

SIRIUS 3RV1 Motor Starter Protectors/Circuit Breakers up to 100A

3RV1 motor starter protectors are compact, current limiting motor starter protectors which are optimized for load feeders. The motor starter protectors are used for switching and protecting three-phase induction motors of up to 45 kW at 400 V AC and for other loads with rated currents of up to 100 A.

3RV1 motor starter protectors are usually approved compliant with IEC and UL/CSA.

According to UL 508 the 3RV1 motor starter protectors in sizes S2 and S3 are approved as

Manual motor controller

- Manual Motor Controllers for Group Installations
- Manual Motor Controllers Suitable for Tab Conductor Protection in Group Installations
- Self-Protected Combination Motor Controller (Type E)
- This approval is not valid for size S00, and 3RV10 motor starter protectors in size S0 and S3 have to be equipped with additional feeder terminals.
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3RV2 circuit breakers in sizes S00 and S0 to 40 A, see "Circuit breakers SIRIUS 3RV2 to 40 A".

The 3RV17 and 3RV18 are approved as circuit breakers according to UL489; they are a special variant of the 3RV1 motor starter protectors.

Type of construction

The 3RV1 circuit breakers are available in four sizes:

- Size S00 - width 45 mm, max. rated current 12 A, at 400 V AC suitable for induction motors up to 5.5 kW
- Size S0 - width 45 mm, max. rated current 25 A, at 400 V AC suitable for induction motors up to 11 kW
- Size S2 - width 55 mm, max. rated current 50 A, at 400 V AC suitable for induction motors up to 22 kW
- Size S3 - width 70 mm, max. rated current 100 A, at 400 V AC suitable for induction motors up to 45 kW

Size S00 circuit breakers 3RV2 to 15 A see "SIRIUS 3RV2 circuit breakers to 40 A".

Circuit breakers acc. to UL 489

The 3RV17 and 3RV18 circuit breakers are available in 2 sizes:

- Size S0 – width 45 mm
3RV17 21: maximum rated current 22 A at 480 Y/277 V AC
3RV18 21: maximum rated current 20 A at 480 Y/277 V AC
- Size S3 – width 70 mm
3RV17 42: max. rated current 70 A at 480 Y/277 V AC
max. rated current 10 A to 30 A at 480 V AC
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For 3RV27 and 3RV28 to 15 A circuit breakers in size S00, see "Circuit breakers SIRIUS 3RV2 to 40 A".

Connection method

The SIRIUS 3RV1 motor starter protectors can be supplied with screw terminals, spring-type terminals, and ring terminal lug connection.

"Increased safety" EEx e type of protection according to ATEX directive 94/9/EC

The 3RV10 motor starter protectors for motor protection are suitable for the overload protection of explosion-proof motors with "increased safety" EEx e type of protection. see <http://www.siemens.de/sirius/atex>.

Application

Operating conditions

3RV1 motor starter protectors are suitable for use in any climate. They are intended for use in enclosed rooms in which no severe operating conditions (such as dust, caustic vapors, hazardous gases) prevail. When installed in dusty and damp areas, suitable enclosures must be provided.

3RV1 motor starter protectors can optionally be fed from the top or from below.

The permissible ambient temperatures, the maximum switching capacities, the tripping currents and other boundary conditions can be found in the technical specifications and tripping characteristics (see <http://www.siemens.com/sirius/support>).

3RV1 motor starter protectors are suitable for operation in IT systems (IT networks). In this case, the different short-circuit breaking capacity in the IT system must be taken into account.

Since operational currents, starting currents and current peaks are different even for motors with identical power ratings due to the inrush current, the motor ratings in the selection tables are only guide values. The specific rated and start-up data of the motor to be protected is always paramount to the choice of the most suitable motor starter protector. This also applies to motor starter protectors for transformer protection.

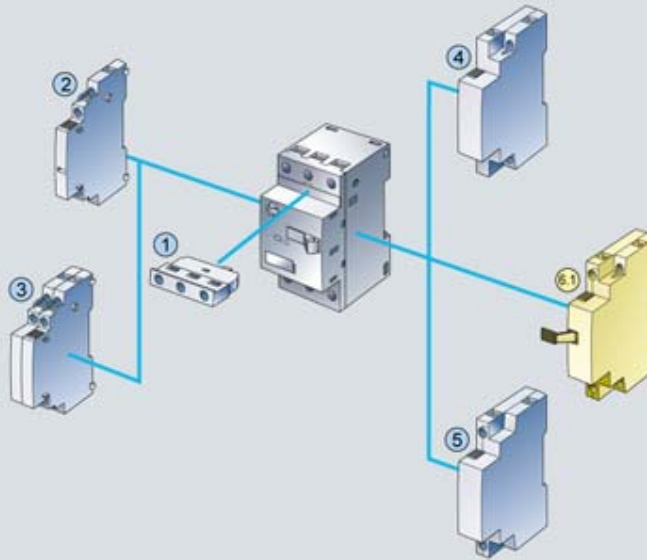
Possible uses

The 3RV1 motor starter protectors can be used:

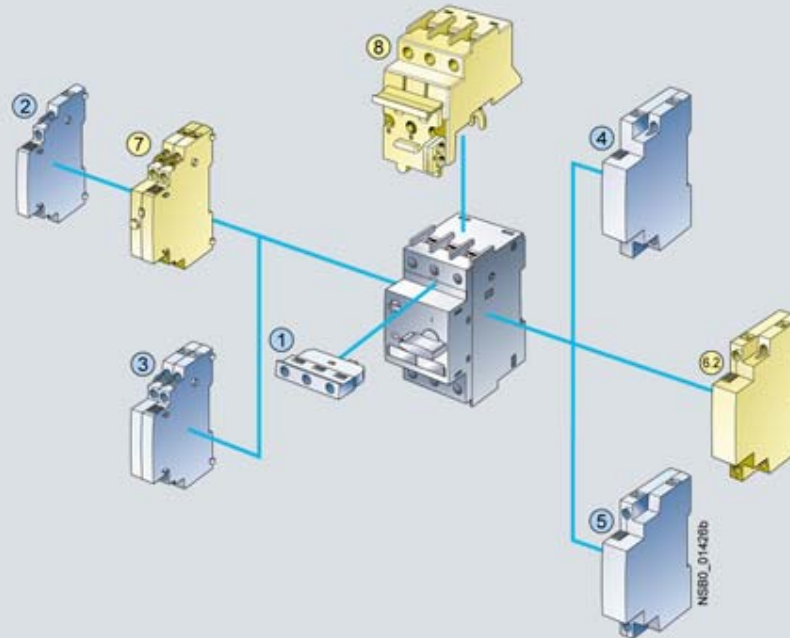
- For short-circuit protection
- For motor protection (also with overload relay function)
- For system protection
- For short-circuit protection for starter combinations
- For transformer protection
- As main and EMERGENCY-STOP switches
- For fuse monitoring
- For operation in IT systems (IT networks)
- For switching of DC currents
- As voltage transformer circuit breakers
- In areas subject to explosion hazard (ATEX)
- As Circuit Breaker according to UL 489 (3RV17 and 3RV18)

For more information, see <http://www.siemens.com/sirius/support> .

Motor starter protectors/circuit breakers, size S00, with mountable accessories



Motor starter protectors/circuit breakers, sizes S0, S2 or S3, with mountable accessories



Mountable accessories for all sizes S00 ... S3

- ① Transverse auxiliary switch (can not be used with 3RV17 and 3RV18 circuit breakers)
- ② Lateral auxiliary switch with 2 contacts
- ③ Lateral auxiliary switch with 4 contacts
- ④ Shunt release
- ⑤ Undervoltage release

Mountable accessories

- ⑥.1 Undervoltage release with leading auxiliary contacts
- ⑥.2 Undervoltage release with leading auxiliary contacts
- ⑦ Alarm switch
- ⑧ Isolator module

For sizes

- S00
- S0 ... S3
- S0 ... S3
- S0, S2