

**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



F0164-B

**Approvals**

RM5/6: VDE REG.-Nr. 40003144, cULus E214025; RMB in preparation  
Technical data of approved types on request

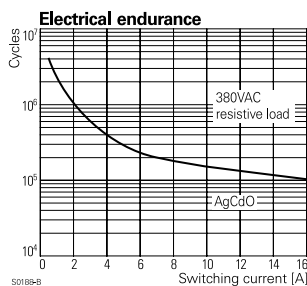
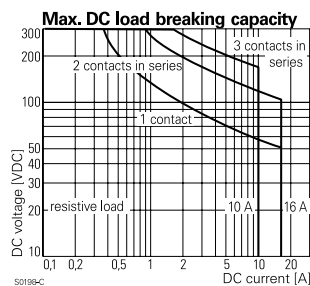
| Contact Data                              | RM5                      | RM6      | RMB      |
|---|--------------------------|----------|----------|
| Contact arrangement                       | 2 form A                 | 3 form A | 3 form A |
|   | 2 NO                     | 3 NO     | 3 NO     |
| 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                          | AgCdO,                   |          |          |
|   | AgNi90/10 in preparation |          |          |
| 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> |         |                                    |                     |
| RM50             | A (NO)  | 16A, 230/400VAC, cosφ=1, 35°C      | 100x10 <sup>3</sup> |
| RM50             | A (NO)  | 10A, 48VDC 70°C                    | 30x10 <sup>3</sup>  |
| RM60             | A (NO)  | 10A, 230/400VAC, cosφ=1, 35°C      | 100x10 <sup>3</sup> |
| <b>UL 508</b>    |         |                                    |                     |
| 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, 50°C       | 100x10 <sup>3</sup> |
| RM6              | A (NO)  | 10A, 277VAC, general purpose, 50°C | 30x10 <sup>3</sup>  |
| RMB              | A (NO)  | 16A, 277VAC, general purpose, 25°C | 30x10 <sup>3</sup>  |

**Mechanical endurance**

DC coil 20x10<sup>6</sup> operations  
AC coil 20x10<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)                    |

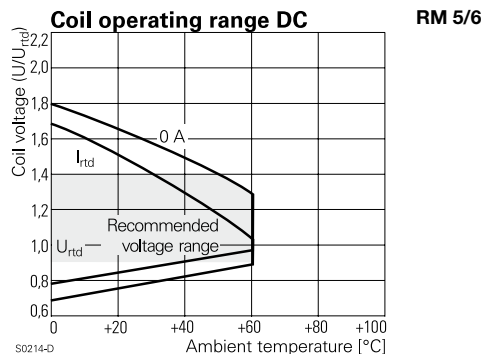
**Coil versions, DC coil**

| STD                                     | LED bipolar | Coil code | Rated voltage VDC | Coil resistance Ω±10% <sup>1)</sup> | Rated coil power W |
|---|-------------|-----------|-------------------|-------------------------------------|--------------------|
| <b>Coil versions, DC coil, RM5, RM6</b> |             |           |                   |                                     |                    |
| 006                                     | L06         | 0A6       | 6                 | 24                                  | 1.5                |
| 012                                     | L12         | 0B2       | 12                | 86                                  | 1.7                |
| 024                                     | L24         | 0C4       | 24                | 345                                 | 1.7                |
| 048                                     | L48         | 0E8       | 48                | 1340                                | 1.7                |
| 060                                     | L60         | 0G0       | 60                | 2200                                | 1.6                |
| 110                                     | M10         | 1B0       | 110               | 7300                                | 1.7                |
| 221                                     | N21         | 2C1       | 220               | 30000 <sup>1)</sup>                 | 1.6                |

**Coil versions, DC coil, RMB**

|                          |   |   |                           |     |     |
|--------------------------|---|---|---------------------------|-----|-----|
| 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**

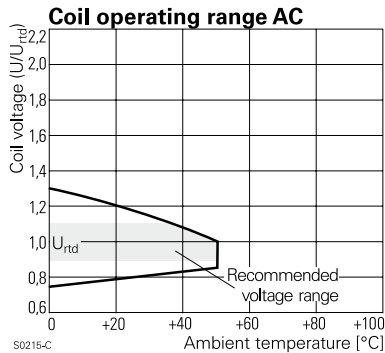
| Coil code | Rated voltage | Operate voltage | Release voltage | Coil resistance        | Rated coil power |
|-----------|---------------|-----------------|-----------------|------------------------|------------------|
| STD       | LED           | VAC             | 50/60Hz         | 50/60Hz       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

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

| Coil code | Rated voltage | Operate voltage | Release voltage | Coil resistance | Rated coil power    |
|-----------|---------------|-----------------|-----------------|-----------------|---------------------|
| 506       | R06           | 6               | 4.8/5.1         | 2.4             | 4.7                 |
| 512       | R12           | 12              | 9.6/10.2        | 4.8             | 19.5                |
| 524       | R24           | 24              | 19.2/20.4       | 9.6             | 80                  |
| 548       | R48           | 48              | 38.4/40.8       | 19.2            | 320                 |
| 560       | R60           | 60              | 48.0/51.0       | 24.0            | 500                 |
| 615       | S15           | 115             | 92.0/97.8       | 46.0            | 1850                |
| 730       | T30           | 230             | 184.0/195.5     | 92.0            | 7500                |
| 900       | V00           | 400             | 320.0/340.0     | 160.0           | 23500 <sup>1)</sup> |

1) Coil resistance  $\pm 15\%$

All figures are given for coil without pre-energization, at ambient temperature +23°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    |          |                          |          |
| 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.tycoelectronics.com/customersupport/rohssupportcenter">www.tycoelectronics.com/customersupport/rohssupportcenter</a> |             |  |             |
| Ambient temperature   |             |  |             |
| DC coil   | -45 to 60°C | -45 to 60°C  | -45 to 50°C |
| AC coil   | -45 to 50°C | -45 to 50°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°C/10s  |             |

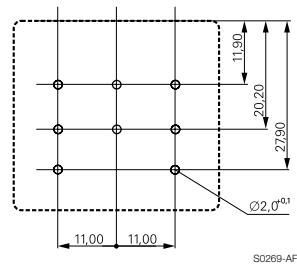
Packaging unit 10/25 pcs.

**Accessories**

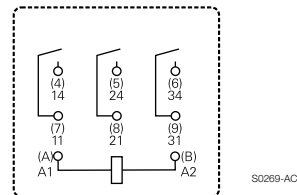
For details see datasheet [Accessories Power Relay RM](#)  
Note: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

**PCB layout / terminal assignment**

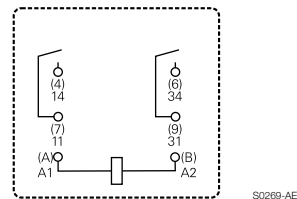
Bottom view on pins



3 form A (3 NO) contacts



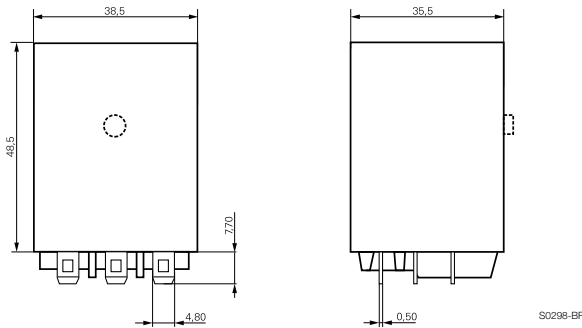
2 form A (2 NO) contacts



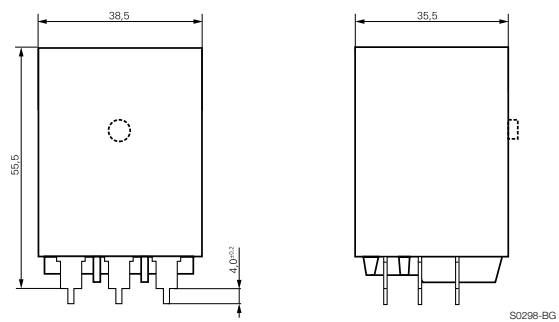
**Power Relay RM 5/6/B 3mm** (Continued)

**Dimensions**

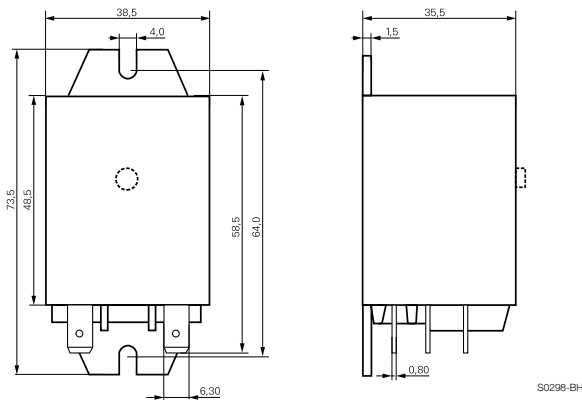
Plain cover, plug-in version



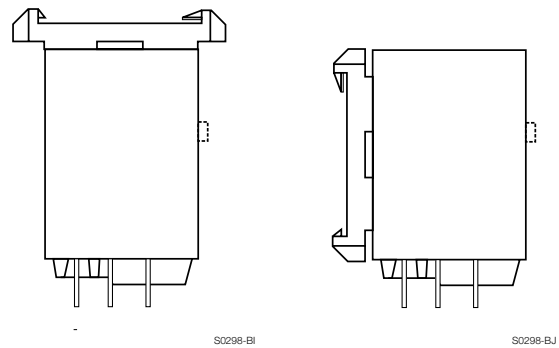
PCB version



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 0 2 524**

**Type**

**RM** Power relay RM5/6/B 3mm

**Contact arrangement**

**5** 2 form A contacts (2 NO), 16A      **6** 3 form A contacts (3 NO), 10A  
**B** 3 form A contacts (3 NO), 16A

**Version**

**0** AgCdO, without test button, without mechanical indicator  
**2** AgNi90/10, without test button, without mechanical indicator  
**3** AgCdO, with test button, without mechanical indicator  
**7** AgNi90/10, with test button, without mechanical indicator

**Enclosure**

**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

**Coil**

Coil code: please refer to coil versions table

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

| Product key | Contacts           | Version             | Enclosure         | Coil    | Coil   | Part number |
|-------------|--------------------|---------------------|-------------------|---------|--------|-------------|
| RM502024    | 2 form A,          | Without             | Plain cover       | DC coil | 24VDC  | 6-1393146-1 |
| RM502524    | 2 NO contacts      | test button         | quick c. 4.8mm    | AC coil | 24VAC  | 6-1393146-2 |
| RM502615    | 16A                | without             |                   |         | 115VAC | 6-1393146-3 |
| RM502730    |                    | mech.indicator      |                   |         | 230VAC | 6-1393146-4 |
| RM503024    |                    |                     | Mounting brackets | DC coil | 24VDC  | 8-1393148-0 |
| RM503615    |                    |                     | quick c. 4.8mm    | AC coil | 115VAC | 6-1393146-5 |
| RM505024    |                    |                     | Mounting brackets | DC coil | 24VDC  | 8-1393148-3 |
| RM505615    |                    |                     | quick c. 6.3mm    | AC coil | 115VAC | 6-1393146-6 |
| RM505730    |                    |                     |                   |         | 230VAC | 9-1393149-9 |
| RM507024    |                    |                     | PCB version       | DC coil | 24VDC  | 1393844-1   |
| RM507524    |                    |                     |                   | AC coil | 24VAC  | 5-1415008-1 |
| RM507615    |                    |                     |                   |         | 115VAC | 6-1415015-1 |
| RM507730    |                    |                     |                   |         | 230VAC | 1415008-1   |
| RM535024    |                    | With test button    | Mounting brackets | DC coil | 24VDC  | 7-1393146-2 |
| RM535524    |                    | w/o mech.indicator  | quick c. 6.3mm    | AC coil | 24VAC  | 9-1393148-0 |
| RM602024    | 3 form A,          | Without             | Plain cover       | DC coil | 24VDC  | 1393844-4   |
| RM602615    | 3 NO contacts      | test button         | quick c. 4.8mm    | AC coil | 115VAC | 9-1393148-7 |
| RM605730    | 10A                | without             | Mount.br. q.c.6.3 |         | 230VAC | 7-1393146-6 |
| RM607024    |                    | mechanical ind.     | PCB version       | DC coil | 24VDC  | 1393844-6   |
| RM607524    |                    |                     |                   | AC coil | 24VAC  | 7-1393146-8 |
| RM607615    |                    |                     |                   |         | 115VAC | 8-1415015-1 |
| RM607730    |                    |                     |                   |         | 230VAC | 7-1393146-9 |
| RM632024    |                    | With                | Plain cover       | DC coil | 24VDC  | 8-1393146-0 |
| RM632730    |                    | test button         | quick c. 4.8mm    | AC coil | 230VAC | 1393149-7   |
| RM635024    |                    | without             | Mount.br. q.c.6.3 | DC coil | 24VDC  | 7-1393107-7 |
| RM637024    |                    | mech.indicator      | PCB version       |         | 24VDC  | 1393149-9   |
| RMB07024    | 3 A (NO) cont. 16A | W/o test, indicator |                   |         |        | 2-1415543-7 |