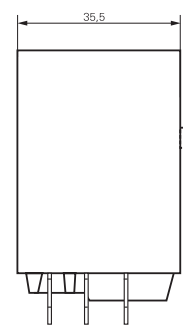
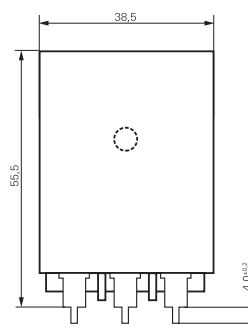
**Power Relay RM 5/6/B 3mm** (Continued)

**Dimensions**

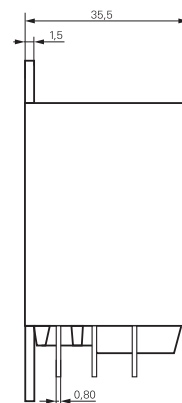
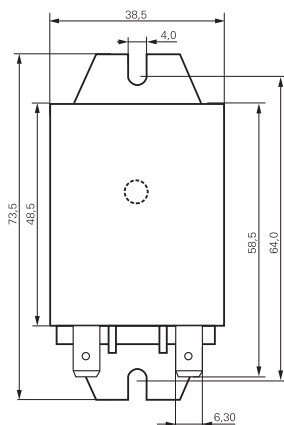
Plain cover, plug-in version



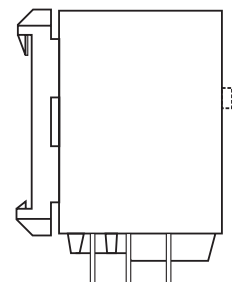
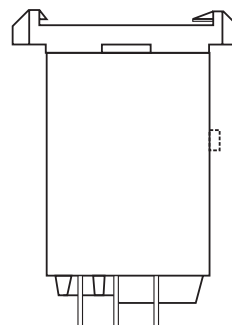
PCB version



Cover with mounting brackets, 6.3mm quick connect (4.8mm available)



Cover with DIN-snap-on attachment (6.3mm quick connect only)  
horizontal vertical



**Product code structure**

Typical product code **RM 5 2 2 524**

|                                                |                                                                              |
|------------------------------------------------|------------------------------------------------------------------------------|
| <b>Type</b>                                    |                                                                              |
| RM Power relay RM5/6/B 3mm                     |                                                                              |
| <b>Contact arrangement</b>                     |                                                                              |
| 5                                              | 2 form A contacts (2 NO), 16A                                                |
| 6                                              | 3 form A contacts (3 NO), 10A                                                |
| B                                              | 3 form A contacts (3 NO), 16A                                                |
| <b>Version</b>                                 |                                                                              |
| 0                                              | AgCdO, without test button, without mechanical indicator <sup>1)</sup>       |
| 2                                              | AgNi90/10, without test button, without mechanical indicator                 |
| 3                                              | AgCdO, with test button, without mechanical indicator <sup>1)</sup>          |
| 7                                              | AgNi90/10, with test button, without mechanical indicator                    |
| <b>Enclosure</b>                               |                                                                              |
| 2                                              | Plain cover, 4.8mm quick connect terminals                                   |
| 3                                              | Cover with mounting brackets, 4.8mm quick connect terminals                  |
| 5                                              | Cover with mounting brackets, 6.3mm quick connect terminals                  |
| 7                                              | PCB version                                                                  |
| 8                                              | Cover with DIN-snap-on attachment, horizontal, 6.3mm quick connect terminals |
| 9                                              | Cover with DIN-snap-on attachment, vertical, 6.3mm quick connect terminals   |
| <b>Coil</b>                                    |                                                                              |
| Coil code: please refer to coil versions table |                                                                              |

<sup>1)</sup> AgCdO contacts are discontinued and replaced with AgNi contacts (see PCN E-18-003016)

**Power Relay RM 5/6/B 3mm** (Continued)

| Product key | Contacts           | Cont. material | Version             | Enclosure              | Coil    | Coil   | Part number |
|-------------|--------------------|----------------|---------------------|------------------------|---------|--------|-------------|
| RM502024    | 2 form A,          | AgCdO          | Without             | Plain cover            | DC coil | 24VDC  | 6-1393146-1 |
| RM522012    | 2 NO contacts      | AgNi           | test button         | QC 4.8mm               |         | 12VDC  | 2-1415546-4 |
| RM522024    |                    | AgNi           | without             |                        |         | 24VDC  | 8-1415547-2 |
| RM502524    |                    | AgCdO          | mech. indicator     |                        | AC coil | 24VAC  | 6-1393146-2 |
| RM502615    |                    | AgCdO          |                     |                        |         | 115VAC | 6-1393146-3 |
| RM502730    |                    | AgCdO          |                     |                        |         | 230VAC | 6-1393146-4 |
| RM503024    |                    | AgCdO          |                     | Mounting brackets      | DC coil | 24VDC  | 8-1393148-0 |
| RM503615    |                    | AgCdO          |                     | quick c. 4.8mm         | AC coil | 115VAC | 6-1393146-5 |
| RM505024    |                    | AgCdO          |                     | Mounting brackets      | DC coil | 24VDC  | 8-1393148-3 |
| RM525012    |                    | AgNi           |                     | QC 6.3mm               |         | 12VDC  | 5-1415544-6 |
| RM525024    |                    | AgNi           |                     |                        |         | 24VDC  | 8-1415545-7 |
| RM505615    |                    | AgCdO          |                     |                        | AC coil | 115VAC | 6-1393146-6 |
| RM505730    |                    | AgCdO          |                     |                        |         | 230VAC | 9-1393149-9 |
| RM525730    |                    | AgNi           |                     |                        |         | 230VAC | 2-1415546-5 |
| RM507024    |                    | AgCdO          |                     | PCB version            | DC coil | 24VDC  | 1393844-1   |
| RM527024    |                    | AgNi           |                     |                        |         | 24VDC  | 2-1415546-6 |
| RM507524    |                    | AgCdO          |                     |                        | AC coil | 24VAC  | 5-1415008-1 |
| RM507615    |                    | AgCdO          |                     |                        |         | 115VAC | 6-1415015-1 |
| RM507730    |                    | AgCdO          |                     |                        |         | 230VAC | 1415008-1   |
| RM528730    |                    | AgNi           |                     | DIN-snap-on horizontal |         | 230VAC | 2-1415546-7 |
| RM535024    |                    | AgCdO          | With test button    | Mounting brackets      | DC coil | 24VDC  | 7-1393146-2 |
| RM535524    |                    | AgCdO          | w/o mech.indicator  | QC 6.3mm               | AC coil | 24VAC  | 9-1393148-0 |
| RM602024    | 3 form A,          | AgCdO          | Without             | Plain cover            | DC coil | 24VDC  | 1393844-4   |
| RM622024    | 3 NO contacts      | AgNi           | test button         | QC 4.8mm               |         | 24VDC  | 2-1415546-8 |
| RM602615    |                    | AgCdO          | without             |                        | AC coil | 115VAC | 9-1393148-7 |
| RM605730    |                    | AgCdO          | mech. indicator     | Mount.br. q.c.6.3      |         | 230VAC | 7-1393146-6 |
| RM607024    |                    | AgCdO          |                     | PCB version            | DC coil | 24VDC  | 1393844-6   |
| RM627012    |                    | AgNi           |                     |                        |         | 12VDC  | 2-1415546-9 |
| RM627024    |                    | AgNi           |                     |                        |         | 24VDC  | 5-1415538-2 |
| RM627730    |                    | AgNi           |                     |                        | AC coil | 230VAC | 3-1415546-0 |
| RM607524    |                    | AgCdO          |                     |                        |         | 24VAC  | 7-1393146-8 |
| RM607615    |                    | AgCdO          |                     |                        |         | 115VAC | 8-1415015-1 |
| RM607730    |                    | AgCdO          |                     |                        |         | 230VAC | 7-1393146-9 |
| RM632024    |                    | AgCdO          | With                | Plain cover            | DC coil | 24VDC  | 8-1393146-0 |
| RM632730    |                    | AgCdO          | test button         | QC 4.8mm               | AC coil | 230VAC | 1393149-7   |
| RM635024    |                    | AgCdO          | without             | Mount.br.QC 6.3        | DC coil | 24VDC  | 7-1393107-7 |
| RM637024    |                    | AgCdO          | mech. indicator     | PCB version            |         | 24VDC  | 1393149-9   |
| RMB07012    | 3 A (NO) cont. 16A | AgCdO          | W/o test, indicator |                        |         | 12VDC  | 1-1415545-6 |
| RMB07024    |                    | AgCdO          |                     |                        |         | 24VDC  | 2-1415543-7 |