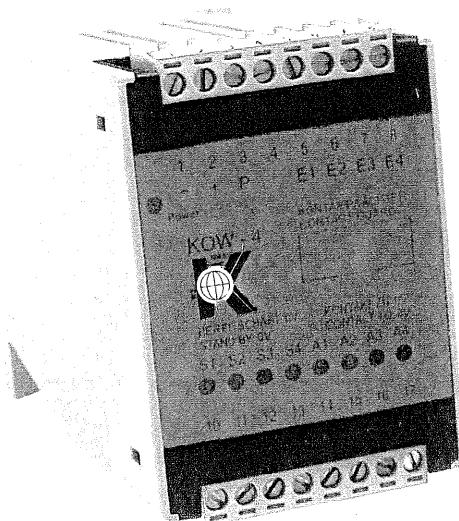


KOW – 4.3

Replaces
19.12.2006

**Description
Contact Guard
KOW – 4**

KUHSE
Powerful Solutions



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1 GENERELL

The unit KOW-4.3 is able to check 4 independant contacts for their switching conditions as well as to recognize partings of a cable and short circuiting.

The different configurations of the KOW-4.3 differ in regards to their fault exit groupings S1 to S4 and are realized by different plug-in bridge assignments (J1, J2 and J3)

2 FUNCTION

The exits are carried out as open-collector-switchings (NPN) and may be charged with max. 200 mA. The load has to be connected between output terminal and positive pole.

The fault exits are normally switched against 0V, in case of disturbance (short circuit or parting of a cable) the fault exit assigned to the disturbed contact becomes highly resistive (opens).

The contact outlets are highly resistive when the contact is open and lead against 0 V in case of closed contact.

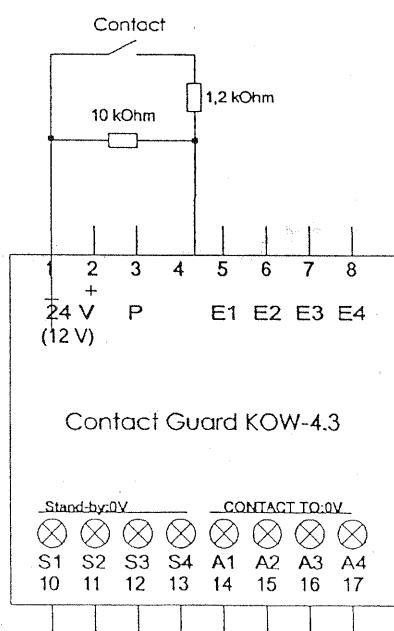
The fault and operating message are shown individually by LED's

3 OPERATION

It is necessary for the operation of the KOW-4.3 to connect the contacts to be monitored with a resistance combination. The resistors have to be directly mounted to the contact to be surveilled. Thus only it is possible to monitor the power's way correctly.

3.1 MONITORING WITH ONE CONTACT GUARD

The KOW-4.3 may monitor 4 contacts separately and independantly. The required contact connexion shows the following drawing (example of one contact):

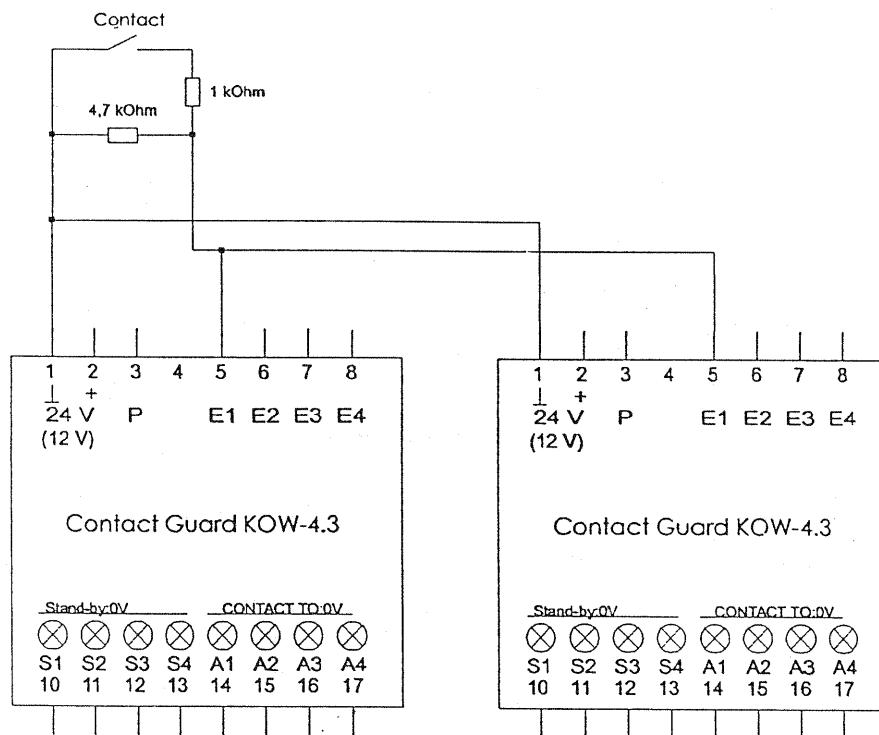


Picture 1: Contact monitoring with one KOW-4.3

3.2 OPERATION OF TWO CONTACT GUARDS AT ONE CONTACT

When 2 contact guards are required for 1 contact, this is possible, but:

In case of parallel operation of two contact guards the different resistor connexion at the contact has to be observed!



Picture 2: Parallel operation of two KOW-4.3

4 CONFIGURATION OF THE CONTACT GUARD EXITS

Type	Plug-in bridge assignment			Connection
	J1	J2	J3	
KOW-4.3 / A:	-	-	-	All fault exits are operating individually
KOW-4.3 / B:	X	X	X	One common fault exit for all contact inlets E1 ... E4 (S1 to S4 interconnected).
KOW-4.3 / C: (factory preset)	X	-	X	One fault exit for contact inlets E1 und E2. (S1 and S2 interconnected). One fault exit for contact inlets E3 and E4. (S3 and S4 interconnected).
KOW-4.3 / D:	X	X	-	One fault exit for contact inlets E2, E3 and E4. S2, S3 and S4 interconnected. Contact inlet E1 influences S1.
KOW-4.3 / E:	-	X	X	One fault exit for contact inlets E1, E2 and E3. S1, S2 and S3 interconnected. Contact inlet E4 influences S4.
KOW-4.3 / P:	X	X	X	Several contact guards may be connected parallelly and are operating with a common fault exit. All 3 jumpers are inserted on the printed board and will be connected by terminal 3. Parallel switching KOW are interconnected through terminal KI.3

5 PLUG-IN BRIDGES J1, J2 AND J3

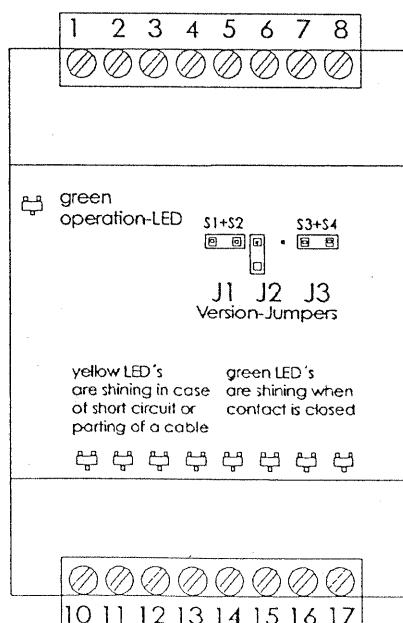
When removing the cover, the following can be seen:

- the three version jumpers J1, J2 and J3.
- the green operation-LED.
- the yellow disturbance LED's of the 4 contacts.

When these are shining, either parting of a cable or short circuiting has occurred at the respective inlet.

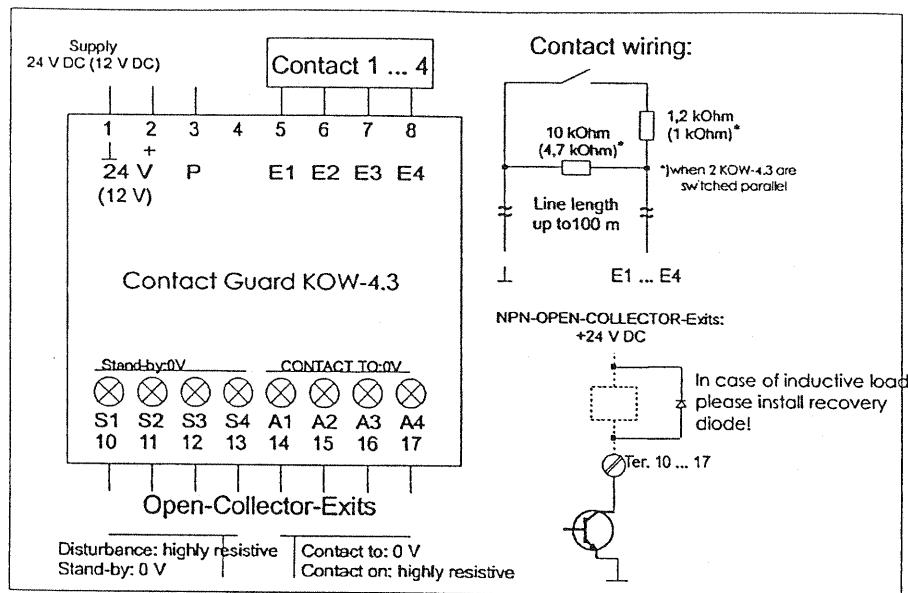
- the green contact indicator LED's.

When these are shining, the respective contact is closed.



Picture 3: Interior view

6 CONNEXIONS



Picture 4: Terminal connecting plan

7 TECHNICAL DATA

Installation and first commissioning only by trained experts. Connection in accordance with VDE 0160.

Operating voltage:	24 V DC (20...34 V)
	optional: 12 V DC (12...20 V)
Power consumption:	approx. 2 VA
Exits:	Open-Collector, NPN (200 mA)
Pilot circuit:	Switching contact wired with 1,2 k and 10 k Ohm
Ambient temperature:	max. 40 °C
Housing:	W/H/D 55 x 110 x 85mm (35-mm-standard bar)