

**Power Relay RM 2/3/7**

- 2 / 3 pole 10 / 16 A, 2 CO or 3 CO contacts
- Switching capacity up to 6000 VA
- DC- or AC-coil
- Mechanical indicator
- Push-to-test-button
- Plug-in version, PCB terminals, chassis- or DIN-rail mount
- Versions with AgNi90/10 contact material: RoHS compliant (Directive 2002/95/EC)



F0163-A

**Applications**

Elevator control, power supplies

**Approvals**

VDE REG.-Nr. 40003144, **us** E214025  
Technical data of approved types on request

| Contact data                                     | RM2                       | RM3     | RM7     |
|--|---------------------------|---------|---------|
| Contact configuration                            | 2 CO                      | 3 CO    | 3 CO    |
| Contact set                                      | single contact            |         |         |
| Type of interruption                             | micro disconnection       |         |         |
| Rated current                                    | 16 A                      | 10 A    | 16 A    |
| Rated voltage / max.switching voltage AC         | 400/440 VAC               |         |         |
| Maximum breaking capacity AC                     | 6000 VA                   | 3800 VA | 6000 VA |
| Limiting making capacity, max 20 ms              | 40 A                      | 40 A    | 40 A    |
| Contact material                                 | AgNi90/10, AgCdO          |         |         |
| Mechanical endurance                             | 20x10 <sup>6</sup> cycles |         |         |
| Rated frequency of operation with / without load | 16/100 min <sup>-1</sup>  |         |         |

**Contact ratings**

| Type | Load                               | Cycles              |
|------|------------------------------------|---------------------|
| RM2  | 16 A, 415 VAC, 70°C, UL            | 100x10 <sup>3</sup> |
| RM20 | 16 A, 400 VAC, cosφ=1, 35°C, VDE   | 100x10 <sup>3</sup> |
| RM2  | 16 A, 250 VAC, general purpose, UL | 30x10 <sup>3</sup>  |
| RM20 | 10 A, 48 VDC, 70°C, UL             | 30x10 <sup>3</sup>  |
| RM3  | 10 A, 415 VAC, resistive, 70°C, UL | 100x10 <sup>3</sup> |
| RM30 | 10 A, 400 VAC, cosφ=1, 35°C, VDE   | 100x10 <sup>3</sup> |
| RM3  | 10 A, 300 VAC, resistive, 70°C, UL | 100x10 <sup>3</sup> |
| RM3  | 10 A, 250 VAC, general purpose, UL | 30x10 <sup>3</sup>  |
| RM7  | 5 A, 400 VAC, resistive, 70°C, UL  | 100x10 <sup>3</sup> |
| RM70 | 16 A, 400 VAC, cosφ=1, 35°C, VDE   | 100x10 <sup>3</sup> |
| RM7  | 10 A, 300 VAC, resistive, 70°C, UL | 100x10 <sup>3</sup> |

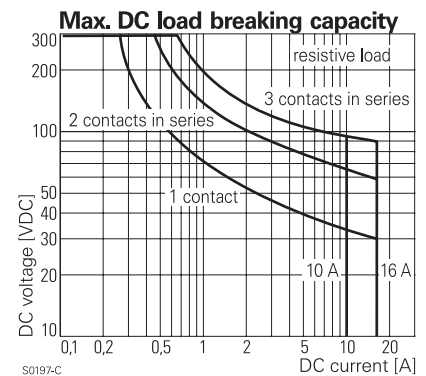
| Coil data                        | RM2         | RM3    | RM7    |
|----------------------------------|-------------|--------|--------|
| Rated coil voltage range DC coil | 6...220 VDC |        |        |
| AC coil                          | 6...400 VAC |        |        |
| Coil power DC coil               | 1.2 W       | 1.2 W  | 1.6 W  |
| AC coil                          | 2.3 VA      | 2.3 VA | 2.8 VA |
| Operative range                  | 1           |        |        |

**Coil versions, DC-coil**

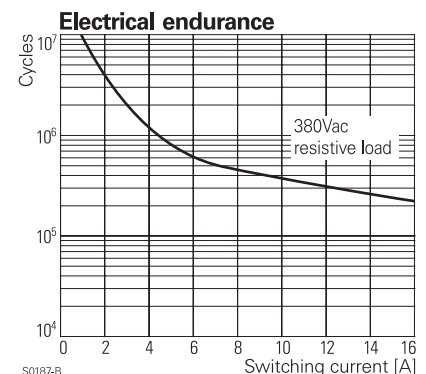
| Coil code           | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ohm | Rated coil power W |
|---------------------|-------------------|---------------------|---------------------|---------------------|--------------------|
| STD LED PD* bipolar | LED+ PD*          |                     |                     |                     |                    |

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

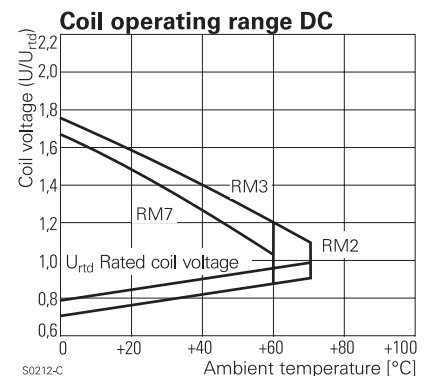
|            |            |            |            |           |             |            |                |            |
|------------|------------|------------|------------|-----------|-------------|------------|----------------|------------|
| 006        | L06        | 0A6        | LA6        | 6         | 4.5         | 0.6        | 32±10%         | 1.1        |
| 012        | L12        | 0B2        | LB2        | 12        | 9.0         | 1.2        | 110±10%        | 1.3        |
| <b>024</b> | <b>L24</b> | <b>0C4</b> | <b>LC4</b> | <b>24</b> | <b>18.0</b> | <b>2.4</b> | <b>475±10%</b> | <b>1.2</b> |
| 048        | L48        | 0E8        | LE8        | 48        | 36.0        | 4.8        | 2000±10%       | 1.2        |
| 060        | L60        | 0G0        | LG0        | 60        | 45.0        | 6.0        | 2850±10%       | 1.3        |
| 110        | M10        | 1B0        | MB0        | 110       | 82.5        | 11.0       | 10000±12%      | 1.2        |
| 221        | N21        | 2C1        | NC1        | 220       | 165.0       | 22.0       | 40000±15%      | 1.2        |



S0197-C



S0187-B



S0212-C

**Coil versions, DC-coil, RM7**

| Coil code           | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ohm | Rated coil power W |            |
|---------------------|-------------------|---------------------|---------------------|---------------------|--------------------|------------|
| STD LED PD* bipolar | LED+ PD*          |                     |                     |                     |                    |            |
| 006 L06 0A6         | LA6               | 6                   | 4.5                 | 0.6                 | 24±10%             | 1.5        |
| 012 L12 0B2         | LB2               | 12                  | 9.0                 | 1.2                 | 86±10%             | 1.7        |
| <b>024 L24 0C4</b>  | <b>LC4</b>        | <b>24</b>           | <b>18.0</b>         | <b>2.4</b>          | <b>345±10%</b>     | <b>1.7</b> |
| 048 L48 0E8         | LE8               | 48                  | 36.0                | 4.8                 | 1340±10%           | 1.7        |
| 060 L60 0G0         | LG0               | 60                  | 45.0                | 6.0                 | 2200±10%           | 1.6        |
| 110 M10 1B0         | MB0               | 110                 | 82.5                | 11.0                | 7300±10%           | 1.7        |
| 221 N21 2C1         | NC1               | 220                 | 165.0               | 22.0                | 30000±15%          | 1.6        |

All figures are given for coil without preenergization, at ambient temperature +23°C  
 \*) Protection diode PD; standard polarity: +A1 / -A2

**Coil versions, AC-coil 50/60 Hz**

| Coil code | LED | Rated voltage VAC | Operate voltage 50/60Hz VAC | Release voltage 50/60Hz VAC | Coil resistance Ohm | Rated coil power 50/60Hz VA |
|-----------|-----|-------------------|-----------------------------|-----------------------------|---------------------|-----------------------------|
|-----------|-----|-------------------|-----------------------------|-----------------------------|---------------------|-----------------------------|

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

|            |            |            |              |             |                 |                  |
|------------|------------|------------|--------------|-------------|-----------------|------------------|
| 506        | R06        | 6          | 4.8          | 2.4         | 5.3±10%         | 2.29/1.98        |
| 512        | R12        | 12         | 9.6          | 4.8         | 24±10%          | 2.19/1.86        |
| <b>524</b> | <b>R24</b> | <b>24</b>  | <b>19.2</b>  | <b>9.6</b>  | <b>86±10%</b>   | <b>2.26/1.95</b> |
| 548        | R48        | 48         | 38.4         | 19.2        | 345±10%         | 2.28/1.97        |
| 560        | R60        | 60         | 48.0         | 24.0        | 544±10%         | 2.27/1.96        |
| 615        | S15        | 115        | 92.0         | 46.0        | 2000±10%        | 2.37/2.00        |
| <b>730</b> | <b>T30</b> | <b>230</b> | <b>184.0</b> | <b>92.0</b> | <b>8300±12%</b> | <b>2.32/1.96</b> |
| 900        | V00        | 400        | 320.0        | 160.0       | 27500±15%       | 2.31/1.96        |

**Coil versions, AC-coil, RM7**

|            |            |            |              |             |                 |                  |
|------------|------------|------------|--------------|-------------|-----------------|------------------|
| 506        | R06        | 6          | 4.8          | 2.4         | 4.7±10%         | 2.86/2.36        |
| 512        | R12        | 12         | 9.6          | 4.8         | 19.5±10%        | 2.71/2.27        |
| <b>524</b> | <b>R24</b> | <b>24</b>  | <b>19.2</b>  | <b>9.6</b>  | <b>80±10%</b>   | <b>2.62/2.00</b> |
| 548        | R48        | 48         | 38.4         | 19.2        | 320±10%         | 2.60/2.17        |
| 560        | R60        | 60         | 48.0         | 24.0        | 500±10%         | 2.62/2.20        |
| 615        | S15        | 115        | 92.0         | 46.0        | 1850±10%        | 2.65/2.22        |
| <b>730</b> | <b>T30</b> | <b>230</b> | <b>184.0</b> | <b>92.0</b> | <b>7500±10%</b> | <b>2.69/2.26</b> |
| 900        | V00        | 400        | 320.0        | 160.0       | 23500±15%       | 2.61/2.20        |

All figures are given for coil without preenergization, at ambient temperature +23°C

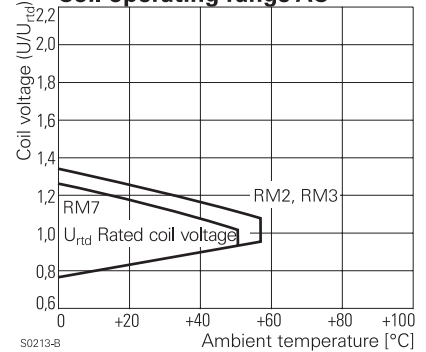
**Insulation**

|   |                       |
|---|-----------------------|
| Dielectric strength coil-contact circuit  | 2500 V <sub>rms</sub> |
| open contact circuit                      | 1500 V <sub>rms</sub> |
| adjacent contact circuits                 | 2500 V <sub>rms</sub> |
| Clearance / creepage coil-contact circuit | ≥ 4.0/14.9 mm         |
| adjacent contact circuits                 | ≥ 6.1/7.3 mm          |
| Material group of insulation parts        | ≥ IIIa                |
| Insulation to IEC 60664-1                 |                       |
| Type of insulation coil-contact circuit   | basic                 |
| open contact circuit                      | functional            |
| adjacent contact circuits                 | basic                 |
| Rated insulation voltage                  | 250 V                 |
| Pollution degree                          | 3                     |
| Rated voltage system                      | 240/400 V             |
| Overvoltage category                      | III                   |

**Other data**

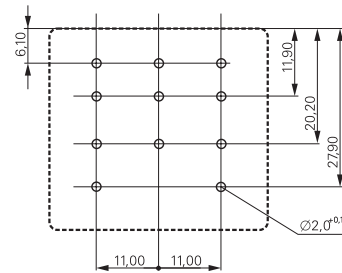
|   | RM2                  | RM3         | RM7         |
|---|----------------------|-------------|-------------|
| RoHS - Directive 2002/95/EC                     |                      |             |             |
| Versions with AgNi90/10 contacts:               |                      | compliant   |             |
| Ambient temperature range DC coil               | -45...+70°C          | -45...+60°C | -45...+60°C |
| AC coil   | -45...+55°C          | -45...+55°C | -45...+50°C |
| Operate- / release time                         | 15/10 ms             |             |             |
| Bounce time NO / NC contact                     | 3 ms                 |             |             |
| Vibration resistance (function) NO / NC contact | 5/2 g                |             | 12/4 g      |
| Category of protection                          | RTI - dust protected |             |             |
| Resistance to soldering heat                    | 270°C / 10 s         |             |             |
| Relay weight                                    | 81 g                 |             |             |
| Packaging unit                                  | 10/25 pcs            |             |             |

**Coil operating range AC**



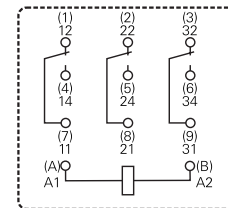
**PCB layout / terminal assignment**

Bottom view



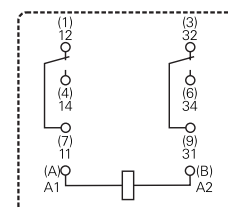
S0269-AA

**3 CO contacts**



S0269-AB

**2 CO contacts**



S0269-AD

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

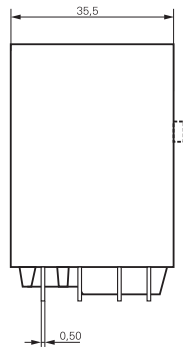
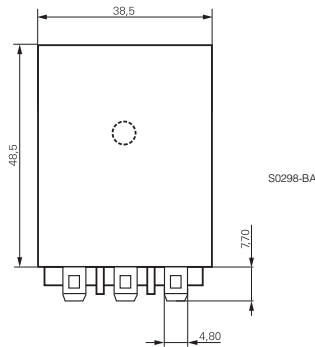
**Accessories**

For details see datasheet

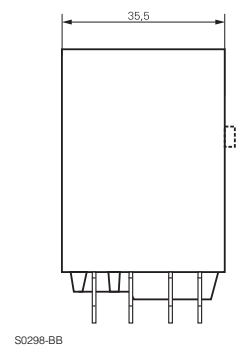
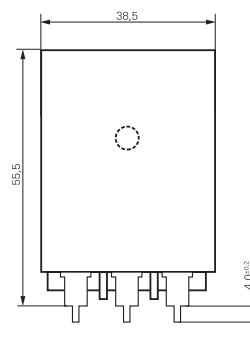
Accessories Power Relay RM

**Dimensions**

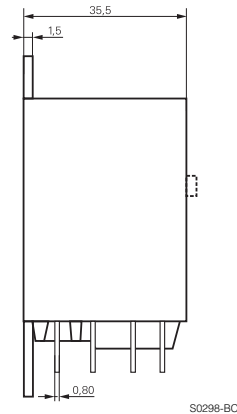
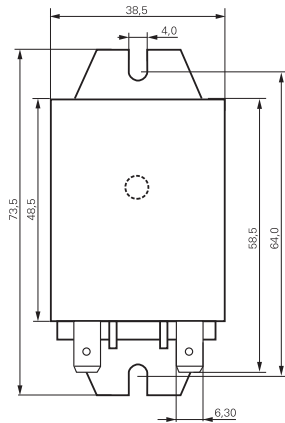
Plain cover, plug-in version



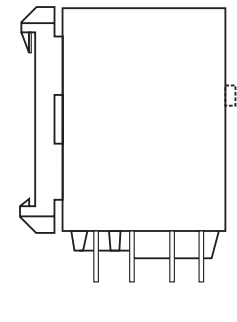
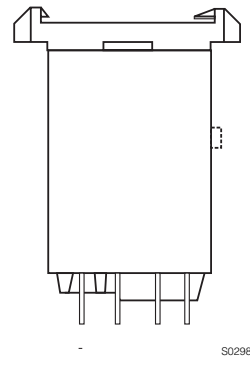
PCB version



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



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



**Product key**

Type

Contact configuration

- 2** 2 CO contacts, 16 A
- 3** 3 CO contacts, 10 A
- 7** 3 CO contacts, 16 A

Version

- 0** AgCdO, without test button
- 2** AgNi 90/10, without test button
- 3** AgCdO, with test button
- 7** AgNi 90/10, with test button

Enclosure

- 2** plain cover, 4.8 mm quick connect terminals
- 3** cover with mounting brackets, 4.8 mm quick connect terminals
- 5** cover with mounting brackets, 6.3 mm quick connect terminals
- 7** PCB version
- 8** cover with DIN-snap-on attachment, horizontal, 6.3 mm quick connect terminals
- 9** cover with DIN-snap-on attachment, vertical, 6.3 mm quick connect terminals

Coil

Coil code: please refer to coil versions table, preferred types in bold print



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