

Power Relay RM 2/3/7

- 2/3 pole 10/16A, 2 form C (C0) or 3 form C (C0) contacts
- Switching capacity up to 6000VA
- DC or AC coil
- Mechanical indicator
- Push-to-test button
- Plug-in version, PCB terminals, chassis- or DIN-rail mount

Typical applications
Elevator control, power supplies



F0163-B

Approvals

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

| Contact Data | RM2 | RM3 | RM7 |
|---|--------------------|--------------------------|------------------|
| Contact arrangement | 2 form C 2 CO | 3 form C 3 CO | 3 form C 3 CO |
| Rated voltage | | 400VAC | |
| Max. switching voltage | | 440VAC | |
| Rated current | 16A | 10A | 16A |
| Limiting making current, max. 20ms | 40A | 40A | 40A |
| Switching power | 6000VA | 3800VA | 6000VA |
| Contact material | ACdO, AgNi90/10 | AgCdO, in preparation | AgCdO |
| Min. recommended contact load | | 24VDC/100mA | |
| Frequency of operation, with/without load | | 960/6000h ⁻¹ | |
| Operate/release time max., DC coil | | 15/10ms | |
| Bounce time max., DC coil, form A/form B | | 4/10ms | |

Contact ratings

| Type | Contact | Load | Cycles |
|------------------|---------------|--|---------------------|
| IEC 61810 | | | |
| RM20 | C (CO) | 16A, 400VAC, cosφ=1, 35°C | 100x10 ³ |
| RM22 | C (CO) | 16A, 400VAC, cosφ=1, DC-coil, 70°C | 100x10 ³ |
| RM22 | C (CO) | 16A, 400VAC, cosφ=1, AC-coil, 60°C | 50x10 ³ |
| RM30 | C (CO) | 10A, 400VAC, cosφ=1, 35°C | 100x10 ³ |
| RM70 | C (CO) | 16A, 400VAC, cosφ=1, 35°C | 100x10 ³ |
| UL 508 | | | |
| RM2 | A (NO) | 16A, 277VAC, general purpose, 70°C | 30x10 ³ |
| RM2 | A (NO) | 16A, 415VAC, resistive, 70°C | 100x10 ³ |
| RM20 | A (NO) | 10A, 48VDC, 50°C | 30x10 ³ |
| RM3 | C (CO) | 10A, 415VAC, resistive, DC-coil, 70°C | 100x10 ³ |
| RM3 | C (CO) | 10A, 415VAC, resistive, AC-coil, 55°C | 100x10 ³ |
| RM30 | A (NO)/B (NC) | 10A, 277VAC, gen. purp., DC-coil, 70°C | 30x10 ³ |
| RM30 | A (NO)/B (NC) | 10A, 277VAC, gen. purp., AC-coil, 55°C | 30x10 ³ |
| RM7 | A (NO) | 16A, 415VAC, resistive, 50°C | 100x10 ³ |
| RM7 | A (NO)/B (NC) | 16A, 277VAC, general purpose, 50°C | 30x10 ³ |

Contact Data (continued)

| | RM2 | RM3 | RM7 |
|----------------------|-----|-------------------------------|-----|
| Mechanical endurance | | | |
| DC coil | | 20x10 ⁶ operations | |
| AC coil | | 20x10 ⁶ operations | |

Coil Data

| | |
|-------------------------------------|---------------|
| Coil voltage range | 6 to 220VDC |
| | 6 to 400VAC |
| Operative range, IEC 61810 | 2 |
| Coil insulation system according UL | class 130 (B) |

Coil versions, DC coil

| STD | LED bipolar | Coil code PD ³⁾ | LED+ PD ³⁾ | Rated voltage VDC | Coil resistance Ω±10% ¹⁾²⁾ | Rated coil power W |
|---|-------------|----------------------------|-----------------------|-------------------|---------------------------------------|--------------------|
| Coil versions, DC coil, RM2, RM3 | | | | | | |
| 006 | L06 | 0A6 | LA6 | 6 | 32 | 1.1 |
| 012 | L12 | 0B2 | LB2 | 12 | 110 | 1.3 |
| 024 | L24 | 0C4 | LC4 | 24 | 475 | 1.2 |
| 048 | L48 | 0E8 | LE8 | 48 | 2000 | 1.2 |
| 060 | L60 | 0G0 | LG0 | 60 | 2850 | 1.3 |
| 110 | M10 | 1B0 | MB0 | 110 | 10000 ¹⁾ | 1.2 |
| 221 | N21 | 2C1 | NC1 | 220 | 40000 ²⁾ | 1.2 |

Coil versions, DC coil, RM7

| | | | | | | |
|-----|-----|-----|-----|-----|---------------------|-----|
| 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 ²⁾ | 1.6 |

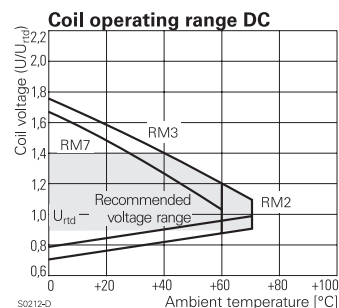
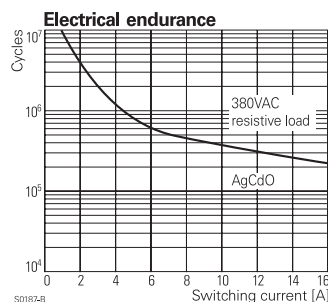
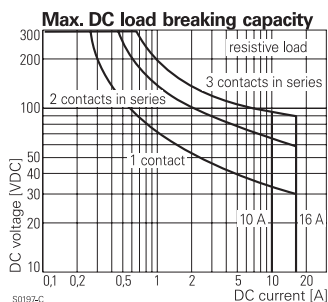
Operate voltage, DC coil 75% of rated coil voltage

Release voltage, DC coil 10% of rated coil voltage

1) Coil resistance ±12%, 2) Coil resistance ±15%

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

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



Power Relay RM 2/3/7 (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 | $\Omega \pm 10\%^{1/2)}$ | 50/60Hz VA |

Coil versions, AC-coil, RM2, RM3

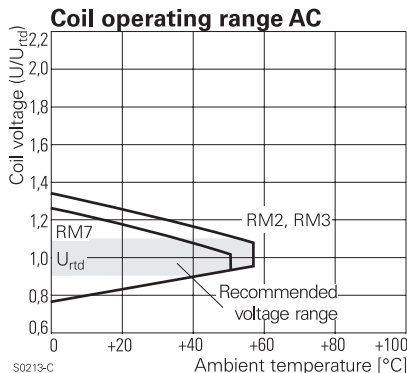
| | | | | | | |
|-----|-----|-----|-------------|-------|---------------------|-----------|
| 506 | R06 | 6 | 4.8/5.1 | 1.8 | 5.3 | 2.29/1.98 |
| 512 | R12 | 12 | 9.6/10.2 | 3.6 | 24 | 2.19/1.86 |
| 524 | R24 | 24 | 19.2/20.4 | 7.2 | 86 | 2.26/1.95 |
| 548 | R48 | 48 | 38.4/40.8 | 14.4 | 345 | 2.28/1.97 |
| 560 | R60 | 60 | 48.0/51.0 | 18.0 | 544 | 2.27/1.96 |
| 615 | S15 | 115 | 92.0/97.8 | 34.5 | 2000 | 2.37/2.00 |
| 730 | T30 | 230 | 184.0/195.5 | 69.0 | 8300 ¹⁾ | 2.32/1.96 |
| 900 | V00 | 400 | 320.0/340.0 | 120.0 | 27500 ²⁾ | 2.31/1.96 |

Coil versions, AC-coil, RM7

| | | | | | | |
|-----|-----|-----|-------------|-------|---------------------|-----------|
| 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 ²⁾ | 2.61/2.20 |

¹⁾ Coil resistance $\pm 12\%$, ²⁾ Coil resistance $\pm 15\%$

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



| Insulation Data | RM2 | RM3 | RM7 |
|------------------------------------|----------|--------------------------|----------|
| Initial dielectric strength | | | |
| between open contacts | 1500Vrms | 1500Vrms | 1500Vrms |
| between contact and coil | 2500Vrms | 2500Vrms | 2500Vrms |
| between adjacent contacts | 2500Vrms | 2500Vrms | 2500Vrms |
| Initial surge withstand voltage | | | |
| between contact and coil | 5000V | 4000V | 4000V |
| 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

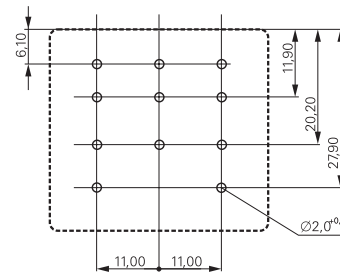
| | RM2 | RM3 | RM7 |
|---|---------------------------|---------------------------------|---------------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter | | | |
| Ambient temperature for mounting/handling in operation | | -20 to 40°C | |
| DC coil | -40 to 70°C | -40 to 70°C | -40 to 60°C |
| AC coil | -40 to 60°C | -40 to 55°C | -40 to 50°C |
| Cold storage, IEC 60068-2-1 | | 16h/ -40°C | |
| Dry heat, IEC 60068-2-2 | | 16h/ $+85^\circ\text{C}$ | |
| Damp heat cyclic, IEC 60068-2-30, Db, Variant 112/12h $+25/+55^\circ\text{C}$ | | | |
| Category of environmental protection | | | RTI - dust protected |
| IEC 61810 | | | |
| Vibration resistance (functional) | | | |
| form A (NO)/form B (NC) | 5/2g | 5/2g | 12/4g |
| Terminal type | | PCB-THT, plug-in, quick-connect | |
| Cover retention, pull/push force | | 100/100N | |
| 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.

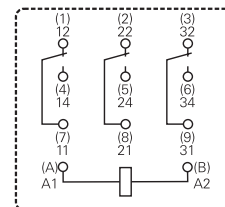
PCB layout / terminal assignment

Bottom view on pins



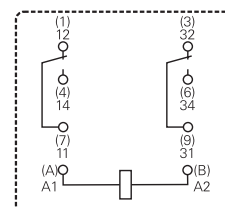
S0269-AA

3 form C (CO) contacts



S0269-AB

2 form C (CO) contacts

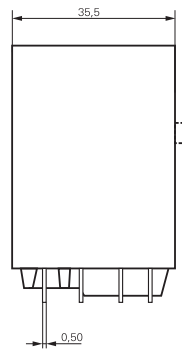
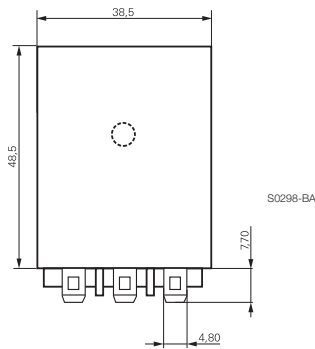


S0269-AD

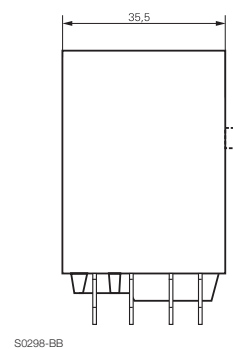
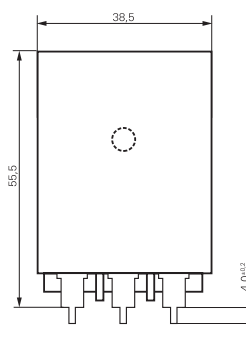
Power Relay RM 2/3/7 (Continued)

Dimensions

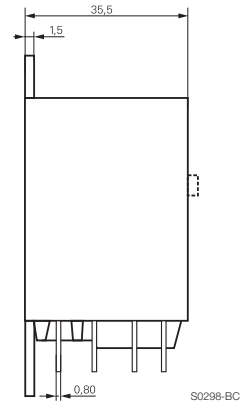
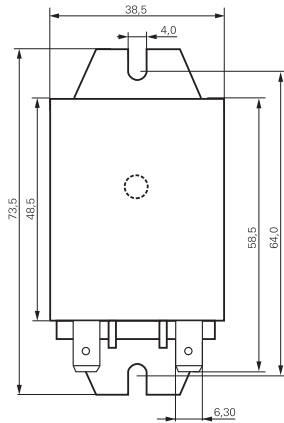
Plain cover, plug-in version



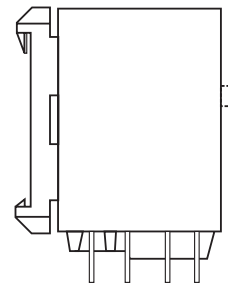
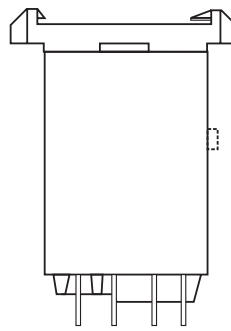
PCB version



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 7 0 2 730**

| Type | RM Power Relay RM 2/3/7 | | | |
|---------------------|--|--|--|--|
| Contact arrangement | <div><div><div>2</div><div>2 form C contacts (2 CO contacts), 16A</div></div><div><div>3</div><div>3 form C contacts (3 CO contacts), 10A</div></div></div> <div><div>7</div><div>3 form C contacts (3 CO contacts), 16A</div></div> | | | |
| Version | <div><div><div>0</div><div>AgCdO, without test button</div></div><div><div>2</div><div>AgNi 90/10, without test button</div></div></div> <div><div>3</div><div>AgCdO, with test button</div></div> <div><div>7</div><div>AgNi 90/10, with test button</div></div> | | | |
| Enclosure | <div><div><div>2</div><div>Plain cover, 4.8mm quick connect terminals</div></div><div><div>3</div><div>Cover with mounting brackets, 4.8mm quick connect terminals</div></div><div><div>5</div><div>Cover with mounting brackets, 6.3mm quick connect terminals</div></div><div><div>7</div><div>PCB version</div></div><div><div>8</div><div>Cover with DIN-snap-on attachment, horizontal, 6.3mm quick connect terminals</div></div><div><div>9</div><div>Cover with DIN-snap-on attachment, vertical, 6.3mm quick connect terminals</div></div></div> | | | |
| Coil | Coil code: please refer to coil versions table | | | |

Power Relay RM 2/3/7 (Continued)

| Product code | Contacts | Version | Enclosure | Coil | Coil | Part number |
|--------------|---------------|-------------|-------------------|---------|--------|-------------|
| RM202024 | 2 form C | Without | Plain cover | DC coil | 24VDC | 8-1393149-2 |
| RM202524 | 2 CO contacts | test button | quick c. 4.8mm | AC coil | 24VAC | 1-1393146-9 |
| RM202615 | 16 A | | | | 115VAC | 2-1393146-0 |
| RM202730 | | | | | 230VAC | 1-1393148-4 |
| RM203024 | | | Mounting brackets | DC coil | 24VDC | 1-1393148-6 |
| RM203524 | | | quick c. 4.8mm | AC coil | 24VAC | 2-1393146-5 |
| RM203615 | | | | | 115VAC | 2-1393146-6 |
| RM203730 | | | | | 230VAC | 2-1393146-8 |
| RM205024 | | | Mounting brackets | DC coil | 24VDC | 2-1393146-9 |
| RM205524 | | | quick c. 6.3mm | AC coil | 24VAC | 3-1393146-0 |
| RM205615 | | | | | 115VAC | 3-1393146-1 |
| RM205730 | | | | | 230VAC | 3-1393146-2 |
| RM207024 | | | PCB version | DC coil | 24VDC | 3-1393146-3 |
| RM207615 | | | | AC coil | 115VAC | 8-1393149-5 |
| RM207730 | | | | | 230VAC | 3-1393146-4 |
| RM208024 | | | DIN-snap-on | DC coil | 24VDC | 3-1393146-5 |
| RM208730 | | | horizontal | AC coil | 230VAC | 8-1393149-6 |
| RM209730 | | | DIN vertical | | 230VAC | 3-1393146-6 |
| RM232024 | | With | Plain cover | DC coil | 24VDC | 3-1393146-8 |
| RM232524 | | test button | quick c. 4.8mm | AC coil | 24VAC | 3-1393146-9 |
| RM232615 | | | | | 115VAC | 4-1393146-0 |
| RM232730 | | | | | 230VAC | 3-1393107-4 |
| RM233024 | | | Mounting brackets | DC coil | 24VDC | 3-1393107-5 |
| RM233615 | | | quick c. 4.8mm | AC coil | 115VAC | 4-1393146-2 |
| RM235024 | | | Mounting brackets | DC coil | 24VDC | 8-1393149-8 |
| RM235730 | | | quick c. 6.3mm | AC coil | 230VAC | 4-1393146-5 |
| RM239730 | | | DIN vertical | | 230VAC | 4-1393148-7 |
| RM302024 | 3 form C | Without | Plain cover | DC coil | 24VDC | 8-1393149-9 |
| RM302524 | 3 CO contacts | test button | quick c. 4.8mm | AC coil | 24VAC | 5-1393146-3 |
| RM302615 | 10 A | | | | 115VAC | 5-1393146-4 |
| RM302730 | | | | | 230VAC | 5-1419150-3 |
| RM303024 | | | Mounting brackets | DC coil | 24VDC | 6-1393148-4 |
| RM303615 | | | quick c. 4.8mm | AC coil | 115VAC | 5-1393146-5 |
| RM303730 | | | | | 230VAC | 5-1393146-7 |
| RM307024 | | | PCB version | DC coil | 24VDC | 7-1393148-2 |
| RM307730 | | | | AC coil | 230VAC | 5-1393146-9 |
| RM332024 | | With | Plain cover | DC coil | 24VDC | 9-1393149-2 |
| RM332524 | | test button | quick c. 4.8mm | AC coil | 24VAC | 9-1393149-3 |
| RM332730 | | | | | 230VAC | 9-1393149-4 |
| RM333024 | | | Mount. br. QC4.8 | DC coil | 24VDC | 9-1393149-6 |
| RM335730 | | | Mount. br. QC6.3 | AC coil | 230VAC | 6-1393107-1 |
| RM338730 | | | DIN horizontal | | 230VAC | 7-1393148-7 |
| RM339730 | | | DIN vertical | | 230VAC | 6-1393107-2 |
| RM702024 | 3 form C | Without | Plain cover | DC coil | 24VDC | 8-1393146-5 |
| RM702524 | 3 CO contacts | test button | quick c. 4.8mm | AC coil | 24VAC | 1393844-9 |
| RM702615 | 16 A | | | | 115VAC | 1-1393844-0 |
| RM702730 | | | | | 230VAC | 1-1393844-1 |
| RM703024 | | | Mounting brackets | DC coil | 24VDC | 1-1393844-2 |
| RM703524 | | | quick c. 4.8mm | AC coil | 24VAC | 9-1393146-1 |
| RM703615 | | | | | 115VAC | 9-1393146-2 |
| RM703730 | | | | | 230VAC | 9-1393146-4 |
| RM705024 | | | Mounting brackets | DC coil | 24VDC | 9-1393146-6 |
| RM705524 | | | quick c. 6.3mm | AC coil | 24VAC | 9-1393146-7 |
| RM705615 | | | | | 115VAC | 1-1393844-4 |
| RM705730 | | | | | 230VAC | 1-1393844-5 |
| RM707024 | | | PCB version | DC coil | 24VDC | 9-1393146-8 |
| RM707524 | | | | AC coil | 24VAC | 1393147-1 |
| RM707730 | | | | | 230VAC | 1393147-2 |
| RM708024 | | | DIN horizontal | DC coil | 24VDC | 1393147-4 |
| RM708730 | | | quick c. 6.3mm | AC coil | 230VAC | 1-1419136-0 |
| RM709024 | | | DIN vertical | DC coil | 24VDC | 2-1393149-2 |
| RM709730 | | | | AC coil | 230VAC | 1393147-5 |
| RM732024 | | With | Plain cover | DC coil | 24VDC | 1-1393844-7 |
| RM732524 | | test button | quick c. 4.8mm | AC coil | 24VAC | 1-1393147-0 |
| RM732615 | | | | | 115VAC | 1-1393147-1 |
| RM732730 | | | | | 230VAC | 1-1393844-8 |
| RM733730 | | | Mount.br. QC 4.8 | | 230VAC | 1-1393147-5 |
| RM735024 | | | Mounting brackets | DC coil | 24VDC | 3-1393149-6 |
| RM735524 | | | quick c. 6.3mm | AC coil | 24VAC | 3-1393149-7 |
| RM735730 | | | | | 230VAC | 4-1393149-1 |
| RM737730 | | | PCB version | | 230VAC | 2-1393147-0 |
| RM738024 | | | DIN-snap-on | DC coil | 24VDC | 2-1393844-0 |
| RM738730 | | | horizontal | AC coil | 230VAC | 2-1393147-2 |
| RM739024 | | | DIN-snap-on | DC coil | 24VDC | 4-1393149-5 |
| RM739730 | | | vertical | AC coil | 230VAC | 2-1393844-2 |

Power Relay RM 2/3/7 (Continued)

| Product code | Contacts | Cont. material | Version | Enclosure | Coil | Coil | Part number |
|--------------|---------------|----------------|-------------|-------------------|---------|--------|-------------|
| RM222012 | 2 form C | AgNi | Without | Plain cover | DC-coil | 12VDC | 1-1415546-7 |
| RM222024 | 2 CO contacts | AgNi | test button | 4.8 mm terminal | DC-coil | 24VDC | 1-1415546-8 |
| RM225012 | 16A | AgNi | | Mounting brackets | DC-coil | 12VDC | 1415542-7 |
| RM225024 | | AgNi | | quick c. 6.3 mm | DC-coil | 24VDC | 1415542-8 |
| RM225524 | | AgNi | | | AC-coil | 24VAC | 1-1415546-9 |
| RM225615 | | AgNi | | | AC-coil | 115VAC | 2-1415546-0 |
| RM225730 | | AgNi | | | AC-coil | 230VAC | 1415542-9 |
| RM227024 | | AgNi | | PCB version | DC-coil | 24VDC | 2-1415546-1 |
| RM227730 | | AgNi | | | AC-coil | 230VAC | 2-1415546-2 |
| RM322024 | 3 form C | AgNi | | Plain cover | DC-coil | 24VDC | 2-1415546-3 |
| RM327024 | 3 CO contacts | AgNi | | 4.8 mm terminal | DC-coil | 24VDC | 5-1415538-3 |
| | 10A | AgNi | | | | | |
| RM722012 | 3 form C | AgNi | | Plain cover | DC-coil | 12VDC | 3-1415546-1 |
| RM722024 | 3 CO contacts | AgNi | | 4.8 mm terminal | DC-coil | 24VDC | 3-1415546-2 |
| RM723024 | 16A | AgNi | | Mounting brackets | DC-coil | 24VDC | 3-1415546-3 |
| | | | | quick c. 6.3 mm | | | |
| RM725024 | | AgNi | | Mounting brackets | DC-coil | 24VDC | 3-1415546-4 |
| RM725615 | | AgNi | | quick c. 6.3 mm | AC-coil | 115VAC | 3-1415546-5 |
| RM725730 | | AgNi | | | AC-coil | 230VAC | 3-1415546-6 |
| RM727024 | | AgNi | | PCB version | DC-coil | 24VDC | 3-1415546-7 |
| RM727730 | | AgNi | | | AC-coil | 230VAC | 3-1415546-8 |
| RM772012 | | AgNi | With | Plain cover | DC-coil | 12VDC | 3-1415546-9 |
| RM772024 | | AgNi | test button | 4.8 mm terminal | DC-coil | 24VDC | 5-1415544-7 |
| RM772060 | | AgNi | | | DC-coil | 60VDC | 2-1415545-1 |
| RM772730 | | AgNi | | | AC-coil | 230VAC | 4-1415546-0 |
| RM772900 | | AgNi | | | AC-coil | 400VAC | 4-1415546-1 |
| RM778024 | | AgNi | | DIN-snap-on | DC-coil | 24VDC | 4-1415546-2 |
| | | | | horizontal | | | |
| RM779730 | | AgNi | | DIN-snap-on | AC-coil | 230VAC | 4-1415546-3 |
| | | | | vertical | | | |

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