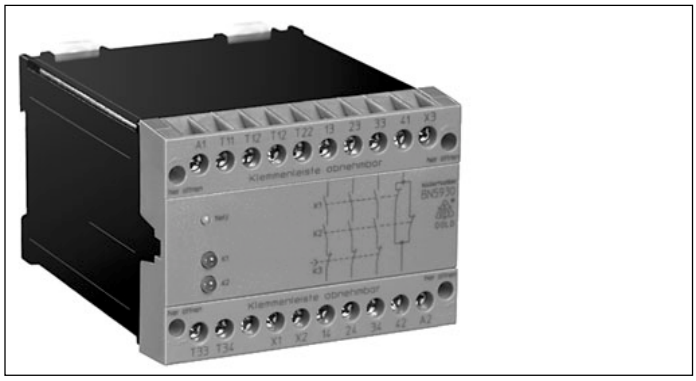
Safety technique

Emergency stop module
BN 5930.48/203, BN 5930.48/204 safemaster

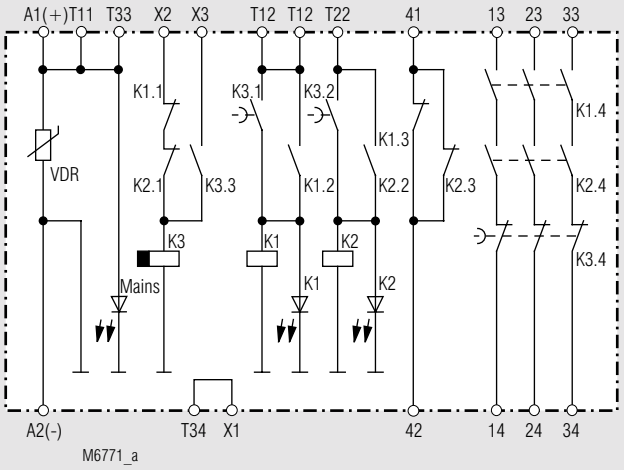
0221559



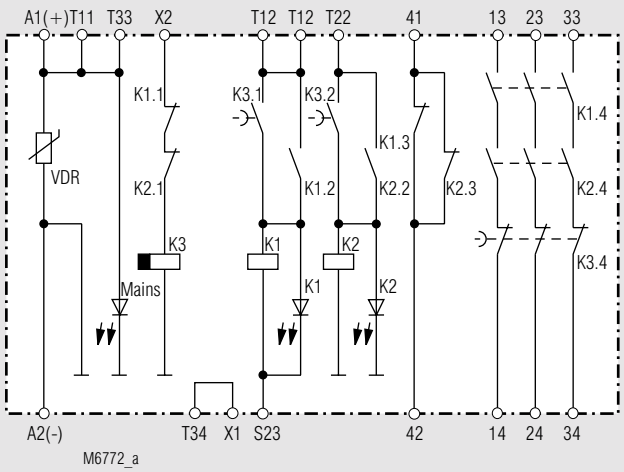
- According to EU Directive for machines 98/37/EG
- According to EN 60204-1, DIN VDE 0113-1
- Safety category 4 according to DIN EN 954-1
- BN 5930.48/203 with cross fault detection by connecting 2 different phases, max. 400 V, BN 5930.48/204 with cross fault detection by connecting phase and neutral, 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

Block diagrams



BN 5930.48/203



BN 5930.48/204 (with cross fault detection)

Approvals and marking

BG ET CE

Applications

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

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

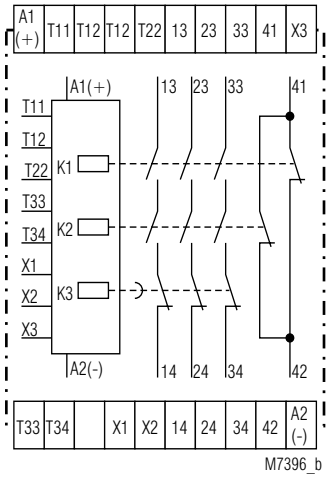
One or more BN3081 extension modules or external contators with positively driven contacts can be used for contact multiplication of the emergency stop module BN 5930.

Technical data

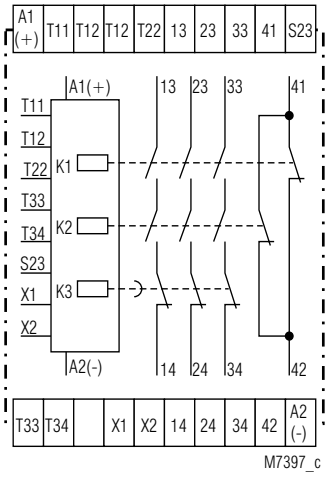
Input

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 0,8 ... 1,1 U_N
at 10% residual ripple:	DC 0,9 ... 1,2 U_N
at 48% residual ripple:	DC 0,8 ... 1,1 U_N

Circuit diagrams



BN 5930.48/203



BN 5930.48/204

Technical data

Nominal consumption:	approx. 3,5 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		
BN 5930.48:	3 NO, 1 NC 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:	2 A / AC 230 V	EN 60 947-5-1
Electrical life:		
to AC 15 at 2 A, Ac 230 V	10^5 switching cycles	EN 60 947-5-1
Permissible switching frequency:	6000 switching cycles / h	
Short circuit strength		
max. fuse rating:	6 A gL	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		
overvoltage category / contamination level:	4 kV / 2	IEC 60 664-1
EMC		
Electrostatic discharge:	8 kV (air)	EN 61 000-4-2
HF irradiation:	10 V / m	EN 61 000-4-3
Fast transients:	2 kV	EN 61 000-4-4
Surge voltages between		
wires for power supply:	1 kV	EN 61 000-4-5
between wire and ground:	2 kV	EN 61 000-4-5
Interference suppression:	Limit value class B	EN 55 011
Degree of protection:	Housing: IP 40	EN 60 529
	Terminals: IP 20	EN 60 529
Housing:	Thermoplast with V0 behaviour according to UL subject 94	
Vibration resistance:	Amplitude 0,35 mm frequency 10 ... 55 Hz	EN 60 068-2-6
Climate resistance:	15 / 055 / 04	EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection:	2 x 2,5 mm² solid or 2 x 1,5 mm² stranded ferruled DIN 46 228	
Wire fixing:	Flat terminals with self-lifting clamping piece	EN 60 999
	Removable terminal strip	
Mounting:	DIN rail	EN 50 022
Weight:	840 g	

Dimensions

Width x heigth x depth: 100 x 74 x 121 mm

Standard type

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

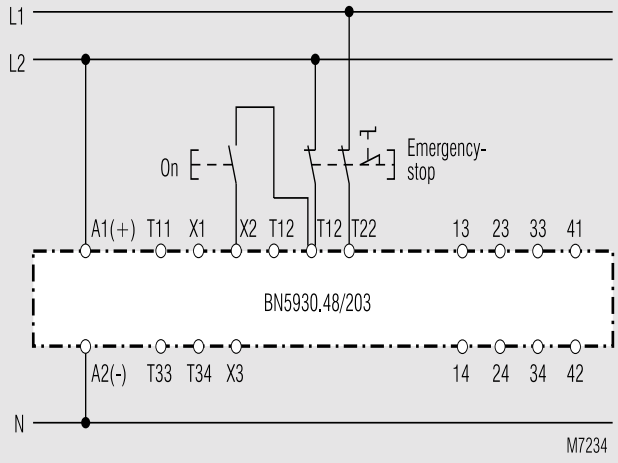
- With cross fault detection by connecting to phase and neutral, max. 230 V
- Output: 3 NO, 1 NC contacts
- Nominal voltage U_N: AC 230 V / DC 110 V
- Width: 100 mm

Ordering example

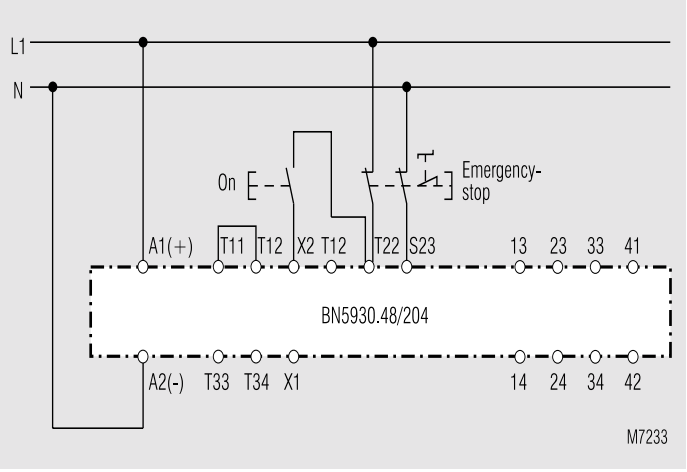
BN 5930 .48 /_ _ _ AC 230 V 50/60 Hz

- Nominal frequency
- Nominal voltage
- Variant, if required
- Contacts
- Type

Applications

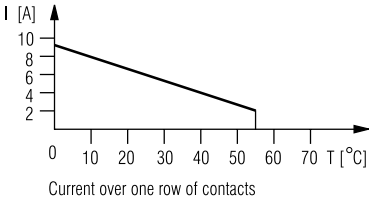


Two-channel emergency stop circuit. "Emergency stop" connected at two different phases, thereby giving "Cross fault detection"

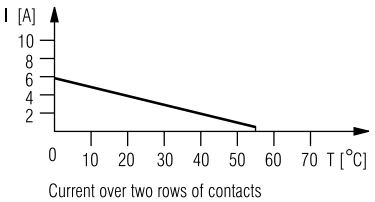


Two-channel emergency stop circuit with "Cross fault detection" in the alternating current network

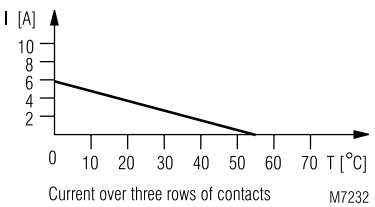
Characteristics



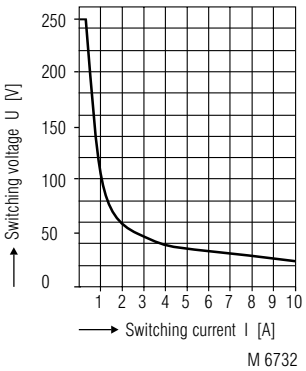
Current over one row of contacts



Current over two rows of contacts



Current over three rows of contacts M7232



Limit curve for arc-free operation

Continuous current limit curves depend on the ambient temperature