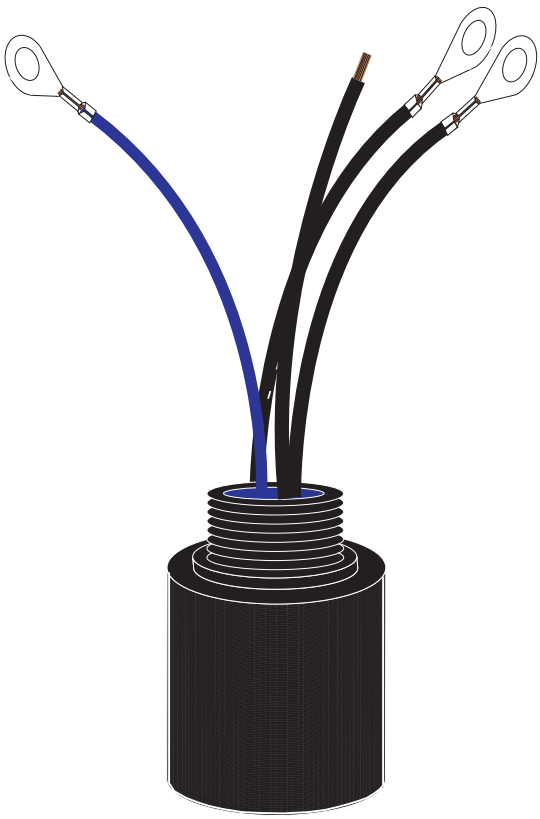
Product Information

Motor and machine protection

Interference suppression module:
Radio shielding of AC motors

Types: RC-3, RC-3S, RC/VDR-1

Type RC 3S



Basic information

The interference suppression module is used for radio shielding of magnetic coils and AC motors.

Application

The interference suppression module is applied where electromagnetic emission has to be suppressed during the switching of magnetic coils and motors, e.g.:

- especially for AC motors in star connection
- optional for AC motors in delta connection
- optional for single-phase motors
- relay coils

General function

The interference suppression module reduces overvoltage peaks which result from the switching of magnetic coils and motors.
This self-induction voltage can be multiple kV and this can lead to electromagnetic disturbances in electric devices, to the destruction of insulators, or damageable electronic componentry.

Advantages

- Universally applicable for magnetic coils and for AC motors up to 7.5 kVA.
- Compact housing for mounting in and at the motor terminal block.
- High energy consumption and at the same time a good damping of high- *and* low-frequency voltage peaks: RC/VDR-1.
- Very fast limitation and damping of high-frequency voltage peaks: RC-3, RC-3S.
- Optional polarity.

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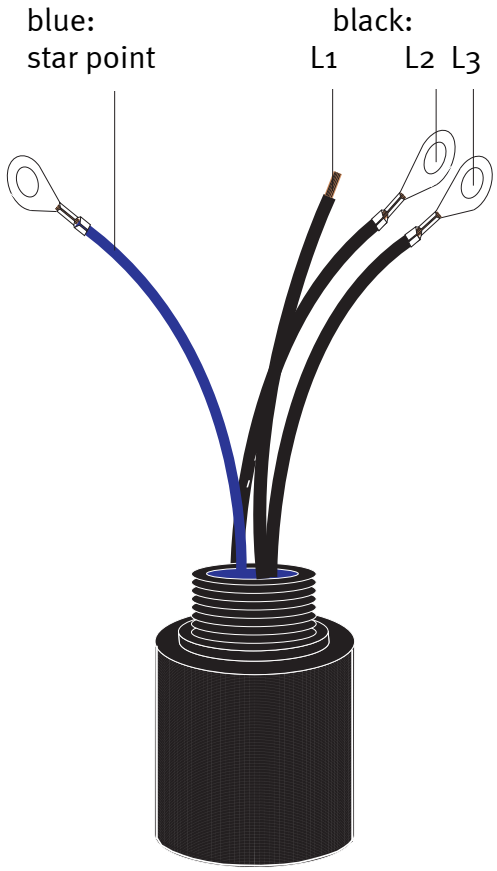
lead pattern RC-3S
(star connection)



Technical data

Electrical data

Module-Type:	operating voltage:
RC-3S	maximum 250V AC between star point and phase, star connection, star point led through
RC-3, RC/VDR-1	maximum 500V AC, star connection

motor wattage: maximum 7.5 KVA
ambient temperature: maximum +85°C
storage temperature: -40°C ... +90°C

Mechanical data

housing: plastic/black
material: PA6, grout filled

module-type:	dimension:
RC-3S, RC-3	H x Ø: 40 x 36.5 mm
RC-3, RC/VDR-1	H x L x B: approx. 25 x 50 x 40 mm

module-type:	mounting:
RC-3S, RC-3	thread M20x1.5 mm
RC-3, RC/VDR-1	terminal plug

module-type:	terminal:
RC-3S	lead AWG20, L=100mm, with cable shoe M4; optional: length according to customer‘s requirements
RC-3, RC/VDR-1	lead AWG20, length according to customer‘s requirements

protection factor: IP 65
weight: approx. 70 g

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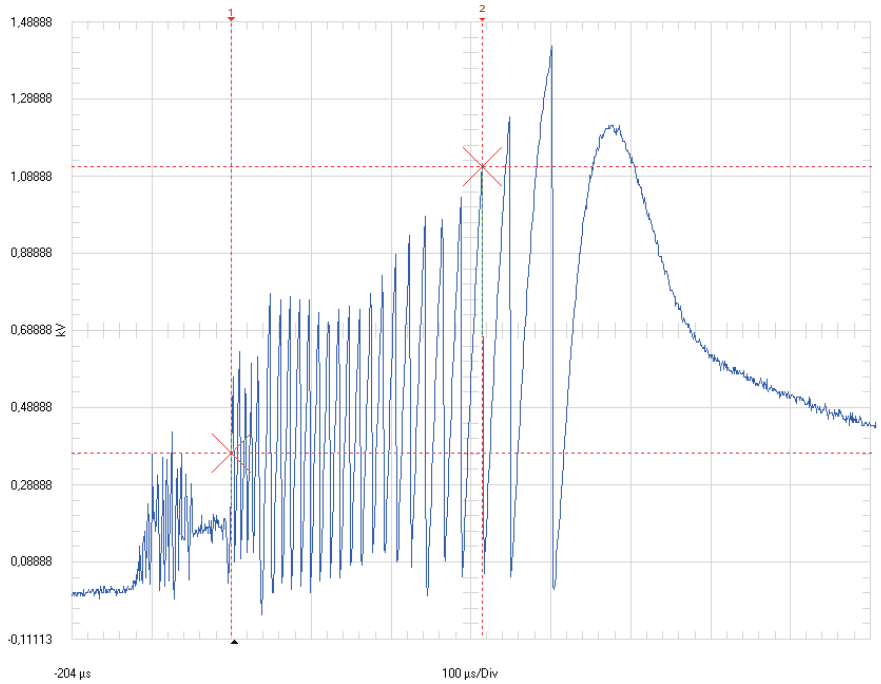
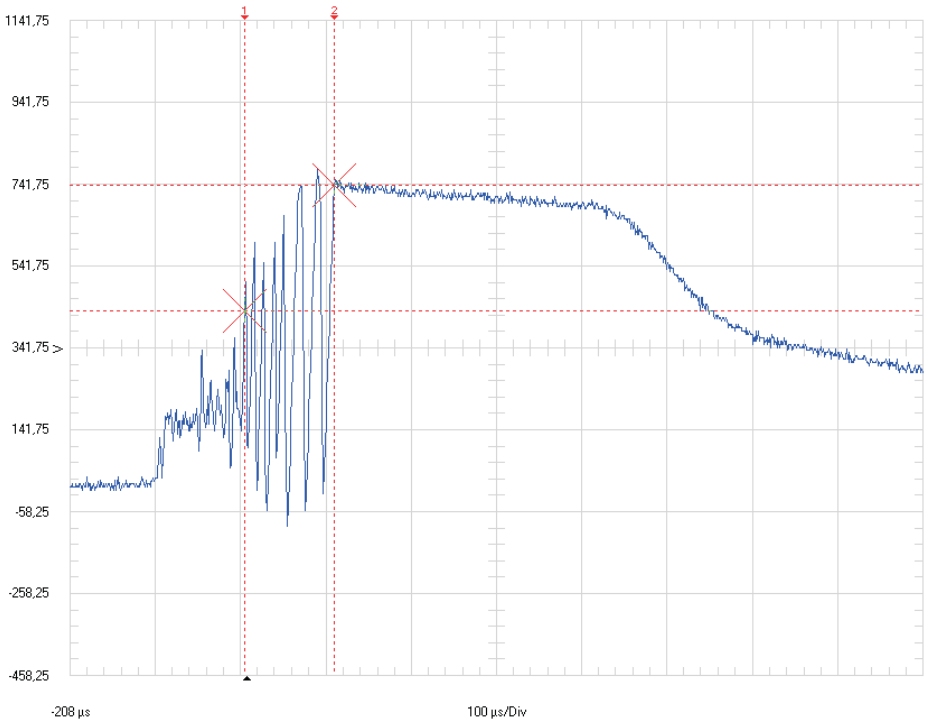
Voltage curve, during switch-off, for motors without a suppressor:



To switch off (Mark1) a high frequency voltage with a consequent oscillation (Mark 2) and with higher voltage amplitude less frequent.

Voltage curve, during switch-off for motors with varistor-suppressor:



The results of varistor-filters: The oscillation ringing (up to Mark 2) with higher voltage amplitude and low frequency is suppressed by means of varistor very effectively.

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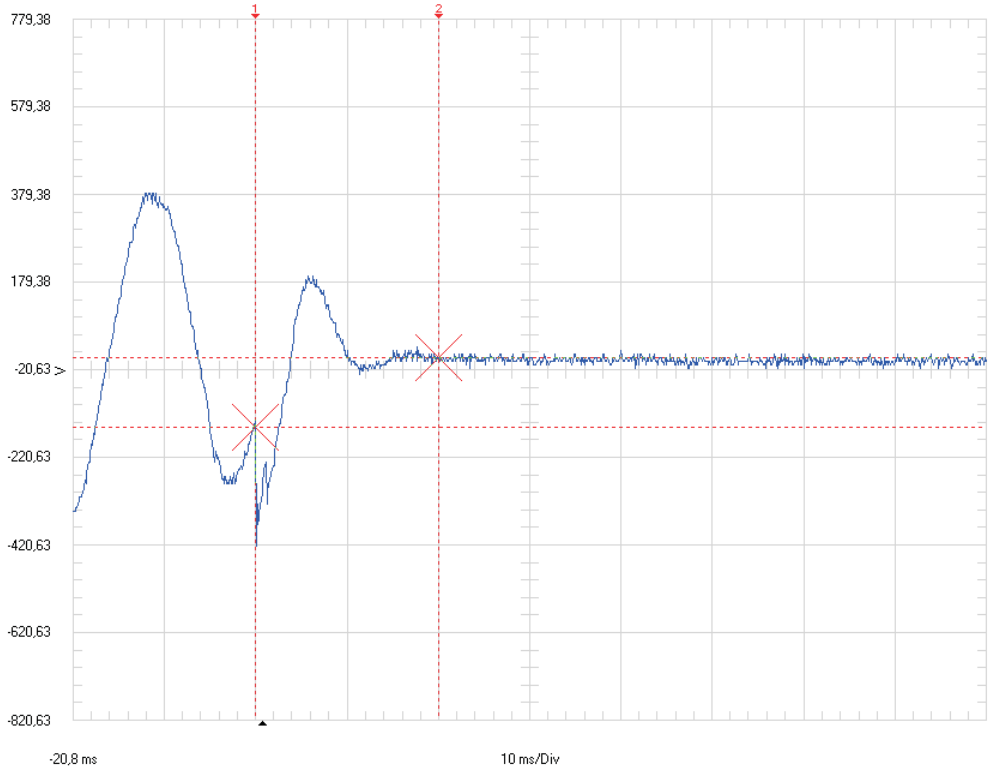
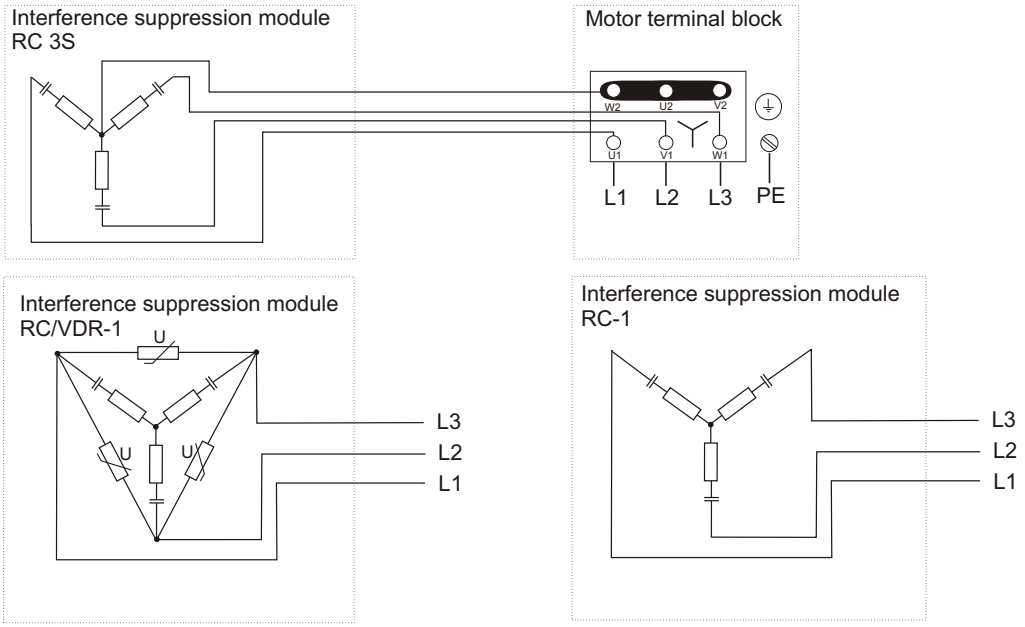
Voltage curve, during switch-off, for motors with varistor and RC interference suppressor, RC/VDR-1:



Effects of the varistor and RC-filter:
The high frequency voltage (up to Mark 1) is suppressed by the RC-suppressor. The consequent oscillation and vibration, with higher voltage amplitude and low frequency (up to Mark 2) is suppressed by the varistor.

Schematic circuit:



Further advice and information always available: