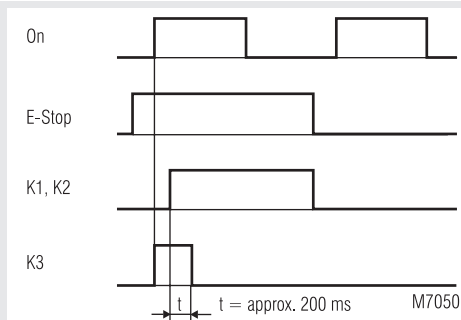




- According to
 - SIL Claimed Level (SIL CL) 3 to EN 62061
 - Performance Level (PL) e to DIN EN ISO 13849-1
 - Category 4 to EN 954-1
- BN 5930.48/203 with cross fault detection by connecting 2 different phases, max. 400 V, BN 5930.48/204 with cross fault detection by connecting phase and neutral, max. 230 V
- Dual voltage version
- Emergency-stop circuit T12, T22: optionally for AC 110 V / DC 60 V or AC 230 V / DC 110 V
- Output: 3 NO, 1 NC contacts for AC 400 V
- 1-channel or 2-channel circuit
- LED displays for channel 1, 2 and mains
- Feedback circuit X1 - X2 for monitoring external contactors
- Removable terminal strips
- Width 100 mm

Function diagram



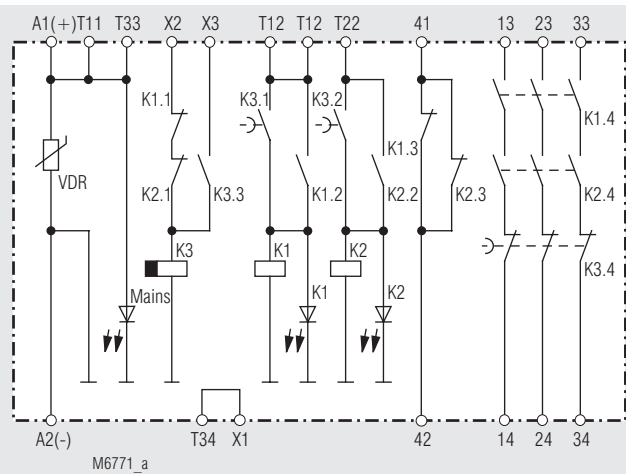
Approvals and marking



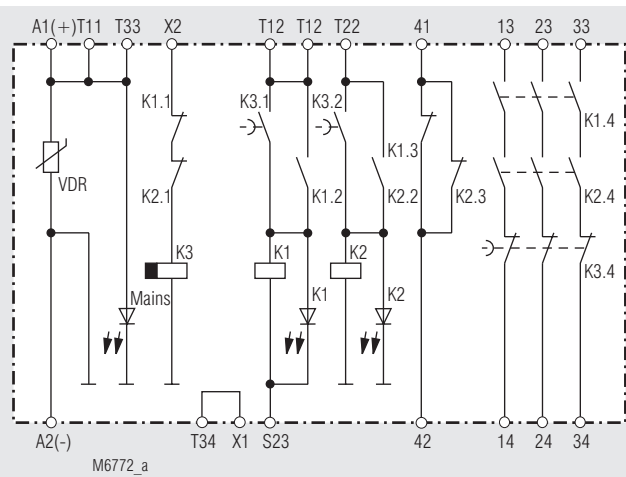
Applications

- Protection of persons and machines
- Emergency stop circuits on machines
- Monitoring safety gates

Block diagrams



BN 5930.48/203



BN 5930.48/204 (with cross fault detection)

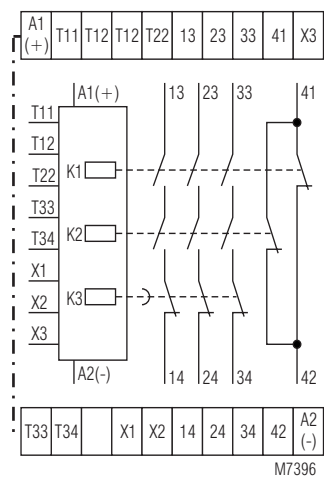
Indication

- LED power supply: on when operating voltage present
- LED K1: on when supply on relay K1
- LED K2: on when supply on relay K2

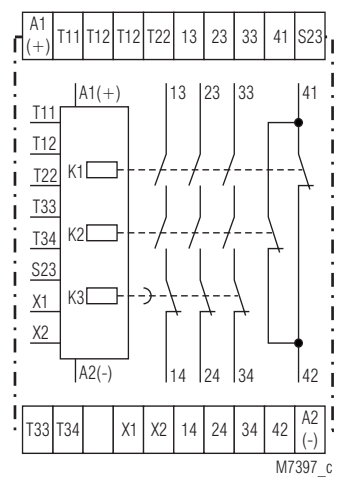
Notes

One or more BN3081 extension modules or external contactors with positively driven contacts can be used for contact multiplication of the emergency stop module BN 5930.

Circuit diagrams



BN 5930.48/203



BN 5930.48/204

Technical Data

Input

Nominal voltage U_N:	AC 110 V* / DC 60 V* or AC 230 V* / DC 110 V* over terminal A1 - A2 other voltages on request
Voltage range:	AC 0.85 ... 1.1 U_N DC 0.9 ... 1.1 U_N
at 10% residual ripple:	
at 48% residual ripple:	
Nominal consumption:	DC 0.85 ... 1.1 U_N approx. 3.9 VA at AC 230 V
Nominal frequency:	50 / 60 Hz
Control voltage T12, T22:	same as nominal voltage
Control current:	approx. 12 mA for K1 and K2 at AC 230 V
Fusing of the device:	internal with PTC

Output

Contacts	3 NO, 1 NC contacts
BN 5930.48:	The contacts 13...33 / 14...34 are safety contacts.
Response / release time of K1 and K2:	35 ms / 35 ms
Release delay of K3:	approx. 250 ms
Contact type:	relay, positively-driven
Output nominal voltage:	AC 400 V / DC 230 V
Thermal current I_{th}:	see continuous current limit curve (max. 10 A in one contact path)
Switching capacity to AC 15:	5 A / AC 230 V IEC/EN 60 947-5-1
Electrical life to AC 15 at 2 A, AC 230 V:	10 ⁵ switching cycles IEC/EN 60 947-5-1
Permissible switching frequency:	6000 switching cycles / h
Short circuit strength max. fuse rating:	6 A gL IEC/EN 60 947-5-1
max. line circuit breaker:	C 10 A
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:	4 kV / 2 IEC 60 664-1
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:	1 kV IEC/EN 61 000-4-5
between wire and ground:	2 kV IEC/EN 61 000-4-5
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:	Thermoplast with V0 behaviour according to UL subject 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:	2 x 2.5 mm ² solid or 2 x 1.5 mm ² stranded ferruled DIN 46 228-1/-2/-3/-4
Wire fixing:	Flat terminals with self-lifting clamping piece IEC/EN 60 999-1
	Removable terminal strip
Mounting:	DIN rail IEC/EN 60 715
Weight:	590 g

Dimensions

Width x height x depth:	100 x 74 x 121 mm
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Safety related data

Probability of dangerous Failure per Hour (PFH_D): 1.62 · 10⁻⁹ 1/h

Safe Failure Fraction (SFF): 97.9 %

Proof Test Intervall (T1): 20 Years



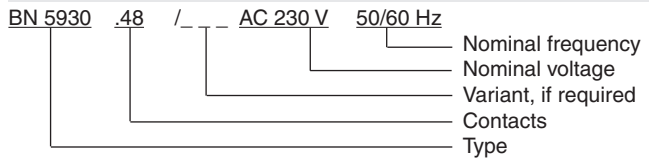
The values stated above are valid for the standard type. Safety data for other variants are available on request

Standard type

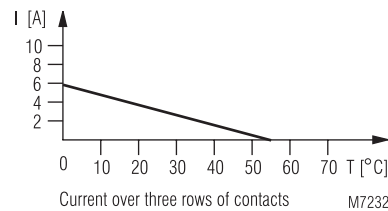
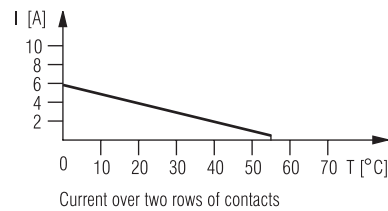
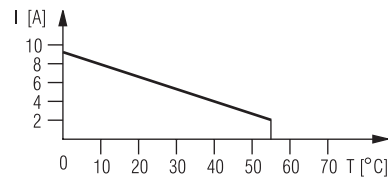
BN 5930.48/204 AC 230 V 50/60 Hz
Article number: 0045350

- With cross fault detection by connecting to phase and neutral, max. 230 V
- Output: 3 NO, 1 NC contacts
- Nominal voltage U_N : AC 230 V / DC 110 V
- Width: 100 mm

Ordering example

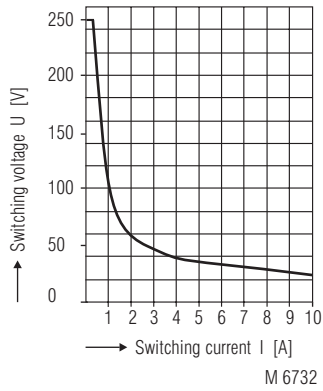


Characteristics



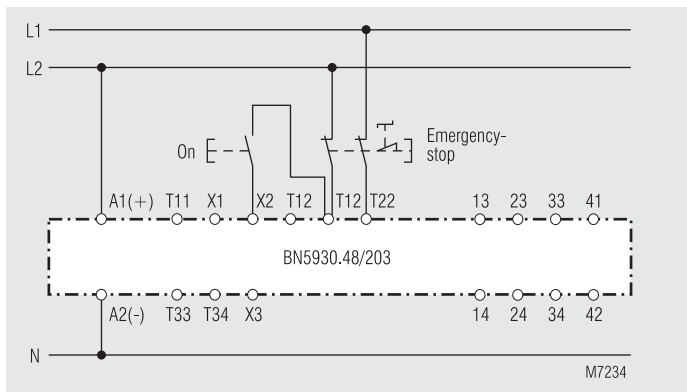
Continuous current limit curves depend on the ambient temperature

Characteristics

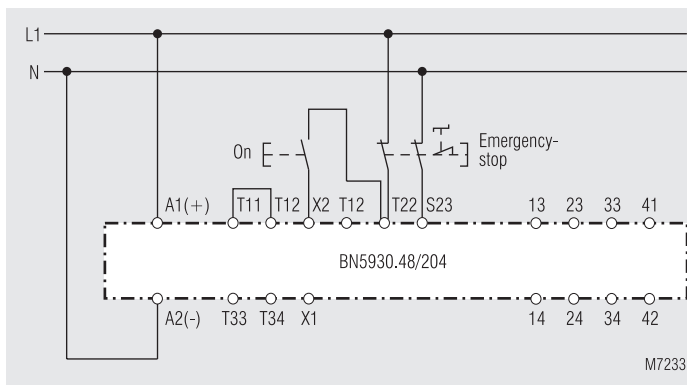


Limit curve for arc-free operation

Applications



Two-channel emergency stop circuit. "Emergency stop" connected at two different phases, thereby giving "Cross fault detection"



Two-channel emergency stop circuit with "Cross fault detection" in the alternating current network

