HAUBER
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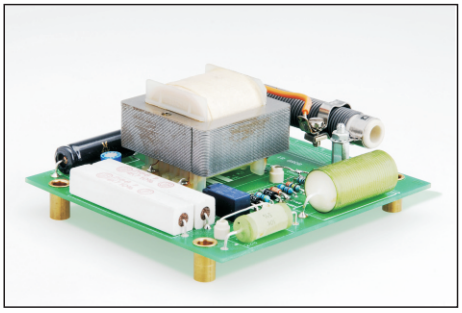
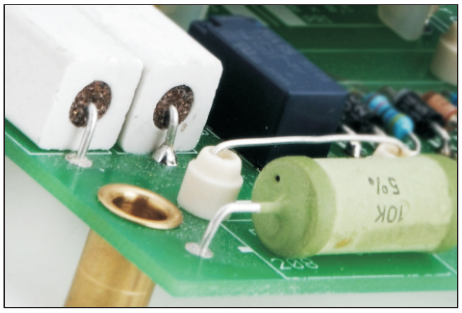


Short circuit signalling relay (KSMR) type 031

- Detection of short-circuits in the traction power supply



Operating instructions

English

Operating instructions

Short circuit signalling relay (KSMR)
Type 031

Valid for:

Type 031d

Type 031e, Typ 031e-2, Typ 031e-3

Edition: 22/09/2015

Caution!
The operating instructions must be read and understood before this product is commissioned!

Any questions should be addressed to:

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1 Safety information

General

The safety instructions serve to protect people and property from damage and dangers that result from non-intended use, incorrect operation, or other improper handling of devices. Read the operating manual carefully before undertaking any work on the product or commissioning it. The operating instructions must be accessible to the operating personnel at all times.

Check whether all documents are complete and present before commissioning the product or undertaking any work on it. If any of the documents are missing, or if you require further copies, replacements are available, also in other languages.
This product has been constructed in accordance with the current state of technology. Nevertheless, it is impossible to rule out hazards emerging from this product which could endanger people, machines and systems, should it be subject to inappropriate handling, non-intended use or use and maintenance by insufficiently trained persons. Every person employed by the operator and involved in the setup, operation and maintenance of this product must have read and understood these operating instructions.
The product may only be assembled, disassembled, installed and repaired by instructed, sufficiently trained and authorised personnel.

Symbols used

This symbol points to a hazard from electrical current.

This symbol points to information not relevant to safety.

2 Scope of application of the operating instructions

These operating instructions for the type 031 short-circuit signalling relay apply to the following models: Type 031d and type 031e
These models have identical functionalities and are interchangeable. The identification "d" or "e" merely points to an internal circuit board level.

3 The type 031 short-circuit signalling relay

The short-circuit signalling relay is used for monitoring short circuits in the traction power supply.

The short-circuit signalling relay compares the present overhead line current with an internally set threshold value.

If this threshold is exceeded, the short-circuit signalling relay (KSMR) switches the external KM (KE) relay.

4 Intended use

The type 031 is used exclusively to measure short-circuits in the traction power supply. Its use is only permissible within the specifications named in the data sheet.
Main field of application: Traction power supply

5 Documents and certificates

The following documents and certificates pertaining to the type 031 can be viewed and downloaded here: *www.hauber-elektronik.de*

• EC declaration of conformity

6 Liability

The proprietor of the system carries sole liability for the correct realisation of the electrical connections, and the correct commissioning procedure.
If the system is installed by a sub-contractor commissioned by the proprietor for this purpose, the system may only be commissioned after the sub-contractor has issued written confirmation in the form of a certificate of installation that they have installed the system correctly and professionally in accordance will all the applicable legal regulations.
The operator is obliged to notify the responsible authorities of the initial commissioning of the system or system components and its re-commissioning following significant changes or maintenance.

7 Scope of delivery

Model	Scope of delivery
Standard	• Short circuit signalling relay (KSMR) type 031 • Operating instructions

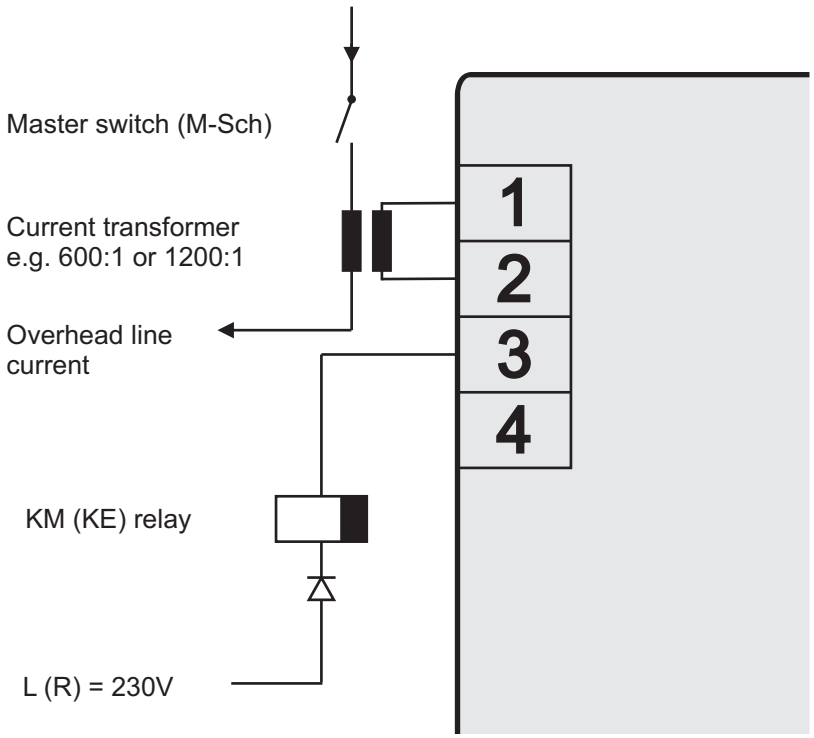
8 Electrical data

Setting range tripping current:	0.5A...5.0A	(Typ 031e-2 = 1,0A...10,0A) (Typ 031e-3 = 1,5A...15,0A)
Output signal:	The relay contact switches the central point conductor via	
Voltage supply:	230V AC over the coil from the KM (KE) relay	
Current draw (max.):	1 mA	
Working temperature range:	-40°C...+85°C	

9 Electrical connections

Terminal 1:	Current transformer e.g. 600:1 or 1200:1
Terminal 2:	Current transformer e.g. 600:1 or 1200:1
Terminal 3:	KM (KE) relay
Terminal 4:	Central point conductor (MP) / neutral conductor

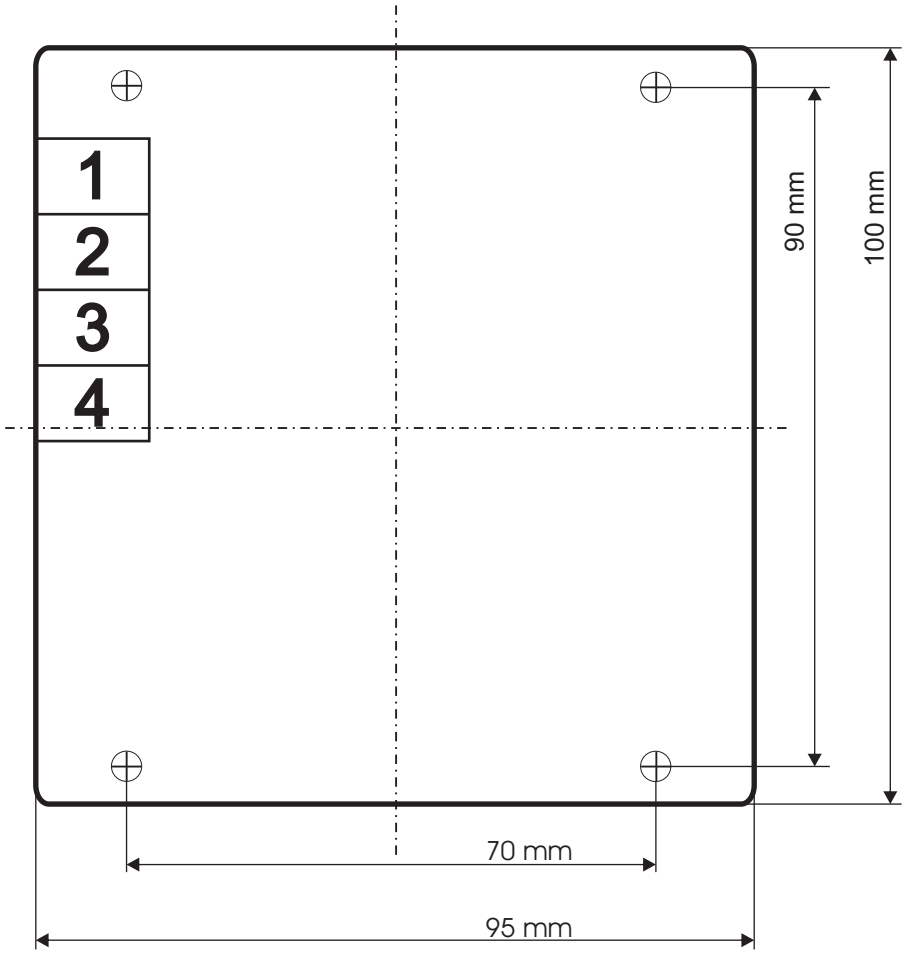
Wiring diagram



10 Mechanical data

Circuit board material:	Fr4 glass fibre reinforced
Screw terminal:	4-pole, clamping range 0.5...4.0 mm²
Fixing:	4-point fixing with M4 screws, grid 70x90mm
Weight:	c. 400 g
Protection class:	IP 00

Dimensions



11 Functional description and adjustment

The short-circuit signalling relay is used for monitoring short circuits in the traction power supply.

In its resting state, the KSMR draws its power supply via the external KM (KE) relay.
This means that an additional signal line can be saved along the train track.

The current draw involved is so low (1mA) that the KM (KE) relay is not activated.

The KSMR can be adapted for very high-resistance KM (KE) relays by disconnecting the bridge “XX”.

The current draw is measured via a current transformer e.g. 600:1 or 1200:1 which is inserted in the overhead line in series to the mast switch (M-Sch).

Following short-term exceedance of the overhead line current, the KSMR switches the signal line to low resistance load via terminal no. 3 to the KM (KE) relay so that the KM (KE) relay is activated.

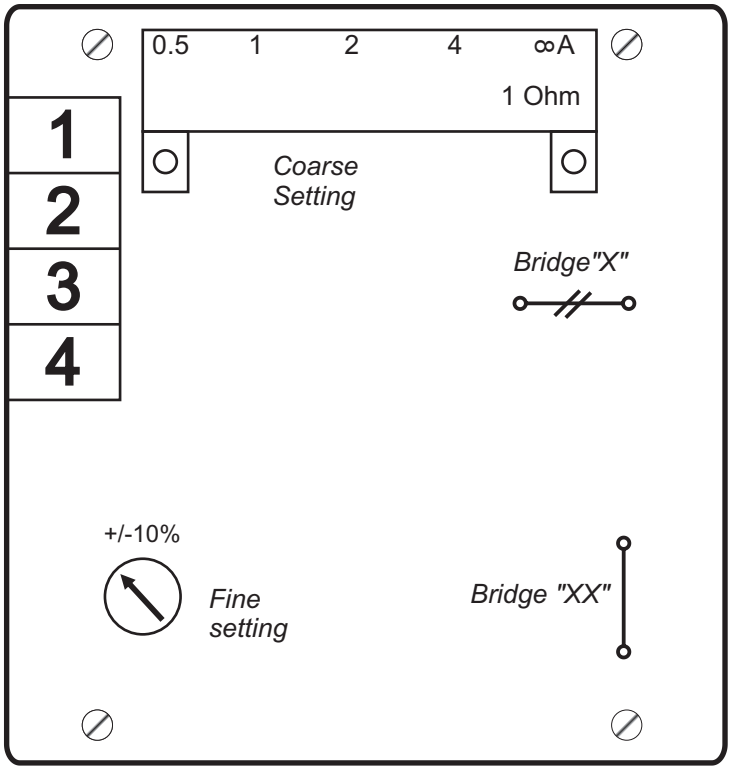
The KSMR returns to its starting position after 30 seconds. If the bridge “X” is closed, the KSMR returns to its starting position after 1 second.

The coarse setting of the tripping value 0.5 - 5A (Typ 031e-2 = 1,0A...10,0A; Typ 031e-3 = 1,5A...15,0A) is performed via the 1 Ohm tap resistance.

The fine adjustment of the tripping value +/- 10% is performed by the rotary potentiometer.

Factory settings

The factory settings of the KSMR are adjusted to 2.5A (Typ 031e-2 = 5,0A; Typ 031e-3 = 7,5A), the bridge "X" is opened (30 sec.) and the bridge "XX" closed.



12 Installation and commissioning

The installation and commissioning work for a short-circuit signalling relay may only be performed by an authorised specialist who is familiar with the safety regulations for handling electrical components. The specialist personnel responsible for the installation and commissioning must be familiar with the relevant local safety regulations.

The connection cable and any extension cables must be protected against electrical cross-feed and mechanical damage. Comply with the local regulations and directives.

13 Maintenance and repair

Repair and cleaning work on a short-circuit signalling relay may only be performed by an authorised specialist who is familiar with the safety regulations for handling electrical components.

Disconnect the short-circuit signalling relay from the supply voltage before performing any cleaning work. Disconnected plug connections must always be de-energised.

Replace defective cables immediately.

A defective short-circuit signalling relay must be replaced completely.

Repairs may only be performed by HAUBER-Elektronik GmbH.

The short-circuit signalling relay is maintenance-free!