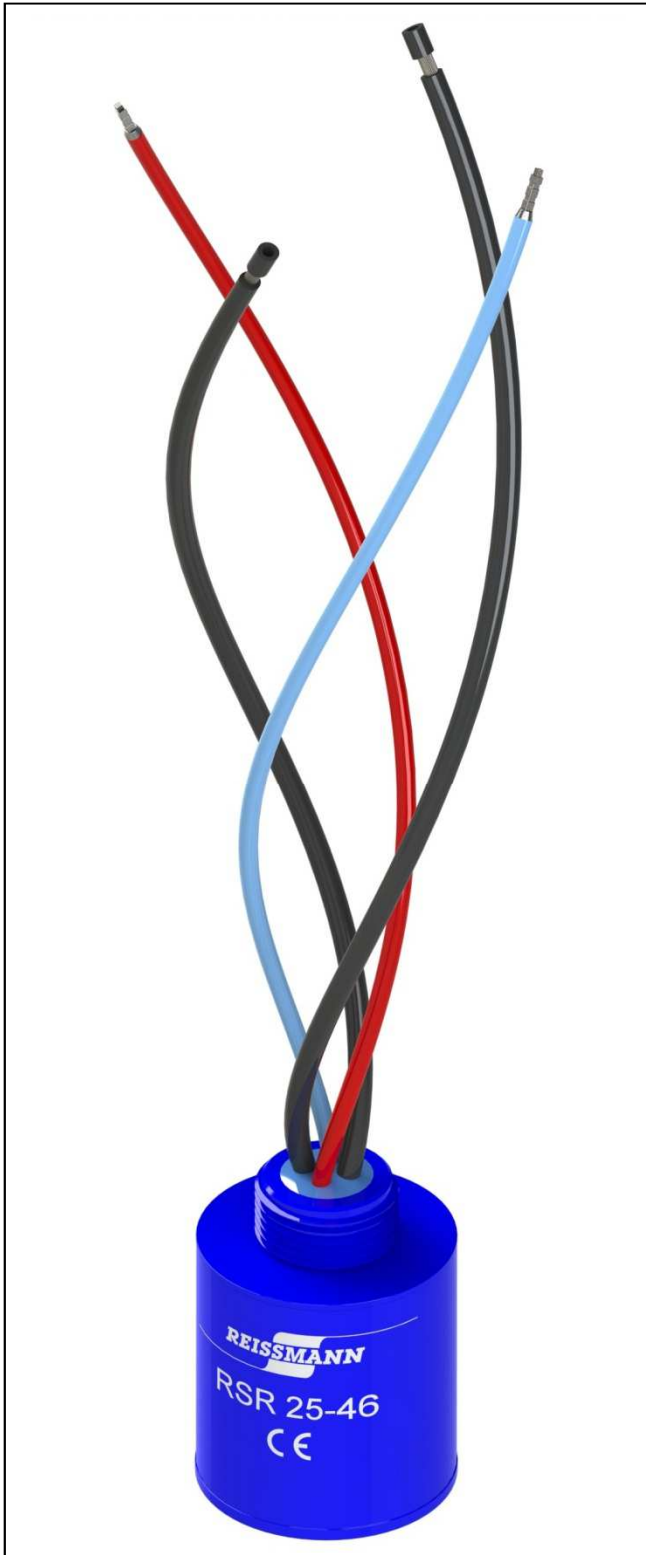


Produkt Information

► Motor and Machine protection

Electronic DC switch:
Reduction of braking time for DC brakes

Type: RSR 10-46S, RSR 25-46 und RSR 50-46



- Basic information

Generator effects can delay the accurately timed action of a DC brake. The electronic DC switch or “current relay” avoids a delayed reaction time in the mechanical brakes of electric motors. The accurately timed braking action prevents damage to people and machines.

- Application

The current relay is used where an electric machine has to be stopped quickly to prevent danger to people or machinery, e.g:

- Cranes
- Lifts
- Elevating machines
- Machine tools

- General function

The current relay interrupts electronically and contact free the power supply to the brake coil, which instantly causes its demagnetization. The result is a strongly reduced braking time of the motor.

- Advantages

- Fast demagnetization of the brake.
- Shortening of the reaction time of the motor brake.
- Faster set of the brake.
- Faster build-up of the braking torque.
- Short braking distances with a high repeat accuracy.
- Contact free switching of the current of the braking coils.
- Increased motor life.
- Decreased initial symmetrical short-circuit current.
- Greater safety with elevating machines and machine tools.

- Certification

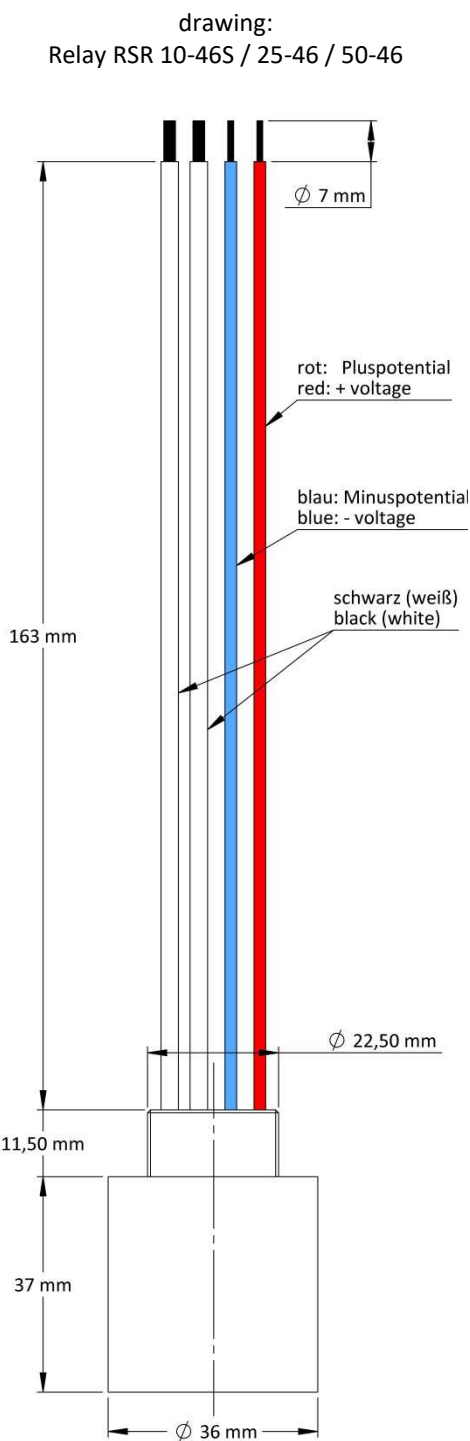
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Produkt Information

Motor and Machine protection

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Electrical data

	RSR 10-46S	RSR 25-46	RSR 50-46
switching voltage:	42...550V DC	42...550V DC	42...550V DC
switching current:	1A DC	1A DC	1A DC
primary alternating current	10A	25A	50A
max. primary current:	30A, 0,2s, 500 c/h	75A, 0,2s, 500 c/h	150A, 0,2s, 500 c/h
holding current relative to the distortion by the magnetising current of the motor:	< 0,55 A ~	< 0,8 A ~	< 0,8 A ~
delay time:	<25ms		
rated temperature:	-25°C...+90°C	-25°C...+90°C	-25°C...+90°C
ambient temperature:	maximum +90°C	maximum +90°C	maximum +90°C
storage temperature:	-40°C...+75°C	-40°C...+75°C	-40°C...+75°C
bypass diode integrated in electronic switch			

Mechanical data

housing:	plastic/black		
material:	PA6.6		
Dimensional stability under heat:	short-term up to 160°C long-term 100°C		
height x Ø:	50 x 36 mm, see drawing		
mounting:	M20x1.5, at motor terminal block with screws		
Protection factor:	IP 65: screwed in with seal at the aluminium- motor terminal box; the operator is responsible for the chemical or thermal resistance!		
Connectors:			
feed line to motor coil:	Cu-strand, tin-plated, length=170 ± 5 mm, terminals: 7mm partly stripped, Radox-insulation		
	RSR 10-46S	RSR 25-46	RSR 50-46
profile:	1,5 mm ²	2,5 mm ²	6,0 mm ²
colour:	black	weiß	black
feed line to switch:	Cu-strand, tin-plated, red/blue, length=170 ± 5mm, terminals: end splice, Radox-insulation		
profile:	0,75 mm ²		
weight:	approx. 50 g		

Produkt Information

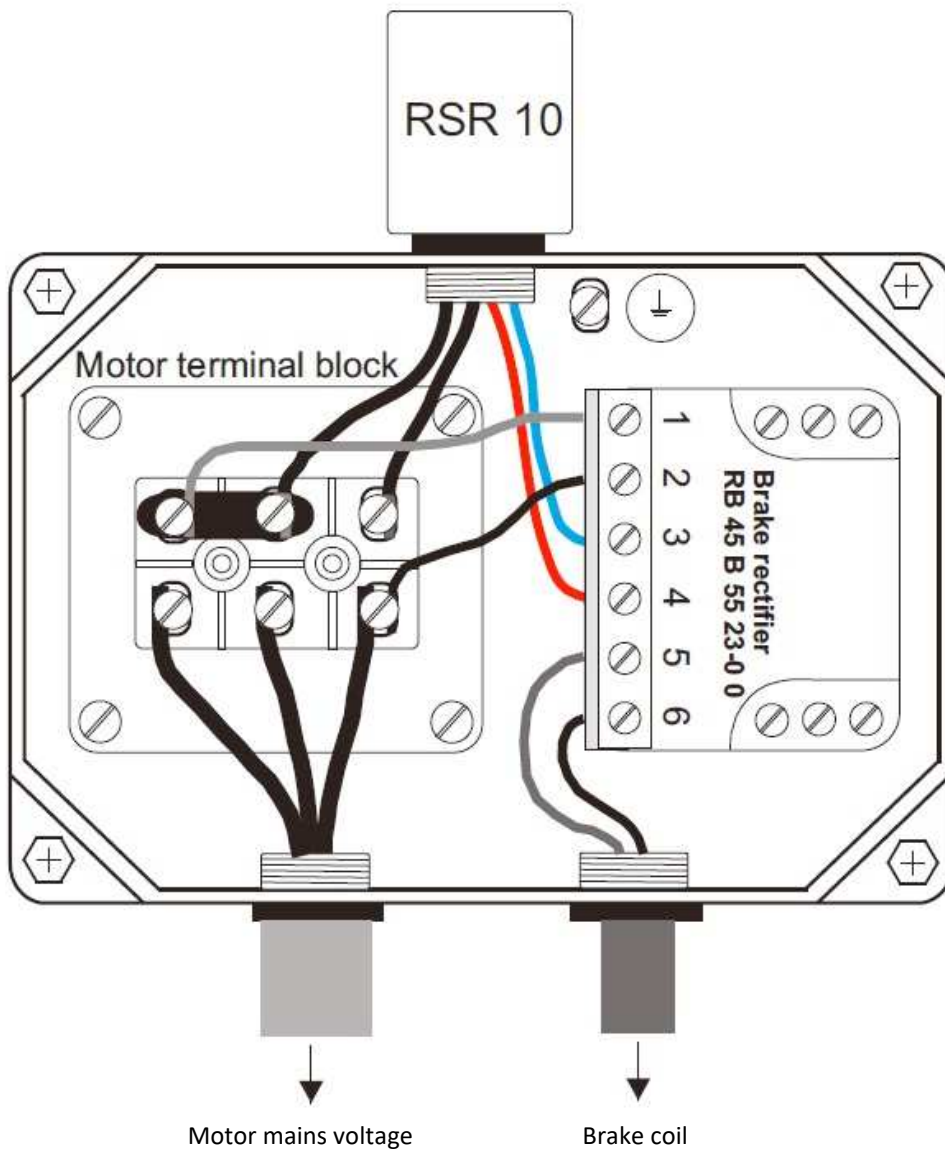
Motor and Machine protection

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Wiring example

Brake rectifier & current relay (here: RSR 10-46) mounted in a motor terminal box (Y-connection)



Produkt Information

Motor and Machine protection

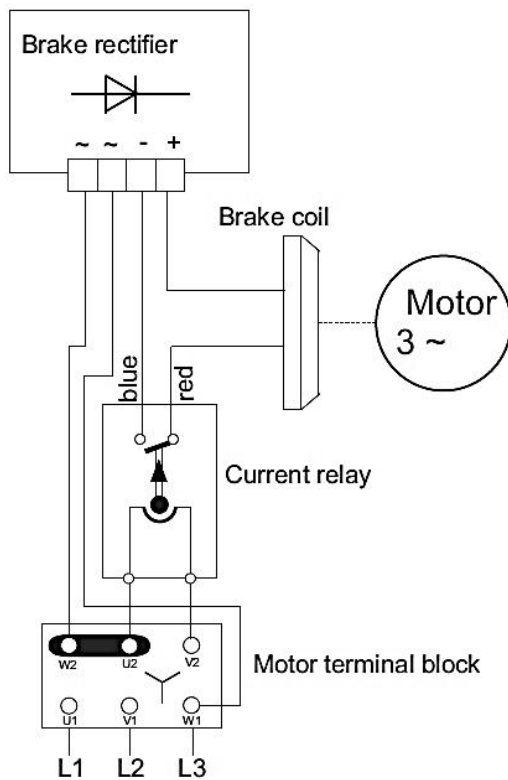
Electronic DC switch:
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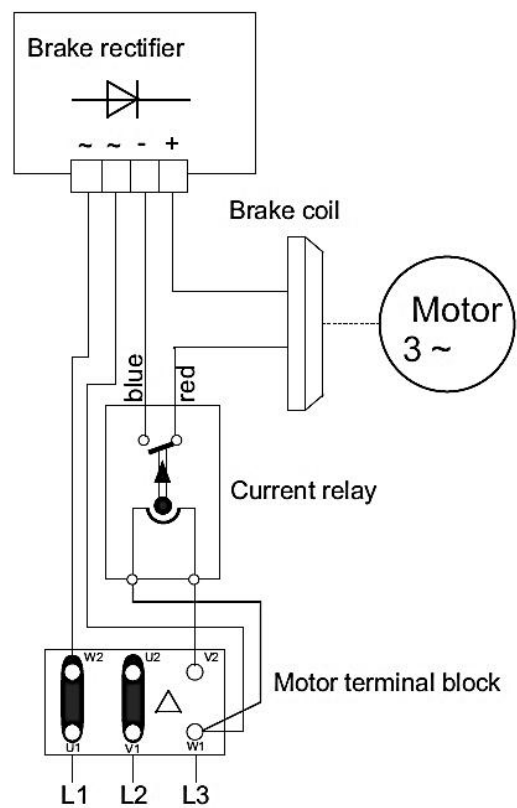
Wiring diagrams

Y- and Δ -connection of a current relay, a brake rectifier, a brake coil and a motor

Motor terminal block: star connection



Motor terminal block: delta connection



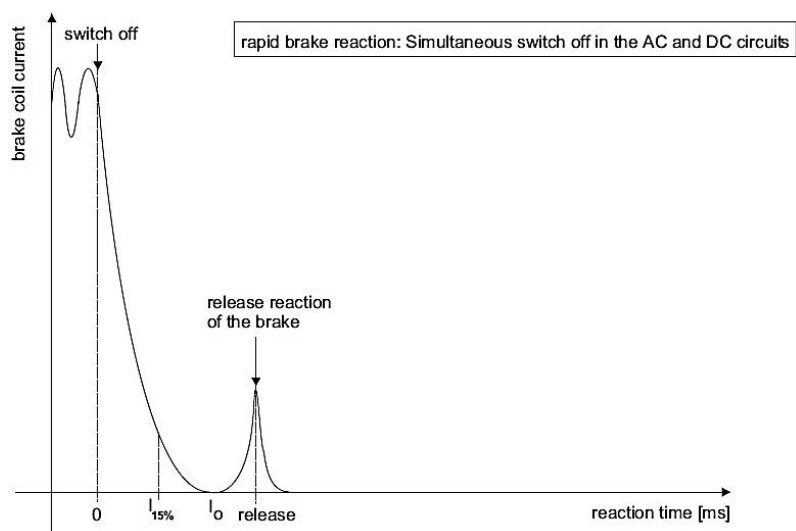
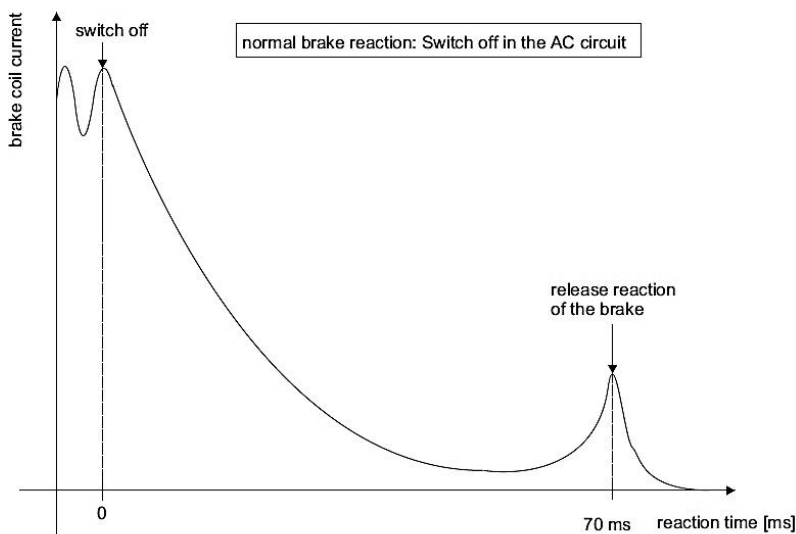
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Qualitative comparison of the brake coil current without (upper diagram) and with a current relay (lower diagram)



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