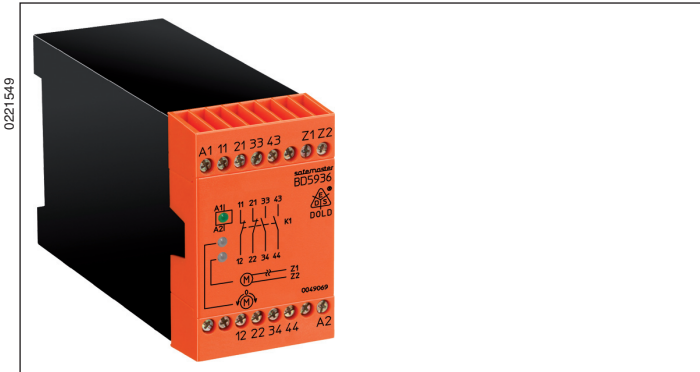
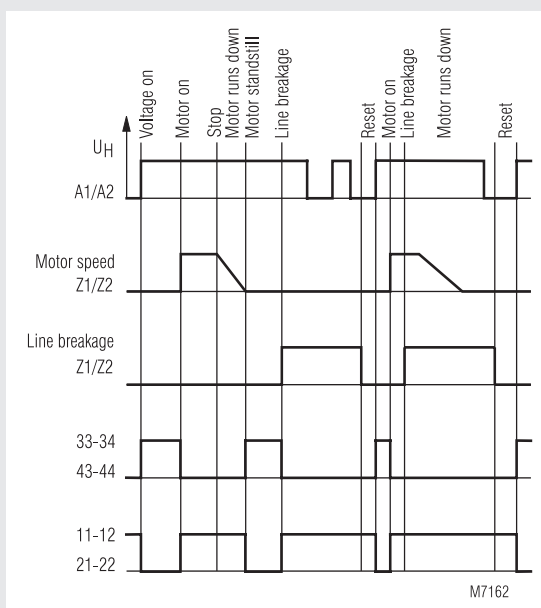


Standstill monitor BD 5936 SAFEMASTER®



- According to EN 62 061, DIN EN ISO 13 849-1
- For standstill monitoring of 3- and 1-phase asynchronous motors
- Line breakage detection in the measurement circuit
- Positively driven output contacts:
2 NO, 2 NC contacts for 250 V AC
- LED indicators for motor standstill, line breakage, and operating voltage
- Wire connection: also 2 x 1.5 mm² stranded ferruled (isolated), DIN 46 228-1/-2/-3/-4 or
2 x 2.5 mm² stranded ferruled DIN 46 228-1/-2/-3
- Width 45 mm

Function diagram



Approvals and marking



* see variants

Applications

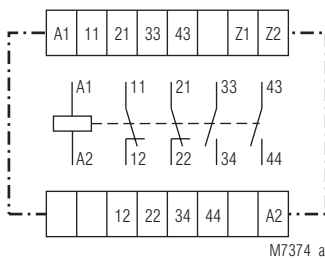
For detecting standstills of 3- and 1-phase asynchronous motors, for example, for releasing protective door interlocks of machine tools or for activating stopping brakes.

Function

At 2 terminals of the stator winding the BD 5936 measures the voltage of the slowing motor which has been induced by residual magnetism. If the induction voltage approaches 0 this indicates that the device is at a standstill and the output relay is activated.

At the same time the monitor detects strand breaks between measurement inputs Z1 / Z2 by means of a 6-volt direct current generated by the monitor. If a line breakage is detected, the output relay goes into the normal position (as when the motor is running). This state is saved and can only be cleared by (briefly) switching off the auxiliary voltage.

Circuit diagram



Notes

In the case on the motor wires the Z1 / Z2 connection wire should be installed separately from the motor supply and connected directly to the motor terminals. For longer distances please use twisted pair wires.

Indicators

- | | |
|----------------|--|
| 1st green LED: | comes on when operating voltage present |
| 2nd green LED: | comes on when motor at a standstill |
| Red LED: | comes on in event of line breakage between Z1 and Z2 |

Technical data

Input

- | | |
|-----------------------------------|---|
| Nominal voltage: | AC 230 V
AC/DC 24 ... 60 V, 110 ... 230 V
(other voltages on request) |
| Voltage range: | 0.8 ... 1.1 U _N |
| Nominal consumption: | approx. 3 VA, 3 W |
| Nominal frequency: | 50 / 60 Hz |
| Measurement/motor voltage: | AC 690 V |
| Response value: | approx. 20 mV |
| Release value: | approx. 40 mV |

Technical Data

Output

Contacts

BD 5936.17:	2 NO, 2 NC contacts
Contact type:	relay, positively driven
Output rated voltage:	250 V AC
Thermal current I_{th}:	5 A
Switching capacity	IEC/EN 60 947-5-1
to AC 15:	NO contact: AC 5 A / 230 V
	NC contact: AC 2 A / 230 V

Electrical life

to AC 15 at 2 A, AC 230 V:	10 ⁵ switching cycles
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Short circuit strength

max. fuse rating:	6 A gL IEC/EN 60 947-5-1
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Mechanical life:

10 x 10⁶ switching cycles

General Data

Operating mode:

Continuous operation

Temperature range:

- 15 ... + 55 °C
at max. 90 % air humidity

Clearance and creepage distances

rated impuls voltage /
pollution degree,

Terminals Z1/Z2: IEC 60 664-1

at U_{H1} , AC 230 V: 6 kV / 2 (Overvoltage category III)

at U_{H2} , AC/DC 24 ... 230 V: 4 kV / 2 (Overvoltage category II)

EMC

Electrostatic discharge: 8 kV (air) IEC/EN 61 000-4-2

HF irradiation: 10 V/m IEC/EN 61 000-4-3

Fast transients: 2 kV IEC/EN 61 000-4-4

Surge voltages

between

wires for power supply: 2 kV IEC/EN 61 000-4-5

between wire and ground: 4 kV IEC/EN 61 000-4-5

HF-wire guided: 10 V IEC/EN 61 000-4-6

Interference suppression: Limit value class B EN 55 011

Degree of protection:

Housing: IP 40 IEC/EN 60 529

Terminals: IP 20 IEC/EN 60 529

Housing:

Thermoplastic with V0 behaviour
to UL Subj. 94

Vibration resistance:

Amplitude 0,35 mm
frequency 10 ... 55 Hz IEC/EN 60 068-2-6

Climate resistance:

15 / 055 / 04 IEC/EN 60 068-1

Terminal designation:

EN 50 005

Wire connection:

1 x 4 mm² solid or
1 x 2.5 mm² stranded ferruled (isolated)
or
2 x 1.5 mm² stranded ferruled (isolated)
DIN 46 228-1/-2/-3/-4 or
2 x 2.5 mm² stranded ferruled
DIN 46 228-1/-2/-3

Line attachment:

Plus-minus terminal screws M 3,5 box
terminal with wire protection

Mounting:

DIN rail IEC/EN 60 715

Weight:

325 g

Dimensions

Width x height x depth: 45 x 74 x 121 mm

Safety related data



Safety data for other variants are available on request

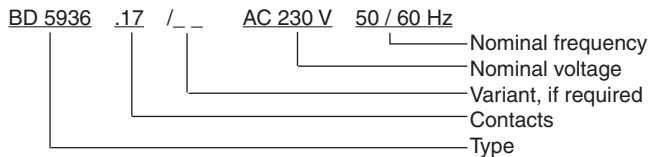
Standard type

BD 5936.17/001	AC 230 V	50/60 Hz
Article number:	0049069	
• Output:	2 NO, 2 NC contacts	
• Auxiliary voltage U_{H1} :	AC 230 V	
• With automatic reset for broken wire detection		
• Width:	45 mm	

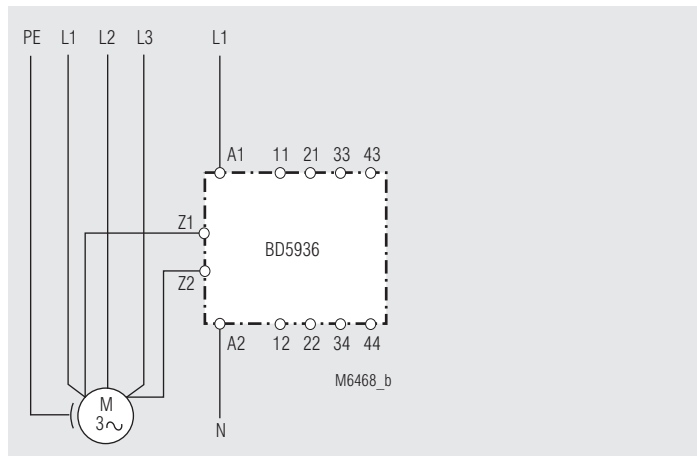
Variants

BD 5936.17:	without automatic reset for broken wire detection
BD 5936.17/61:	with UL-approval (Canada/USA)

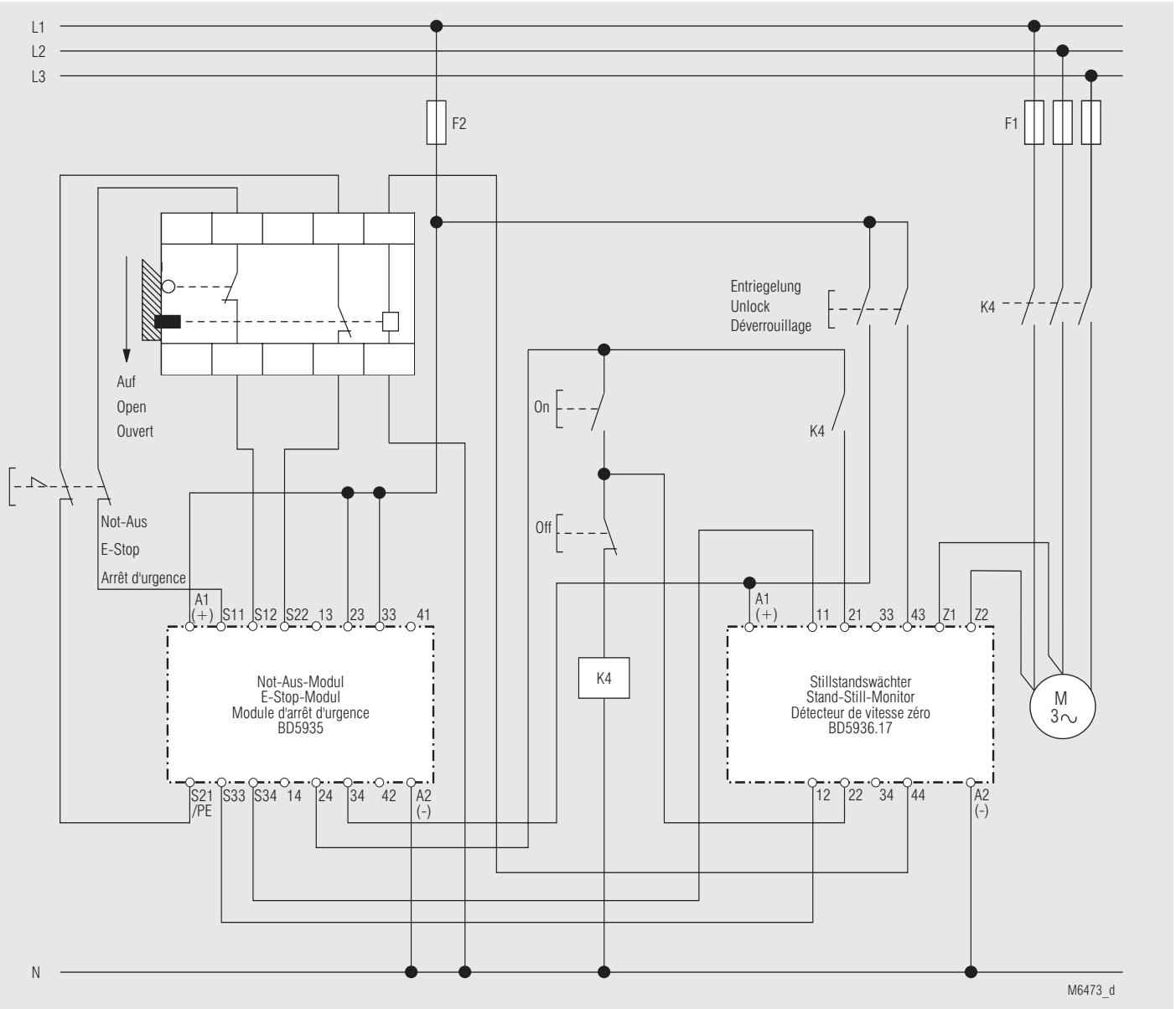
Ordering example for Variants



Connection example



Application example



M6473_d

