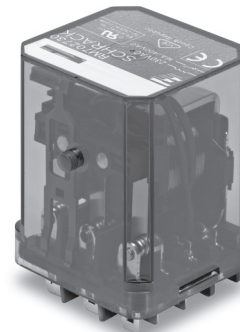


## Power Relay RM 2/3/7

- 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 REG.-Nr. 40003144, UL E214025  
Technical data of approved types on request

| Contact Data                              | RM2                | RM3                      | RM7              |
|-------------------------------------------|--------------------|--------------------------|------------------|
| Contact arrangement                       | 2 form C<br>2 CO   | 3 form C<br>3 CO         | 3 form C<br>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,<br>AgNi90/10 | AgCdO,<br>in preparation | AgCdO            |
| Min. recommended contact load             |                    | 24VDC/100mA              |                  |
| Frequency of operation, with/without load |                    | 960/6000h <sup>-1</sup>  |                  |
| Operate/release time max., DC coil        |                    | 15/10ms                  |                  |
| Bounce time max., DC coil, form A/form B  |                    | 4/10ms                   |                  |

### Contact ratings

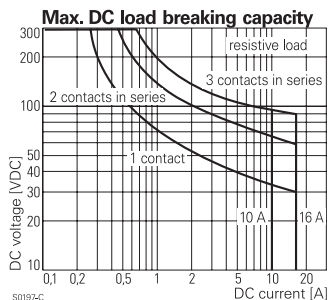
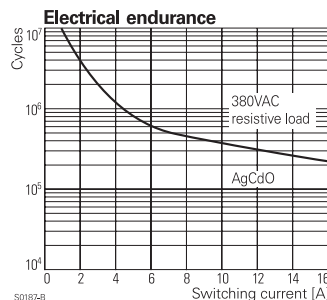
| Type             | Contact | Load                               | Cycles              |
|------------------|---------|------------------------------------|---------------------|
| <b>IEC 61810</b> |         |                                    |                     |
| RM20             | C (CO)  | 16A, 400VAC, cosφ=1, 35°C          | 100x10 <sup>3</sup> |
| RM22             | C (CO)  | 16A, 400VAC, cosφ=1, DC-coil, 70°C | 100x10 <sup>3</sup> |
| RM22             | C (CO)  | 16A, 400VAC, cosφ=1, AC-coil, 60°C | 50x10 <sup>3</sup>  |
| RM30             | C (CO)  | 10A, 400VAC, cosφ=1, 35°C          | 100x10 <sup>3</sup> |
| RM70             | C (CO)  | 16A, 400VAC, cosφ=1, 35°C          | 100x10 <sup>3</sup> |

### UL 508

|      |               |                                    |                     |
|------|---------------|------------------------------------|---------------------|
| RM2  | A (NO)        | 16A, 277VAC, general purpose, 50°C | 30x10 <sup>3</sup>  |
| RM2  | A (NO)        | 16A, 415VAC, resistive, 50°C       | 100x10 <sup>3</sup> |
| RM20 | A (NO)        | 10A, 48VDC, 50°C                   | 30x10 <sup>3</sup>  |
| RM3  | C (CO)        | 10A, 415VAC, resistive, 50°C       | 100x10 <sup>3</sup> |
| RM30 | A (NO)/B (NC) | 10A, 277VAC, general purpose, 50°C | 30x10 <sup>3</sup>  |
| RM7  | A (NO)        | 16A, 415VAC, resistive, 50°C       | 100x10 <sup>3</sup> |
| RM7  | A (NO)/B (NC) | 16A, 277VAC, general purpose, 50°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 220VDC<br>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 <sup>3)</sup> | LED+ PD <sup>3)</sup> | Rated voltage VDC | Coil resistance Ω±10% <sup>1)2)</sup> | Rated coil power W |
|-----------------------------------------|-------------|----------------------------|-----------------------|-------------------|---------------------------------------|--------------------|
| <b>Coil versions, DC coil, RM2, RM3</b> |             |                            |                       |                   |                                       |                    |
| 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 <sup>1)</sup>                   | 1.2                |
| 221                                     | N21         | 2C1                        | NC1                   | 220               | 40000 <sup>2)</sup>                   | 1.2                |

### Coil versions, DC coil, RM7

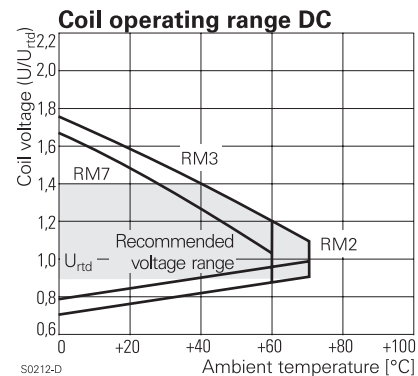
|     |     |     |     |     |                     |     |
|-----|-----|-----|-----|-----|---------------------|-----|
| 006 | L06 | 0A6 | LA6 | 6   | 24                  | 1.5 |
| 012 | L12 | 0B2 | LB2 | 12  | 86                  | 1.7 |
| 024 | L24 | 0C4 | LC4 | 24  | 345                 | 1.7 |
| 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 <sup>2)</sup> | 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           | 50/60Hz         | 50/60Hz         | $\Omega \pm 10\%^{1/2)}$ | 50/60Hz          |
|           | VAC           | VAC             | VAC             |                          | VA               |

**Coil versions, AC-coil, RM2, RM3**

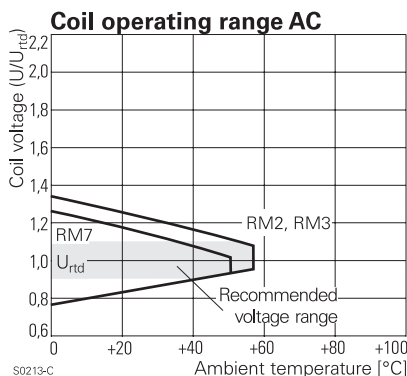
|     |     |     |             |       |                     |           |
|-----|-----|-----|-------------|-------|---------------------|-----------|
| 506 | R06 | 6   | 4.8/5.1     | 1.8   | 5.3                 | 2.29/1.98 |
| 512 | R12 | 12  | 9.6/10.2    | 3.6   | 24                  | 2.19/1.86 |
| 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 <sup>1)</sup>  | 2.32/1.96 |
| 900 | V00 | 400 | 320.0/340.0 | 120.0 | 27500 <sup>2)</sup> | 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 <sup>2)</sup> | 2.61/2.20 |

<sup>1)</sup> Coil resistance  $\pm 12\%$ , <sup>2)</sup> 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 <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a> |                           |                                 |                           |
| Ambient temperature                                                                                                                                                                                                                     |                           |                                 |                           |
| DC coil                                                                                                                                                                                                                                 | -45 to $70^\circ\text{C}$ | -45 to $60^\circ\text{C}$       | -45 to $60^\circ\text{C}$ |
| AC coil                                                                                                                                                                                                                                 | -45 to $60^\circ\text{C}$ | -45 to $55^\circ\text{C}$       | -45 to $50^\circ\text{C}$ |
| Cold storage, IEC 60068-2-1                                                                                                                                                                                                             |                           | 16h/ $-40^\circ\text{C}$        |                           |
| 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                                                                                                                                                                                                    |                           |                                 |                           |
| IEC 61810                                                                                                                                                                                                                               |                           | RTI - dust protected            |                           |
| 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.                      |                           |

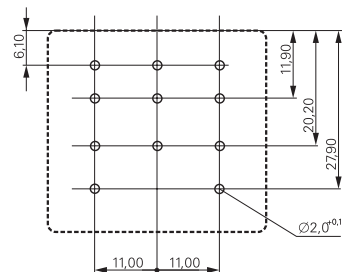
**Accessories**

For details see datasheet [Accessories Power Relay RM](#)

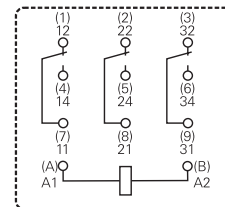
Note: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1); for relays mounted on sockets deratings may apply.

**PCB layout / terminal assignment**

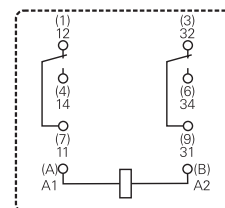
Bottom view on pins



3 form C (CO) contacts



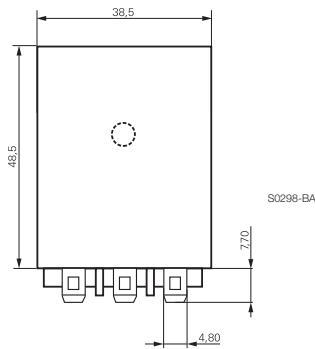
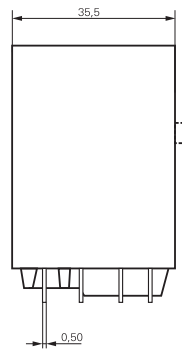
2 form C (CO) contacts



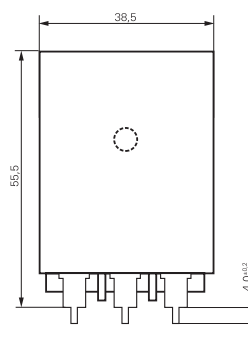
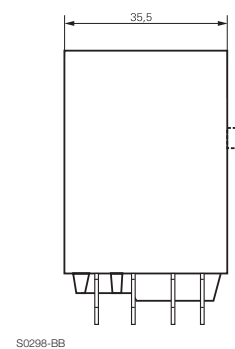
**Power Relay RM 2/3/7** (Continued)

**Dimensions**

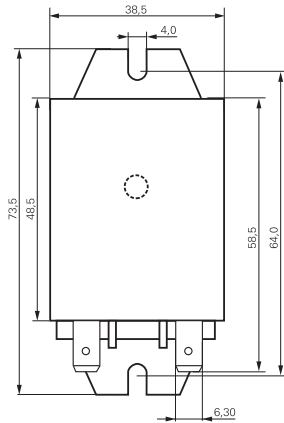
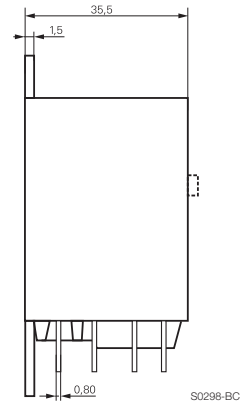
Plain cover, plug-in version



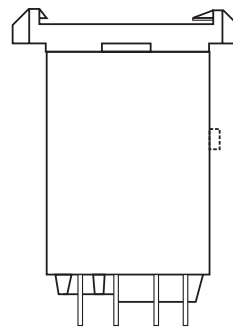
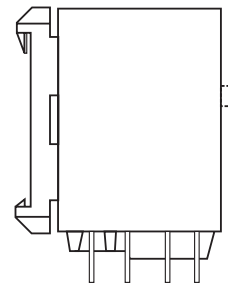
PCB version



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 | 2 2 form C contacts (2 CO contacts), 16A                                       |  | 7 3 form C contacts (3 CO contacts), 16A |  |
|                     | 3 3 form C contacts (3 CO contacts), 10A                                       |  |                                          |  |
| Version             | 0 AgCdO, without test button                                                   |  | 3 AgCdO, with test button                |  |
|                     | 2 AgNi 90/10, without test button                                              |  | 7 AgNi 90/10, with test button           |  |
| 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 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 |