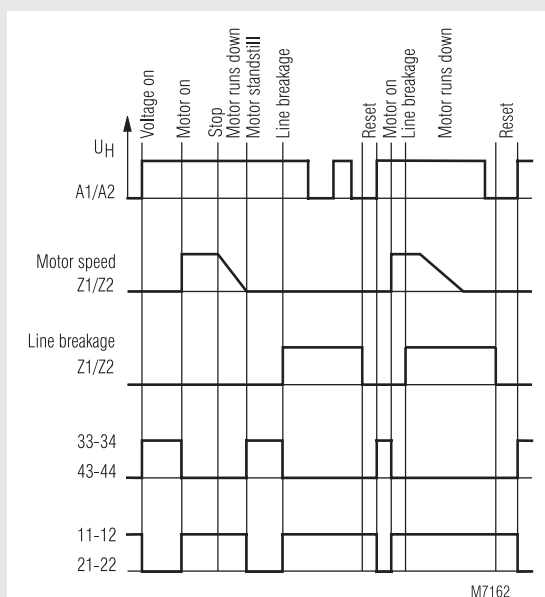


0221549

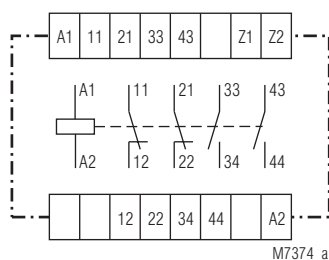


- According to EN 62 061, DIN EN ISO 13 849-1
- For standstill monitoring of 3- and 1-phase asynchronous motors
- Line breakage detection in the measurement circuit
- Positively driven output contacts:
2 NO, 2 NC contacts for 250 V AC
- LED indicators for motor standstill, line breakage, and operating 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



Circuit 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.

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	IEC/EN 60 947-5-1
to AC 15 at 2 A, AC 230 V:	10 ⁵ switching cycles
Short circuit strength	
max. fuse rating:	6 A gL IEC/EN 60 947-5-1
Mechanical life:	10 x 10 ⁶ 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_H , AC 230 V:	6 kV / 2 (Overvoltage category III)
at U_H , 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 mm ² solid or 1 x 2.5 mm ² stranded ferruled (isolated) or 2 x 1.5 mm ² stranded ferruled (isolated) DIN 46 228-1/-2/-3/-4 or 2 x 2.5 mm ² 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

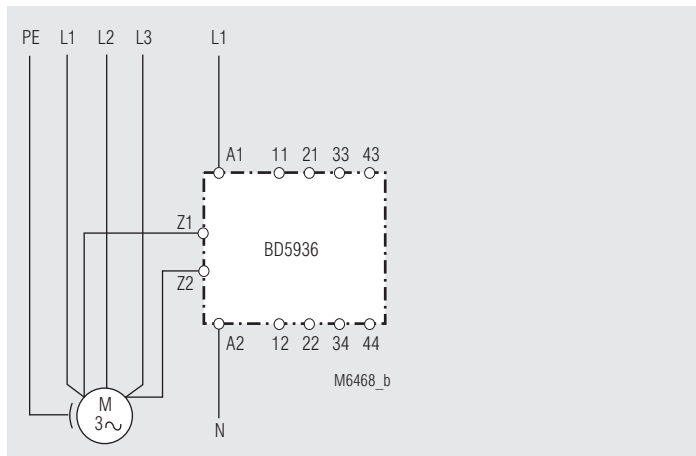
Standard type	
BD 5936.17/001	AC 230 V 50/60 Hz
Article number:	0049069
• Output:	2 NO, 2 NC contacts
• Auxiliary voltage U_H :	AC 230 V
• With automatic reset for broken wire detection	
• Width:	45 mm

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

Ordering example for Variants

BD 5936	.17	/	—	AC 230 V	50 / 60 Hz	
						Nominal frequency
						Nominal voltage
						Variant, if required
						Contacts
						Type

Connection example

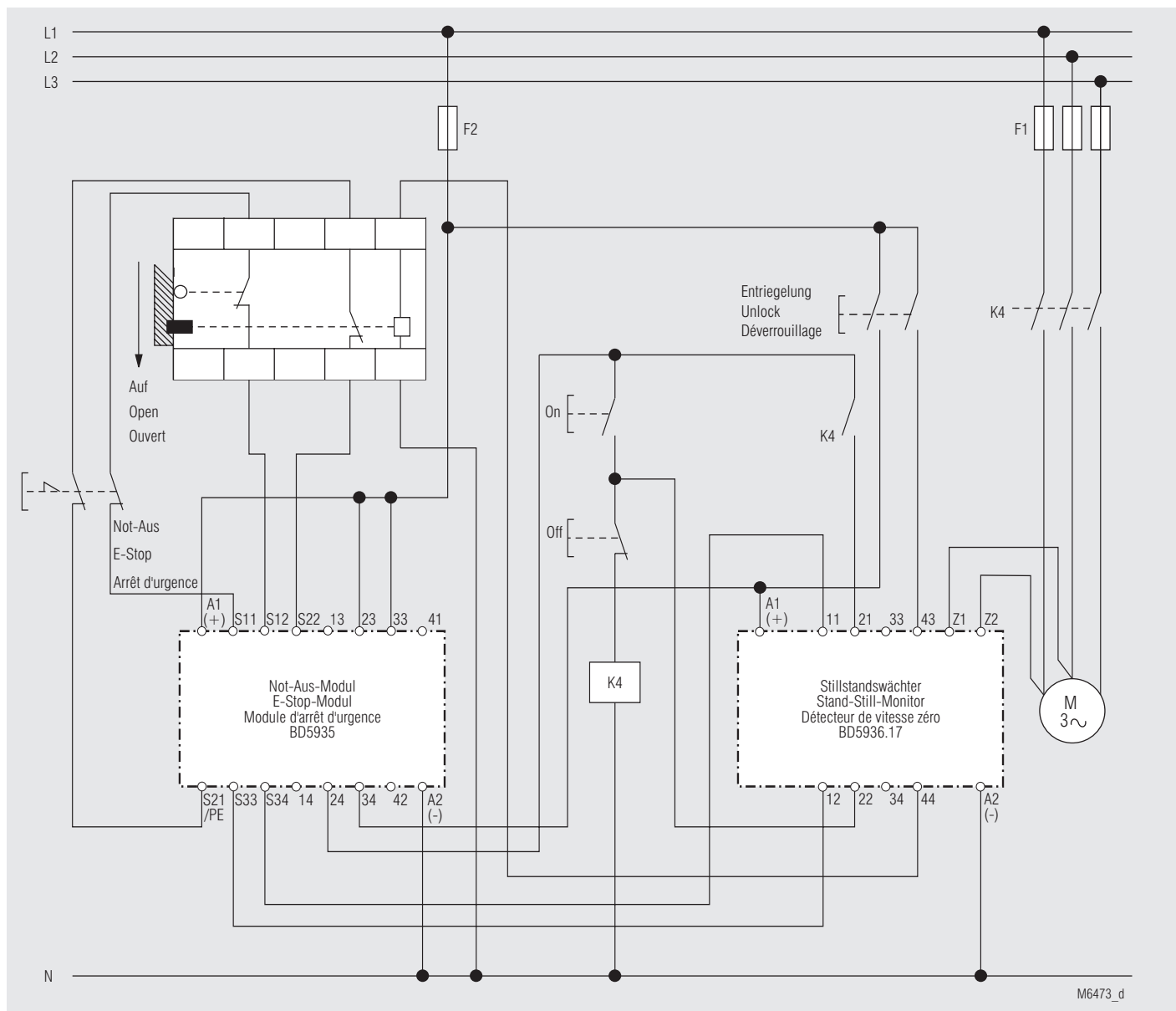


Safety related data



Safety data for other variants are available on request

Application example



M6473_d

