

Integrated Motor Protection for High-Feature Applications

SIRIUS 3RB24 Solid-State Overload Relays with Complete Starter Functionality via IO-Link



SIRIUS Overload Relays

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SIRIUS 3RB24 Communication-Capable Overload Relays for IO-Link

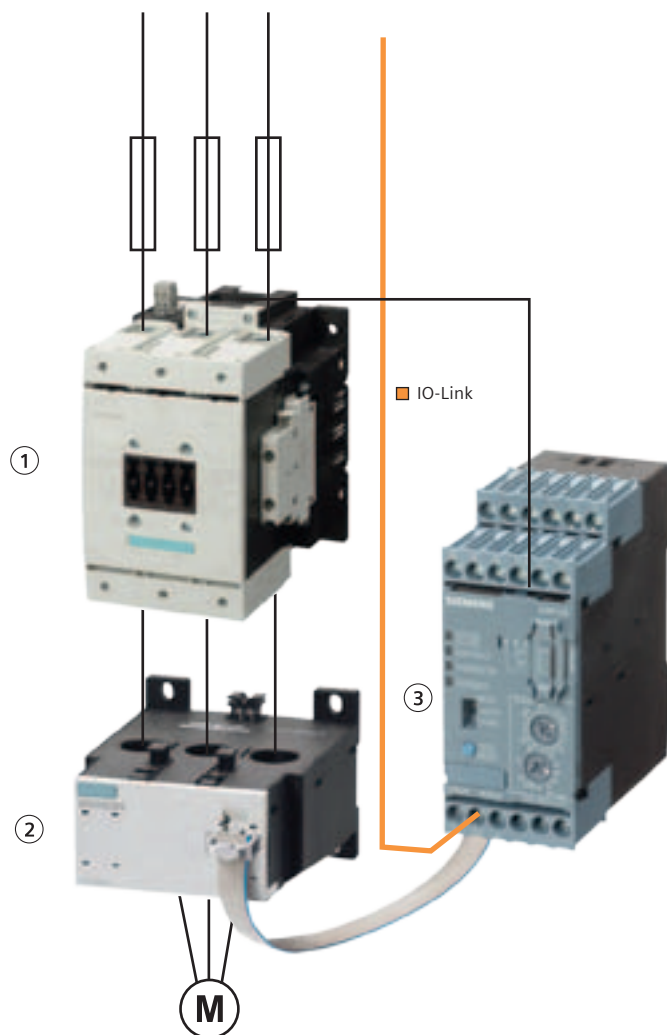


The new SIRIUS 3RB24 solid-state overload relay for IO-Link offers real communication advantages: In addition to the tried-and-tested characteristics of the SIRIUS 3RB22 solid-state overload relay, the new overload relay for IO-Link allows for, amongst others, the read-out of current values, diagnostics and locally set parameters. As part of the SIRIUS modular system and in combination with contactors, the overload relay can also be employed as a direct-on-line, reversing and star-delta starter. The SIRIUS 3RB24 overload relay also supports the assembly of compact load feeders for current ratings up to 820 A and their connection to the higher-level control via IO-Link.

Highlights

- Full starter functionality (direct-on-line, reversing and star-delta) in combination with SIRIUS 3RT contactors
- Read-out of comprehensive diagnostic information such as overload, wire break, ground fault, etc.
- Read-out of current values
- Read-out of all assigned parameters (e.g. for your system documentation)
- Direct voltage supply via IO-Link (24 V DC)
- Trip classes 5, 10, 20, 30 (adjustable) offer solutions for normal and heavy-duty start-up
- Full motor protection thanks to connection of a Positive Temperature Coefficient thermistor sensor (thermistor motor protection)
- Modular device concept consisting of current detection and evaluation module
- Maximum flexibility with application of the optional operator panel
- Compliance with all relevant standards and approvals worldwide (also ATEX certification for explosive motors)

Starter Combinations also for Large Frame Sizes



Communication-capable connection to the control via IO-Link

The starter combination typically consists of the following components:

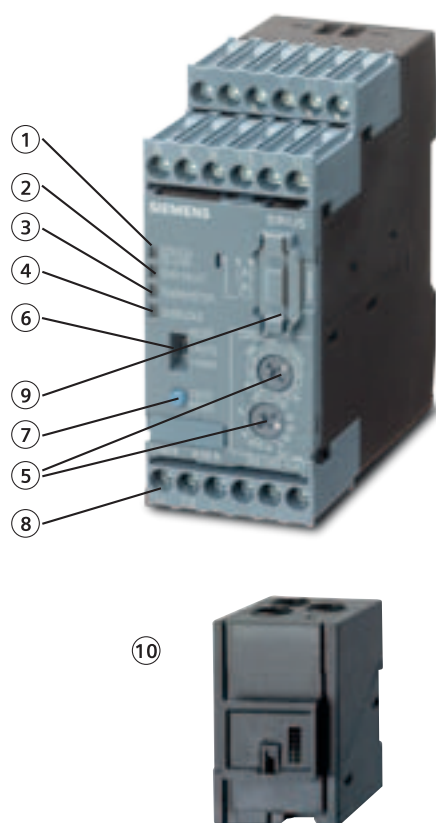
- one or more SIRIUS 3RT contactors ① (for direct-on-line, reversing or star-delta combination),
- a SIRIUS 3RB29 current detection module ②, and
- the SIRIUS 3RB24 solid-state overload relay for IO-Link ③.

With this starter combination, currents of up to 820 A can be covered; the IO-Link connection facilitates communication with the superior control.

- ① Contactor
- ② Current measuring module
- ③ Overload relay for IO-Link



Technology in Detail



① LED "device/IO-Link"

This LED provides information on the current device state and IO-Link communication.

② Red LED "ground fault"

This LED indicates a ground-fault tripping event, e.g. due to humidity, condensation water, insulation damage, etc.

③ Red LED "thermistor"

This LED indicates a thermistor tripping event.

④ Red LED "overload"

Red continuous lighting of this LED indicates an overload tripping event. Red flashing of this LED indicates a pending tripping event (overload warning).

⑤ Rotary switches for motor current and trip class setting

These switches allow for easy setting of the device's motor current and the required trip class – depending on the start-up conditions.

⑥ Selection switch for manual/automatic reset

This switch offers the choice between manual and automatic reset.

⑦ Test/reset button

This button enables the testing of all important device components and functions. In addition, with manual reset, device resetting after a tripping event is supported. Alternatively, a reset can be realized automatically, remotely (integrated remote reset) or by means of communication.

⑧ Connection terminals (removable terminal block)

Thanks to the terminals' generous design, they support the connection of two conductors with different cross-sections for the auxiliary, control and sensor circuits (alternatively possible with spring-loaded connection system).

⑨ Operator Panel Interface

This interface allows for easy connection of the optional 3RA6935 operator panel for on-site operation.

⑩ Current detection module

This module detects the actual motor current and is connected to the 3RB24 via a connecting cable (3RB29 87).

Size	Adjustment range A	Order No. current detection module	Order No. connecting cable	Order No. evaluation module	Order No. accessories (optional)
S00/S0	0.3 ... 3	3RB29 06-2BG1*	3RB29 87-2B	3RB24 83-4AA1 ¹⁾ 3RB24 83-4AC1 ²⁾	3RA69 35-0A (optional operator panel for on-site operation) 3UF79 33-0BA00-0 (connecting cable round)
	2.4 ... 25	3RB29 06-2DG1*	3RB29 87-2B		
S2/S3	10 ... 100	3RB29 06-2JG1*	3RB29 87-2B		
S6	20 ... 200	3RB29 56-2TG2* 3RB29 56-2TH2	3RB29 87-2D		
S10/S12	63 ... 630 (820)	3RB29 66-2WH2	3RB29 87-2D		

*Equipped with straight-through transformer

¹⁾ Screw-type connection

²⁾ Spring-loaded connection

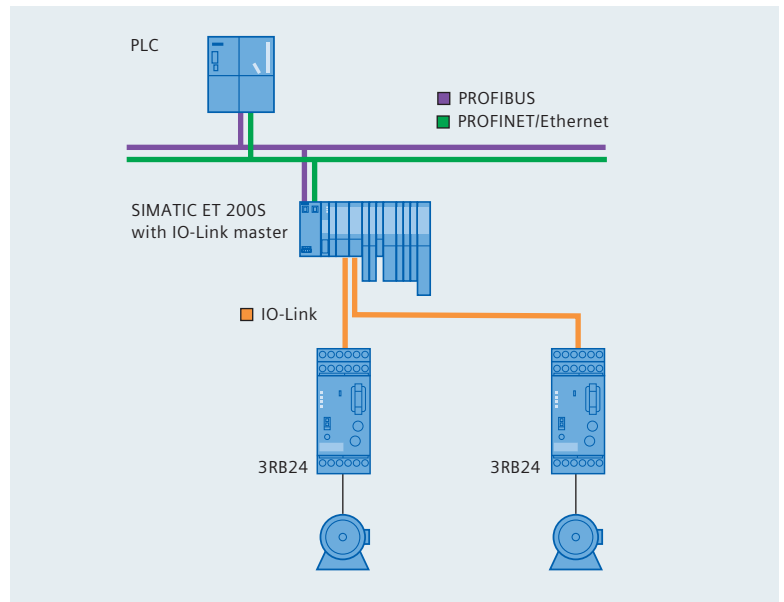
Typical Application with IO-Link Environment

With the new IO-Link standard, you will benefit from your load feeder's connection to the superior control and therefore its integration in your automation environment, e.g. STEP 7.

As the SIRIUS 3RB24 solid-state overload relay supports the transmission of analog process variables like currents, your system processes can be optimized. This allows, amongst others, for the realization of load monitoring.

Further advantages:

Integrated diagnostic functions in the feeder increase system availability. And the readable parameter assignment supports easy system documentation.



Exemplary assembly with optional 3RA69 35-0A operator panel

The optional 3RA69 operator panel enables on-site control and monitoring. Overload function parameters will exclusively be assigned on the device.



Siemens AG
Industry Sector
Industry Automation
Control Components and Systems Engineering
P.O. Box 23 55
90713 FUERTH, GERMANY

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