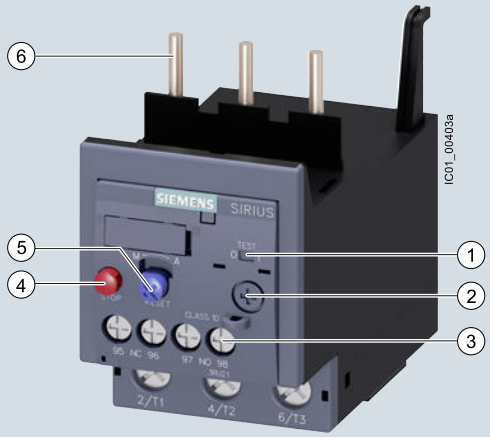



(1) Switch position indicator and TEST function of the wiring:
Indicates a trip and enables the wiring test.

(2) Motor current setting:
Setting the device to the rated motor current is easy with the large rotary knob.

(3) Connecting terminals:
Depending on the device version, the connecting terminals are screw terminals or spring-type terminals for the main and auxiliary circuits.

(4) STOP button:
If the STOP button is pressed, the NC contact is opened. This switches off the contactor downstream. The NC contact is closed again when the button is released.

(5) Selector switch for manual/automatic RESET and RESET button:
With this switch you can choose between manual and automatic RESET. A device set to manual RESET can be reset locally by pressing the RESET button. A remote RESET is possible using the RESET modules (accessories), which are independent of size.

(6) Connection for mounting onto contactors:
Optimally adapted in electrical, mechanical and design terms to the contactors. The overload relay can be connected directly to the contactor using these pins. Stand-alone installation is possible as an alternative (in conjunction with a terminal bracket for stand-alone installation).

A sealable transparent cover can be optionally mounted (accessory).
It secures the motor current setting against adjustment.

SIRIUS 3RU2136-4.B0 thermal overload relay

3RU21 thermal overload relays up to 100 A have been designed to provide current-dependent protection for loads with normal starting against impermissibly high temperature rises due to overload or phase failure.

An overload or phase failure results in an increase of the motor current beyond the set rated motor current. Via heating elements, this current rise heats up the bimetal strips inside the device which then bend and as a result trigger the auxiliary contacts by means of a tripping mechanism. The auxiliary contacts then switch off the load by means of a contactor. The break time depends on the ratio between the tripping current and the current setting $I_e$ and is stored in the form of a long-term stable tripping characteristic curve, see Characteristic curves.

The "tripped" status is signaled by means of a switch position indicator. The relay is reset manually or automatically after a recovery time has elapsed.

The 3RU2 thermal overload relays are suitable for operation with frequency converters.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

### *Use in hazardous areas*

The 3RU2 overload relays are certified in accordance with both the European explosion protection directive (ATEX) and the international explosion protection standard (IECEx),
see Certificates.



### *Article No. scheme*

| Product versions | | Article number |
|---|---|---|
| **Thermal overload relays** | | **3RU2** □ □ □ – □ □ □ □ |
| Device type | e.g. 1 = CLASS 10, 1 NO + 1 NC | □ |
| Size, rated operational current and power | e.g. 16 = 16 A (7.5 kW) for size S00 | □ □ |
| Setting range for overload release | e.g. 0A = 0.11 ... 0.16 A | □ □ |
| Connection methods | e.g. B = screw terminals | □ |
| Installation type | e.g. 0 = mounting on contactor | □ |
| Example | | **3RU2 1 1 6 – 0 A B 0** |

Note:

The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders please use the article numbers quoted in the selection and ordering data.

## Benefits

The most important features and benefits of the 3RU21 thermal overload relays are listed in the overview table (see "General data", page 7/75 onwards).

## Application

### *Industries*

The 3RU21 thermal overload relays are suitable for customers from all industries who want to guarantee optimum inverse-time delayed protection of their electrical loads (e.g. motors) under normal starting conditions (CLASS 10, 10A).

### *Application*

The 3RU21 thermal overload relays have been designed for the protection of three-phase and single-phase AC and DC motors.

If single-phase AC or DC loads are to be protected by the 3RU21 thermal overload relays, all three bimetal strips must be heated. For this purpose, all main current paths of the relay must be connected in series.

### *Ambient conditions*

3RU21 thermal overload relays compensate temperature in the temperature range from –40 °C to +60 °C according to IEC 60947-4-1. At temperatures from +60 °C to +70 °C, the upper set value of the setting range has to be reduced by a specific factor in accordance with the table below.

### *Use of SIRIUS protection devices in conjunction with IE3/IE4 motors*

Note:

For the use of 3RU21 thermal overload relays in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see page 1/7.

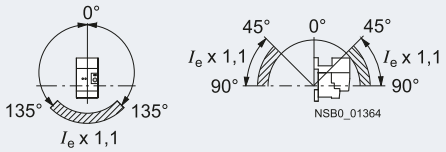
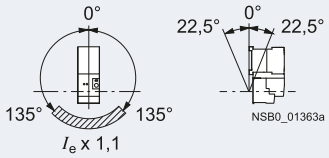


## Technical specifications

| More information | |
|---|---|
| System Manual "SIRIUS Modular System – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318 | Manual "SIRIUS – SIRIUS 3RU Thermal Overload Relays / SIRIUS 3RB Electronic Overload Relays", see https://support.industry.siemens.com/cs/ww/en/view/60298164 |
| Configuration Manual "Configuring the SIRIUS Modular System – Selection data for Fuseless and Fused Load Feeders", see https://support.industry.siemens.com/cs/ww/en/view/39714188 | Technical data, see https://support.industry.siemens.com/cs/ww/en/ps/16270/td |

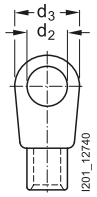
The following technical information is intended to provide an initial overview of the various types of device and functions.

| **Type** | | **3RU2116** | **3RU2126** | **3RU2136** | **3RU2146** |
|---|---|---|---|---|---|
| Size | | S00 | S0 | S2 | S3 |
| Dimensions (W x H x D) (overload relay with stand-alone installation support) | | | | | |
| • Screw terminals | mm | 45 x 89 x 80 | 45 x 97 x 95 | 55 x 105 x 117 | 70 x 106 x 124 |
| • Spring-type terminals | mm | 45 x 102 x 79 | 45 x 114 x 95 | 55 x 105 x 117 | 70 x 106 x 124 |
| **General data** | | | | | |
| **Tripping in the event of** | | Overload and phase failure | | | |
| **Trip class** acc. to IEC 60947-4-1 | Class | 10 | | 10, 10A | |
| **Phase failure sensitivity** | | Yes | | | |
| **Overload warning** | | No | | | |
| **Reset and recovery** | | | | | |
| • Reset options after tripping | | Manual, automatic and remote RESET (remote RESET in conjunction with the appropriate accessories) | | | |
| • Recovery time | | | | | |
| - For automatic RESET | min. | Depends on the strength of the tripping current and characteristic | | | |
| - For manual RESET | min. | Depends on the strength of the tripping current and characteristic | | | |
| - For remote RESET | min. | Depends on the strength of the tripping current and characteristic | | | |
| **Features** | | | | | |
| • Display of operating state on device | | Yes, by means of TEST function/switch position indicator slide | | | |
| • TEST function | | Yes | | | |
| • RESET button | | Yes | | | |
| • STOP button | | Yes | | | |
| **Protection of motors in hazardous environments** | | | | | |
| • according to European Directive 2014/34/EU (ATEX) | | DMT 98 ATEX G 001 Ex II (2) GD | | | |
| • according to international standard IECEx | | IECEx BVS 15.0046 see https://support.industry.siemens.com/cs/ww/en/ps/16270/cert | | | |

| **Type** | | **3RU2116** | **3RU2126** | **3RU2136** | **3RU2146** |
|---|---|---|---|---|---|
| Size | | S00 | S0 | S2 | S3 |
| Dimensions (W x H x D) (overload relay with stand-alone installation support) | | | | | |
| • Screw terminals | mm | 45 x 89 x 80 | 45 x 97 x 95 | 55 x 105 x 117 | 70 x 106 x 124 |
| • Spring-type terminals | mm | 45 x 102 x 79 | 45 x 114 x 95 | 55 x 105 x 117 | 70 x 106 x 124 |
| **General data (continued)** | | | | | |
| **Ambient temperature** | | | | | |
| • Storage/transport | °C | -55 ... +80 | | | |
| • Operation | °C | -40 ... +70 | | | |
| • Temperature compensation | °C | Up to +60 | | | |
| • Permissible rated current at | | | | | |
| - Temperature inside control cabinet 60 °C | % | 100 (current reduction is required above +60 °C) | | | |
| - Temperature inside control cabinet 70 °C | % | 87 | | | |
| **Repeat terminals** | | | | | |
| • Coil repeat terminals | | Yes | Not required | | |
| • Auxiliary contact repeat terminal | | Yes | Not required | | |
| **Degree of protection** acc. to IEC 60529 | | IP20 | | - IP20 (front side)<br>- Terminal IP00 (use additional terminal covers for higher degree of protection) | |
| **Touch protection** acc. to IEC 60529 | | Finger-safe | | | |
| **Shock resistance with sine** acc. to IEC 60068-2-27 | *g*/ms | 15/11 (auxiliary contacts 95/96 and 97/98: 8 *g*/11 ms) | | | |
| **Electromagnetic compatibility (EMC)** | | | | | |
| • Interference immunity | | Not relevant | | | |
| • Emitted interference | | Not relevant | | | |
| **Resistance to extreme climates – air humidity** | % | 90 | | | |
| **Installation altitude above sea level** | m | Up to 2 000 | | | |
| **Mounting position** | | The diagrams show the permissible mounting positions for mounting onto contactors and stand-alone installation. For mounting position in the hatched area, a setting correction of 10 % must be implemented.<br>Stand-alone installation:<br>  <br><br>Contactor + overload relay:<br>  <br> | | | |
| **Type of mounting** | | For mounting onto contactor or stand-alone installation with terminal support, screw and snap-on mounting onto standard mounting rail. | | | |

## 3RU2 for standard applications

| Type | | 3RU2116 | 3RU2126 | 3RU2136 | 3RU2146 |
|---|---|---|---|---|---|
| Size | | S00 | S0 | S2 | S3 |
| **Main circuit** | | | | | |
| **Rated insulation voltage $U_i$** (pollution degree 3) | V | 690 | | | 1000 |
| **Rated impulse withstand voltage $U_{imp}$** | kV | 6 | | | 8 |
| **Rated operational voltage $U_e$** | V | 690 | | | |
| **Type of current** | | | | | |
| • Direct current | | Yes | | | |
| • Alternating current | | Yes, frequency range up to 400 Hz | | | |
| **Current setting** | A | 0.11 ... 0.16 to | 1.8 ... 2.5 to | 11 ... 16 to | 28 ... 40 to |
| | A | 11 ... 16 | 34 ... 40 | 70 ... 80 | 80 ... 100 |
| **Power loss per unit (max.)** | W | 4.1 ... 6.3 | 6.2 ... 7.5 | 8 ... 14 | 12 ... 16.5 |
| **Short-circuit protection** | | | | | |
| • With fuse without contactor | | See "Selection and ordering data", pages 7/88 ... 7/91 | | | |
| • With fuse and contactor | | "Short-Circuit Protection with Fuses/Motor Starter Protectors for Motor Feeders", see Configuration Manual. | | | |
| **Protective separation between main and auxiliary current paths** acc. to IEC 60947-1 | | | | | |
| • Screw terminals or ring terminal lug connections | V | 440 | 690: Setting range ≤ 25 A | 690 | |
| • Spring-type terminals | V | 440 | 440: Setting range > 25 A | 690 | |
| **Conductor cross-sections of main circuit** | | | | | |
| **Connection type** | | **Screw terminals** | | | **Screw terminals with box terminal** |
| **Terminal screw** | | M3, Pozidriv size 2 | M4, Pozidriv size 2 | M6, Pozidriv size 2 | 4 mm Allen screw |
| **Operating devices** | mm | ⌀ 5 ... 6 | ⌀ 5 ... 6 | ⌀ 5 ... 6 | 4 mm Allen screw |
| **Prescribed tightening torque** | Nm | 0.8 ... 1.2 | 2 ... 2.5 | 3 ... 4.5 | 4.5 ... 6 |
| **Conductor cross-sections (min./max.),** 1 or 2 conductors can be connected | | | | | |
| • Solid or stranded | $mm^2$ | 2 x (0.5 ... 1.5)[1]; 2 x (0.75 ... 2.5)[1], max. 2 x 4 | 2 x (1 ... 2.5)[1], 2 x (2.5 ... 10)[1] | 2 x (2.5 ... 35)[1], 1 x (2.5 ... 50)[1] | 2 x (2.5 ... 16)[1], 2 x (10 ... 50)[1], 1 x (10 ... 70)[1] |
| • Finely stranded with end sleeve (DIN 46228-1) | $mm^2$ | 2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1] | 2 x (1 ... 2.5)[1]; 2 x (2.5 ... 6)[1], max. 1 x 10 | 2 x (1 ... 25)[1], 1 x (1 ... 35)[1] | 2 x (2.5 ... 35)[1], 1 x (2.5 ... 50)[1] |
| • AWG cables, solid or stranded | AWG | 2 x (20 ... 16)[1], 2 x (18 ... 14)[1], 2 x 12 | 2 x (16 ... 12)[1], 2 x (14 ... 8)[1] | 2 x (18 ... 2)[1], 1 x (18 ... 1)[1] | 2 x (10 ... 1/0)[1], 1 x (10 ... 2/0)[1] |
| **Removable box terminals**[2] | | | | | |
| • With copper bars[3] | mm | -- | -- | -- | 2 x 12 x 4 |
| • With cable lugs[4] | | | | | |
| - Terminal screw | | -- | -- | -- | M6 |
| - Prescribed tightening torque | Nm | -- | -- | -- | 4.5 ... 6 |
| - Usable ring terminal lugs | mm | -- | -- | -- | $d_2$ = min. 6.3<br>$d_3$ = max. 19 |
| **Connection type** | | **Spring-type terminals** | | | |
| **Operating devices** | mm | 3.0 x 0.5 and 3.5 x 0.5 | | | |
| **Conductor cross-sections (min./max.),** 1 conductor can be connected | | | | | |
| • Solid or stranded | $mm^2$ | 1 x (0.5 ... 4) | 1 x (1 ... 10) | -- | |
| • Finely stranded without end sleeve | $mm^2$ | 1 x (0.5 ... 2.5) | 1 x (1 ... 6) | -- | |
| • Finely stranded with end sleeve (DIN 46228-1) | $mm^2$ | 1 x (0.5 ... 2.5) | 1 x (1 ... 6) | -- | |
| • AWG cables, solid or stranded | AWG | 1 x (20 ... 12) | 1 x (18 ... 8) | -- | |




1) If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

2) Cable lug and busbar connection possible after removing the box terminals.

3) If bars larger than 12 mm x 10 mm are connected, a 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/93.

4) If conductors larger than 25 $mm^2$ are connected, the 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/93.

| **Type** | | **3RU2116** | **3RU2126** | **3RU2136** | **3RU2146** |
|---|---|---|---|---|---|
| Size | | S00 | S0 | S2 | S3 |
| **Auxiliary circuit** | | | | | |
| **Number of NO contacts** | | 1 | | | |
| **Number of NC contacts** | | 1 | | | |
| **Auxiliary contacts – assignment** | | 1 NO for the signal "tripped";<br>1 NC for disconnecting the contactor | | | |
| **Rated insulation voltage $U_i$**<br>(pollution degree 3) | V | 690 | | | |
| **Rated impulse withstand voltage $U_{imp}$** | kV | 6 | | | |
| **Contact rating of the auxiliary contacts** | | | | | |
| • NC, NO contacts with alternating current AC-15, rated operational current $I_e$ at $U_e$ | | | | | |
| - 24 V | A | 3 | | | |
| - 120 V | A | 3 | | | |
| - 125 V | A | 3 | | | |
| - 230 V | A | 2 | | | |
| - 400 V | A | 1 | | | |
| - 600 V | A | 0.75 | | | |
| - 690 V | A | 0.75 | | | |
| • NC, NO contacts with direct current DC-13, rated operational current $I_e$ at $U_e$ | | | | | |
| - 24 V | A | 1 | | | |
| - 110 V | A | 0.22 | | | |
| - 125 V | A | 0.22 | | | |
| - 220 V | A | 0.11 | | | |
| • Contact reliability (suitability for PLC control; 17 V, 5 mA) | | Yes | | | |
| **Short-circuit protection** | | | | | |
| • With fuse | | | | | |
| - Operational class gG | A | 6 | | | |
| - Quick | A | 10 | | | |
| • With miniature circuit breaker (C characteristic) | A | 6 (up to $I_k \leq 0.5$ kA; $U \leq 260$ V) | | | |
| **Reliable operational voltage for protective separation between auxiliary current paths**<br>Acc. to IEC 60947-1 | V | 440 | | | |
| **CSA, UL, UR rated data** | | | | | |
| **Auxiliary circuit – switching capacity** | | B600, R300 | | | |
| **Conductor cross-sections for auxiliary circuit** | | | | | |
| **Connection type** | | **Screw terminals** | | | |
| **Terminal screw** | | M3, Pozidriv size 2 | | | |
| **Operating devices** | mm | ⌀ 5 ... 6 | | | |
| **Prescribed tightening torque** | Nm | 0.8 ... 1.2 | | | |
| **Conductor cross-sections (min./max.),**<br>1 or 2 conductors can be connected | | | | | |
| • Solid or stranded | $mm^2$ | 2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1] | | | |
| • Finely stranded with end sleeve (DIN 46228-1) | $mm^2$ | 2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1] | | | |
| • AWG cables, solid or stranded | AWG | 2 x (20 ... 16)[1], 2 x (18 ... 14)[1] | | | |
| **Connection type** | | **Spring-type terminals** | | | |
| **Operating devices** | mm | 3.0 x 0.5 and 3.5 x 0.5 | | | |
| **Conductor cross-sections (min./max.),**<br>1 or 2 conductors can be connected | | | | | |
| • Solid or stranded | $mm^2$ | 2 x (0.5 ... 2.5) | | | |
| • Finely stranded without end sleeve | $mm^2$ | 2 x (0.5 ... 2.5) | | | |
| • Finely stranded with end sleeve (DIN 46228-1) | $mm^2$ | 2 x (0.5 ... 1.5) | | | |
| • AWG cables, solid or stranded | AWG | 2 x (20 ... 14) | | | |

[1] If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

## Selection and ordering data

### *3RU21 thermal overload relays for mounting onto contactor[1], sizes S00 and S0, CLASS 10*

Features and technical specifications:

- Connection methods
  Main and auxiliary circuit: Either screw or spring-type terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) =1
PS* =1 UNIT
PG =41F


3RU2116-4AB0


3RU2116-4AC0


3RU2126-4FB0


3RU2126-4AC0

| Size contactor | Trip class | Rated power for three-phase motors, rated value[2] | Current setting value of the inverse-time delayed overload release | Short-circuit protection with fuse, type of coordination "2", operational class gG[3] | SD | **Screw terminals** | SD | **Spring-type terminals** |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Article No. / Price per PU | | Article No. / Price per PU |
| | Class | kW | A | A | d | | d | |
| **Size S00** | | | | | | | | |
| S00 | 10 | 0.04 | 0.11 ... 0.16 | 0.5 | ▶ | **3RU2116-0AB0** | 5 | **3RU2116-0AC0** |
| | 10 | 0.06 | 0.14 ... 0.2 | 1 | ▶ | **3RU2116-0BB0** | 5 | **3RU2116-0BC0** |
| | 10 | 0.06 | 0.18 ... 0.25 | 1 | ▶ | **3RU2116-0CB0** | 5 | **3RU2116-0CC0** |
| | 10 | 0.09 | 0.22 ... 0.32 | 1.6 | ▶ | **3RU2116-0DB0** | 5 | **3RU2116-0DC0** |
| | 10 | 0.09 | 0.28 ... 0.4 | 2 | ▶ | **3RU2116-0EB0** | 5 | **3RU2116-0EC0** |
| | 10 | 0.12 | 0.35 ... 0.5 | 2 | ▶ | **3RU2116-0FB0** | 5 | **3RU2116-0FC0** |
| | 10 | 0.18 | 0.45 ... 0.63 | 2 | ▶ | **3RU2116-0GB0** | 5 | **3RU2116-0GC0** |
| | 10 | 0.18 | 0.55 ... 0.8 | 4 | ▶ | **3RU2116-0HB0** | 5 | **3RU2116-0HC0** |
| | 10 | 0.25 | 0.7 ... 1 | 4 | ▶ | **3RU2116-0JB0** | 5 | **3RU2116-0JC0** |
| | 10 | 0.37 | 0.9 ... 1.25 | 4 | ▶ | **3RU2116-0KB0** | 5 | **3RU2116-0KC0** |
| | 10 | 0.55 | 1.1 ... 1.6 | 6 | ▶ | **3RU2116-1AB0** | 5 | **3RU2116-1AC0** |
| | 10 | 0.75 | 1.4 ... 2 | 6 | ▶ | **3RU2116-1BB0** | 5 | **3RU2116-1BC0** |
| | 10 | 0.75 | 1.8 ... 2.5 | 10 | ▶ | **3RU2116-1CB0** | 5 | **3RU2116-1CC0** |
| | 10 | 1.1 | 2.2 ... 3.2 | 10 | ▶ | **3RU2116-1DB0** | 5 | **3RU2116-1DC0** |
| | 10 | 1.5 | 2.8 ... 4 | 16 | ▶ | **3RU2116-1EB0** | 5 | **3RU2116-1EC0** |
| | 10 | 1.5 | 3.5 ... 5 | 20 | ▶ | **3RU2116-1FB0** | 5 | **3RU2116-1FC0** |
| | 10 | 2.2 | 4.5 ... 6.3 | 20 | ▶ | **3RU2116-1GB0** | 5 | **3RU2116-1GC0** |
| | 10 | 3 | 5.5 ... 8 | 25 | ▶ | **3RU2116-1HB0** | 5 | **3RU2116-1HC0** |
| | 10 | 4 | 7 ... 10 | 35 | ▶ | **3RU2116-1JB0** | 5 | **3RU2116-1JC0** |
| | 10 | 5.5 | 9 ... 12.5 | 35 | ▶ | **3RU2116-1KB0** | 5 | **3RU2116-1KC0** |
| | 10 | 7.5 | 11 ... 16 | 40 | ▶ | **3RU2116-4AB0** | 5 | **3RU2116-4AC0** |
| **Size S0** | | | | | | | | |
| S0 | 10 | 0.75 | 1.8 ... 2.5 | 10 | ▶ | **3RU2126-1CB0** | 5 | **3RU2126-1CC0** |
| | 10 | 1.1 | 2.2 ... 3.2 | 10 | ▶ | **3RU2126-1DB0** | 5 | **3RU2126-1DC0** |
| | 10 | 1.5 | 2.8 ... 4 | 16 | ▶ | **3RU2126-1EB0** | 5 | **3RU2126-1EC0** |
| | 10 | 1.5 | 3.5 ... 5 | 20 | ▶ | **3RU2126-1FB0** | 5 | **3RU2126-1FC0** |
| | 10 | 2.2 | 4.5 ... 6.3 | 20 | ▶ | **3RU2126-1GB0** | 5 | **3RU2126-1GC0** |
| | 10 | 3 | 5.5 ... 8 | 25 | ▶ | **3RU2126-1HB0** | 5 | **3RU2126-1HC0** |
| | 10 | 4 | 7 ... 10 | 35 | ▶ | **3RU2126-1JB0** | 5 | **3RU2126-1JC0** |
| | 10 | 5.5 | 9 ... 12.5 | 35 | ▶ | **3RU2126-1KB0** | 5 | **3RU2126-1KC0** |
| | 10 | 7.5 | 11 ... 16 | 40 | ▶ | **3RU2126-4AB0** | ▶ | **3RU2126-4AC0** |
| | 10 | 7.5 | 14 ... 20 | 50 | ▶ | **3RU2126-4BB0** | ▶ | **3RU2126-4BC0** |
| | 10 | 11 | 17 ... 22 | 63 | ▶ | **3RU2126-4CB0** | ▶ | **3RU2126-4CC0** |
| | 10 | 11 | 20 ... 25 | 63 | ▶ | **3RU2126-4DB0** | ▶ | **3RU2126-4DC0** |
| | 10 | 15 | 23 ... 28 | 63 | ▶ | **3RU2126-4NB0** | ▶ | **3RU2126-4NC0** |
| | 10 | 15 | 27 ... 32 | 80 | ▶ | **3RU2126-4EB0** | ▶ | **3RU2126-4EC0** |
| | 10 | 18.5 | 30 ... 36 | 80 | ▶ | **3RU2126-4PB0** | ▶ | **3RU2126-4PC0** |
| | 10 | 18.5 | 34 ... 40 | 80 | ▶ | **3RU2126-4FB0** | ▶ | **3RU2126-4FC0** |

[1] With the appropriate terminal supports (see "Accessories", page 7/92), the 3RU2 overload relays for mounting on contactors can also be installed as stand-alone units.

[2] Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

[3] Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.



*** You can order this quantity or a multiple thereof.**
**Illustrations are approximate**

## *3RU21 thermal overload relays for mounting onto contactor[1], sizes S2 and S3, CLASS 10 or 10A*

Features and technical specifications:

- Connection methods
  - Main circuit: Screw terminals with box terminal
  - Auxiliary circuit: Either screw or spring-type terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) =1
PS* =1 UNIT
PG =41F


3RU2136-4.B0


3RU2136-4.D0


3RU2146-4.B0


3RU2146-4.D0

| Size contactor | Trip class | Rated power for three-phase motors, rated value[2] | Current setting value of the inverse-time delayed overload release | Short-circuit protection with fuse, type of coordination "2", operational class gG[3] | SD | **Screw terminals** | SD | **Spring-type terminals** (on auxiliary current side) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Article No. Price per PU | | Article No. Price per PU |
| | Class | kW | A | A | d | | d | |
| **Size S2** | | | | | | | | |
| S2 | 10 NEW | 3 | 5.5 ... 8 | 25 | 5 | **3RU2136-1HB0** | 5 | **3RU2136-1HD0** |
| | 10 NEW | 4 | 7 ... 10 | 35 | 5 | **3RU2136-1JB0** | 5 | **3RU2136-1JD0** |
| | 10 NEW | 5.5 | 9 ... 12.5 | 35 | 5 | **3RU2136-1KB0** | 5 | **3RU2136-1KD0** |
| | 10 | 7.5 | 11 ... 16 | 40 | 5 | **3RU2136-4AB0** | 5 | **3RU2136-4AD0** |
| | 10 | 7.5 | 14 ... 20 | 50 | 5 | **3RU2136-4BB0** | 5 | **3RU2136-4BD0** |
| | 10 | 11 | 18 ... 25 | 63 | 5 | **3RU2136-4DB0** | 5 | **3RU2136-4DD0** |
| | 10 | 15 | 22 ... 32 | 80 | 5 | **3RU2136-4EB0** | 5 | **3RU2136-4ED0** |
| | 10 | 18.5 | 28 ... 40 | 80 | 5 | **3RU2136-4FB0** | 5 | **3RU2136-4FD0** |
| | 10 | 22 | 36 ... 45 | 100 | ▶ | **3RU2136-4GB0** | ▶ | **3RU2136-4GD0** |
| | 10 | 22 | 40 ... 50 | 100 | ▶ | **3RU2136-4HB0** | ▶ | **3RU2136-4HD0** |
| | 10 | 30 | 47 ... 57 | 100 | ▶ | **3RU2136-4QB0** | ▶ | **3RU2136-4QD0** |
| | 10 | 30 | 54 ... 65 | 125 | ▶ | **3RU2136-4JB0** | ▶ | **3RU2136-4JD0** |
| | 10A | 37 | 62 ... 73 | 160 | ▶ | **3RU2136-4KB0** | ▶ | **3RU2136-4KD0** |
| | 10A | 37 | 70 ... 80 | 160 | ▶ | **3RU2136-4RB0** | ▶ | **3RU2136-4RD0** |
| **Size S3** | | | | | | | | |
| S3 | 10 | 18.5 | 28 ... 40 | 80 | 1 | **3RU2146-4FB0** | 5 | **3RU2146-4FD0** |
| | 10 | 22 | 36 ... 50 | 125 | 1 | **3RU2146-4HB0** | 5 | **3RU2146-4HD0** |
| | 10 | 30 | 45 ... 63 | 125 | 1 | **3RU2146-4JB0** | 1 | **3RU2146-4JD0** |
| | 10 | 37 | 57 ... 75 | 160 | 1 | **3RU2146-4KB0** | 1 | **3RU2146-4KD0** |
| | 10 | 45 | 70 ... 90 | 160 | 1 | **3RU2146-4LB0** | 1 | **3RU2146-4LD0** |
| | 10 | 45 | 80 ... 100[4] | 200 | 1 | **3RU2146-4MB0** | 1 | **3RU2146-4MD0** |

[1] With the appropriate terminal supports (see "Accessories", page 7/92), the 3RU2 overload relays for mounting on contactors can also be installed as stand-alone units.

[2] Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

[3] Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.

[4] For overload relays > 100 A, see 3RB2 electronic overload relays, page 7/106 onwards.

* You can order this quantity or a multiple thereof.
Illustrations are approximate

## 3RU2 for standard applications *IE3/IE4 ready*

***3RU21 thermal overload relays for stand-alone installation, sizes S00 and S0, CLASS 10***

Features and technical specifications:

- Connection methods
  Main and auxiliary circuit: Either screw or spring-type terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) =1
PS* =1 UNIT
PG =41F


3RU2116-..B1


3RU2116-..C1


3RU2126-..B1


3RU2126-..C1

| Size contactor | Trip class | Rated power for three-phase motors, rated value[1] | Current setting value of the inverse-time delayed overload release | Short-circuit protection with fuse, type of coordination "2", operational class gG[2] | SD | **Screw terminals** | SD | **Spring-type terminals** |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Article No. / Price per PU | | Article No. / Price per PU |
| | Class | kW | A | A | d | | d | |
| **Size S00** | | | | | | | | |
| S00 | 10 | 0.04 | 0.11 ... 0.16 | 0.5 | 5 | **3RU2116-0AB1** | 5 | **3RU2116-0AC1** |
| | 10 | 0.06 | 0.14 ... 0.2 | 1 | 5 | **3RU2116-0BB1** | 5 | **3RU2116-0BC1** |
| | 10 | 0.06 | 0.18 ... 0.25 | 1 | 5 | **3RU2116-0CB1** | 5 | **3RU2116-0CC1** |
| | 10 | 0.09 | 0.22 ... 0.32 | 1.6 | 5 | **3RU2116-0DB1** | 5 | **3RU2116-0DC1** |
| | 10 | 0.09 | 0.28 ... 0.4 | 2 | 5 | **3RU2116-0EB1** | 5 | **3RU2116-0EC1** |
| | 10 | 0.12 | 0.35 ... 0.5 | 2 | 5 | **3RU2116-0FB1** | 5 | **3RU2116-0FC1** |
| | 10 | 0.18 | 0.45 ... 0.63 | 2 | 5 | **3RU2116-0GB1** | 5 | **3RU2116-0GC1** |
| | 10 | 0.18 | 0.55 ... 0.8 | 4 | 5 | **3RU2116-0HB1** | 5 | **3RU2116-0HC1** |
| | 10 | 0.25 | 0.7 ... 1 | 4 | 5 | **3RU2116-0JB1** | 5 | **3RU2116-0JC1** |
| | 10 | 0.37 | 0.9 ... 1.25 | 4 | 5 | **3RU2116-0KB1** | 5 | **3RU2116-0KC1** |
| | 10 | 0.55 | 1.1 ... 1.6 | 6 | 5 | **3RU2116-1AB1** | 5 | **3RU2116-1AC1** |
| | 10 | 0.75 | 1.4 ... 2 | 6 | 5 | **3RU2116-1BB1** | 5 | **3RU2116-1BC1** |
| | 10 | 0.75 | 1.8 ... 2.5 | 10 | 5 | **3RU2116-1CB1** | 5 | **3RU2116-1CC1** |
| | 10 | 1.1 | 2.2 ... 3.2 | 10 | 5 | **3RU2116-1DB1** | 5 | **3RU2116-1DC1** |
| | 10 | 1.5 | 2.8 ... 4 | 16 | 5 | **3RU2116-1EB1** | 5 | **3RU2116-1EC1** |
| | 10 | 1.5 | 3.5 ... 5 | 20 | 5 | **3RU2116-1FB1** | 5 | **3RU2116-1FC1** |
| | 10 | 2.2 | 4.5 ... 6.3 | 20 | 5 | **3RU2116-1GB1** | 5 | **3RU2116-1GC1** |
| | 10 | 3 | 5.5 ... 8 | 25 | 5 | **3RU2116-1HB1** | 5 | **3RU2116-1HC1** |
| | 10 | 4 | 7 ... 10 | 35 | 5 | **3RU2116-1JB1** | 5 | **3RU2116-1JC1** |
| | 10 | 5.5 | 9 ... 12.5 | 35 | 5 | **3RU2116-1KB1** | 5 | **3RU2116-1KC1** |
| | 10 | 7.5 | 11 ... 16 | 40 | 5 | **3RU2116-4AB1** | 5 | **3RU2116-4AC1** |
| **Size S0** | | | | | | | | |
| S0 | 10 | 7.5 | 14 ... 20 | 50 | 5 | **3RU2126-4BB1** | 5 | **3RU2126-4BC1** |
| | 10 | 11 | 17 ... 22 | 63 | 5 | **3RU2126-4CB1** | 5 | **3RU2126-4CC1** |
| | 10 | 11 | 20 ... 25 | 63 | 5 | **3RU2126-4DB1** | 5 | **3RU2126-4DC1** |
| | 10 | 15 | 23 ... 28 | 63 | 5 | **3RU2126-4NB1** | 5 | **3RU2126-4NC1** |
| | 10 | 15 | 27 ... 32 | 80 | 5 | **3RU2126-4EB1** | 5 | **3RU2126-4EC1** |
| | 10 | 18.5 | 30 ... 36 | 80 | 5 | **3RU2126-4PB1** | 5 | **3RU2126-4PC1** |
| | 10 | 18.5 | 34 ... 40 | 80 | 5 | **3RU2126-4FB1** | 5 | **3RU2126-4FC1** |

[1] Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

[2] Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.



* You can order this quantity or a multiple thereof.
Illustrations are approximate

***3RU21 thermal overload relays for stand-alone installation, sizes S2 and S3, CLASS 10 or 10A***

Features and technical specifications:

- Connection methods
  - Main circuit: Screw terminals with box terminal
  - Auxiliary circuit: Either screw or spring-type terminals
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) =1
PS* =1 UNIT
PG =41F

3RU2136-..B1

3RU2136-..D1

3RU2146-..B1

3RU2146-..D1

| Size contactor | Trip class | Rated power for three-phase motors, rated value[1] | Current setting value of the inverse-time delayed overload release | Short-circuit protection with fuse, type of coordination "2", operational class gG[2] | SD | **Screw terminals** | SD | **Spring-type terminals** |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Article No. / Price per PU | | Article No. / Price per PU |
| | CLASS | kW | A | A | d | | d | |
| **Size S2** | | | | | | | | |
| S2 | 10 | 15 | 22 ... 32 | 80 | 5 | **3RU2136-4EB1** | 5 | **3RU2136-4ED1** |
| | 10 | 18.5 | 28 ... 40 | 80 | 5 | **3RU2136-4FB1** | 5 | **3RU2136-4FD1** |
| | 10 | 22 | 36 ... 45 | 100 | ▶ | **3RU2136-4GB1** | ▶ | **3RU2136-4GD1** |
| | 10 | 22 | 40 ... 50 | 100 | ▶ | **3RU2136-4HB1** | ▶ | **3RU2136-4HD1** |
| | 10 | 30 | 47 ... 57 | 100 | ▶ | **3RU2136-4QB1** | ▶ | **3RU2136-4QD1** |
| | 10 | 30 | 54 ... 65 | 125 | ▶ | **3RU2136-4JB1** | ▶ | **3RU2136-4JD1** |
| | 10A | 37 | 62 ... 73 | 160 | ▶ | **3RU2136-4KB1** | ▶ | **3RU2136-4KD1** |
| | 10A | 37 | 70 ... 80 | 160 | ▶ | **3RU2136-4RB1** | ▶ | **3RU2136-4RD1** |
| **Size S3** | | | | | | | | |
| S3 | 10 | 30 | 45 ... 63 | 125 | 1 | **3RU2146-4JB1** | 5 | **3RU2146-4JD1** |
| | 10 | 37 | 57 ... 75 | 160 | 1 | **3RU2146-4KB1** | 5 | **3RU2146-4KD1** |
| | 10 | 45 | 70 ... 90 | 160 | 1 | **3RU2146-4LB1** | 5 | **3RU2146-4LD1** |
| | 10 | 45 | 80 ... 100[3] | 200 | 1 | **3RU2146-4MB1** | X | **3RU2146-4MD1** |

1) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

2) Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see Configuration Manual.

3) For overload relays > 100 A, see 3RB2 electronic overload relays, page 7/106 onwards.



*** You can order this quantity or a multiple thereof.**
**Illustrations are approximate**

## Overview

The following optional accessories are available for the 3RU21 thermal overload relays:

- Size-specific terminal support for stand-alone installation, in sizes S00 and S0 also with spring-type terminals
- Mechanical RESET (for all sizes)
- Cable release for resetting devices which are difficult to access (for all sizes)
- Electrical remote RESET module in three voltage variants (for all sizes)
- Sealable cover (for all sizes)
- Terminal covers for devices with screw terminals (box terminals) and ring terminal lug connections

## Selection and ordering data

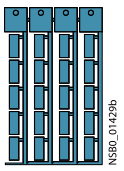
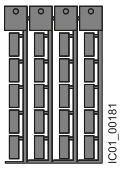
| | Version | Size | SD | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|---|---|---|---|---|---|---|---|---|
| | | | d | | | | | |
| **Terminal supports for stand-alone installation** | | | | | | | | |
|  3RU2916-3AA01 | **Terminal supports for overload relays with screw terminals** | | | **Screw terminals** | | | | |
| | For separate mounting of the overload relays; screw and snap-on mounting onto standard mounting rail | S00 | ▶ | **3RU2916-3AA01** | | 1 | 1 unit | 41F |
| | | S0 | ▶ | **3RU2926-3AA01** | | 1 | 1 unit | 41F |
| | | S2 | ▶ | **3RU2936-3AA01** | | 1 | 1 unit | 41F |
| | | S3 | 1 | **3RU2946-3AA01** | | 1 | 1 unit | 41F |
|  3RU2926-3AA01 | **Terminal supports for overload relays with spring-type terminals** | | | **Spring-type terminals** | | | | |
| | For separate mounting of the overload relays; screw and snap-on mounting onto standard mounting rail | S00 | 5 | **3RU2916-3AC01** | | 1 | 1 unit | 41F |
| | | S0 | 5 | **3RU2926-3AC01** | | 1 | 1 unit | 41F |
|  3RU2936-3AA01 | | | | | | | | |
|  3RU2946-3AA01 | | | | | | | | |
|  3RU2916-3AC01 | | | | | | | | |
|  3RU2926-3AC01 | | | | | | | | |
| **Mechanical RESET** | | | | | | | | |
|  3RU2900-1A with pushbutton and extension plunger | **Resetting plungers, holders and formers** | S00 ... S3 | ▶ | **3RU2900-1A** | | 1 | 1 unit | 41F |
| | **Pushbuttons with extended stroke** (12 mm), IP65, ⌀ 22 mm | S00 ... S3 | ▶ | **3SU1200-0FB10-0AA0** | | 1 | 1 unit | 41J |
| | **Extension plungers** For compensation of the distance between the pushbutton and the unlatching button of the relay | S00 ... S3 | ▶ | **3SU1900-0KG10-0AA0** | | 1 | 1 unit | 41J |



* You can order this quantity or a multiple thereof.
Illustrations are approximate

| | Version | Size | SD | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|---|---|---|---|---|---|---|---|---|
| | | | d | | | | | |
| **Cable releases with holder for RESET** | | | | | | | | |
|  3RU2900-1. | For ⌀ 6.5 mm holes in the control panel; max. control panel thickness 8 mm | | | | | | | |
| | • Length 400 mm | S00 ... S3 | ▶ | **3RU2900-1B** | | 1 | 1 unit | 41F |
| | • Length 600 mm | S00 ... S3 | ▶ | **3RU2900-1C** | | 1 | 1 unit | 41F |
| **Modules for remote RESET, electrical** | | | | | | | | |
|  3RU1900-2A.71 | Operating range 0.85 ... 1.1 x $U_s$, Power consumption 80 VA AC, 70 W DC, ON time 0.2 ... 4 s, Switching frequency 60/h | | | | | | | |
| | • 24 ... 30 V AC/DC | S00 ... S3 | 2 | **3RU1900-2AB71** | | 1 | 1 unit | 41F |
| | • 110 ... 127 V AC/DC | S00 ... S3 | 2 | **3RU1900-2AF71** | | 1 | 1 unit | 41F |
| | • 220 ... 250 V AC/DC | S00 ... S3 | 2 | **3RU1900-2AM71** | | 1 | 1 unit | 41F |
| **Sealable covers** | | | | | | | | |
|  3RV2908-0P | For covering the setting knobs | S00 ... S3 | ▶ | **3RV2908-0P** | | 100 | 10 units | 41E |
| **Terminal covers** | | | | | | | | |
|  3RT2936-4EA2 | **Covers for devices with screw terminals (box terminals)** Additional touch protection for fastening to the box terminals | | | **Screw terminals** | | | | |
| | • Main current level | S2 | 2 | **3RT2936-4EA2** | | 1 | 1 unit | 41B |
| | | S3 | ▶ | **3RT2946-4EA2** | | 1 | 1 unit | 41B |

## *General accessories*

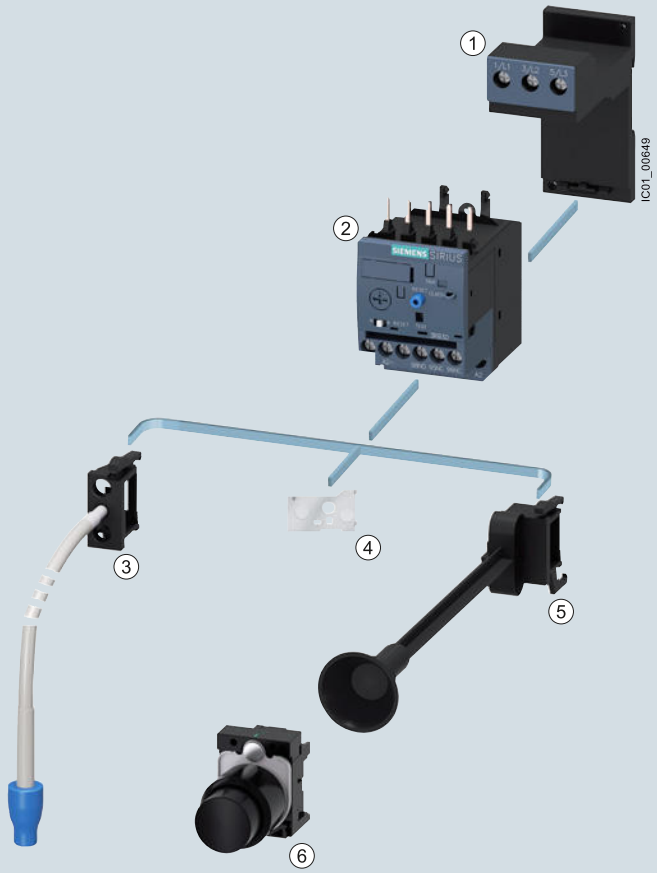
| | Version | Size | Color | For overload relays | SD | Article No. | Price per PU | PU (UNIT, SET, M) | PS* | PG |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | d | | | | | |
| **Tools for opening spring-type terminals** | | | | | | | | | | |
|  3RA2908-1A | **Screwdrivers** For all SIRIUS devices with spring-type terminals | Length approx. 200 mm, 3.0 mm x 0.5 mm | Titanium gray/ black, partially insulated | Main and auxiliary circuit connection: 3RU2 | 2 | **Spring-type terminals** **3RA2908-1A** | | 1 | 1 unit | 41B |
| **Blank labels** | | | | | | | | | | |
|  3RT1900-1SB20 | **Unit labeling plates**[1] For SIRIUS devices | 20 mm x 7 mm | Pastel turquoise | 3RU2 | 20 | **3RT1900-1SB20** | | 100 | 340 units | 41B |
| | | 20 mm x 7 mm | Titanium gray | 3RU2 | 20 | **3RT2900-1SB20** | | 100 | 340 units | 41B |
| | **Adhesive inscription labels**[1] For SIRIUS devices | 19 mm x 6 mm | Pastel turquoise | 3RU2 | 15 | **3RT1900-1SB60** | | 100 | 3 060 units | 41B |
|  3RT2900-1SB20 | | 19 mm x 6 mm | Zinc yellow | 3RU2 | 15 | **3RT1900-1SD60** | | 100 | 3 060 units | 41B |

[1] PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/15).

* You can order this quantity or a multiple thereof.
Illustrations are approximate

## Overview

| More information | |
|---|---|
| Homepage, see http://www.siemens.com/sirius-overloadrelays | Application Manual "Controls with IE3/IE4 Motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820 |
| Industry Mall, see www.siemens.com/product?3RB3 | Manual "SIRIUS – SIRIUS 3RU Thermal Overload Relays / SIRIUS 3RB Electronic Overload Relays", see https://support.industry.siemens.com/cs/ww/en/view/60298164 |
| TIA Selection Tool Cloud (TST Cloud), see https://mall.industry.siemens.com/spice/TSTWeb?kmat=ElectronicOverloadRelay | Characteristics and certificates, see https://support.industry.siemens.com/cs/ww/en/ps/16276 |
| Conversion tool, e.g. from 3RB20/3RB211 to 3RB30/3RB31, see www.siemens.com/sirius/conversion-tool | |




1. Stand-alone assembly support for 3RU2 and 3RB3
2. 3RB30, 3RB31 electronic overload relay, sizes S00 to S3

Mountable accessories

3. Cable release with holder for RESET
4. Sealable cover
5. Mechanical RESET
6. Pushbutton

Mountable accessories for 3RB30 and 3RB31 electronic overload relays