



- 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
- BG-Approval
 - Safety Category (SK) 4 to EN 954-1
- Redundant and positively-driven contacts
- Output: max. 5 NO contacts or 4 NO contacts / 1 NC contact
- 1- or 2-channel connection
- LED indication for operation
- Removeable terminal strips
- 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 22.5 mm

Indication

BG 5929
LED K1/K2: on, when operating voltage applied

BG 5929/100
LED K1: on, when relay K1 energised
LED K2: on, when relay K2 energised

Approvals and marking



1) pending, * see variants

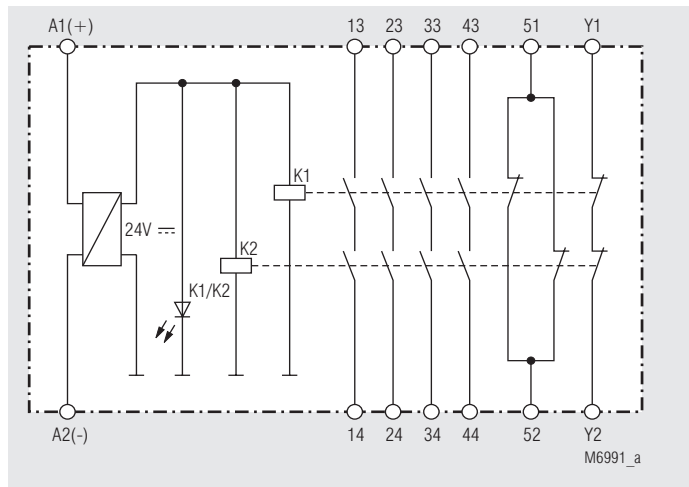
Notes

The extension module BG 5929 can only be used with a safety control unit (e.g. BG 5924) which monitors Y1/Y2.

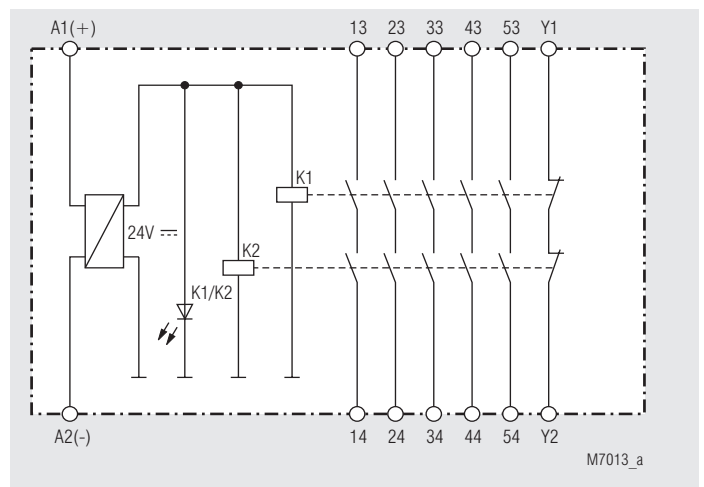
Applications

Contact multiplication of emergency-stop modules and safety door monitors.

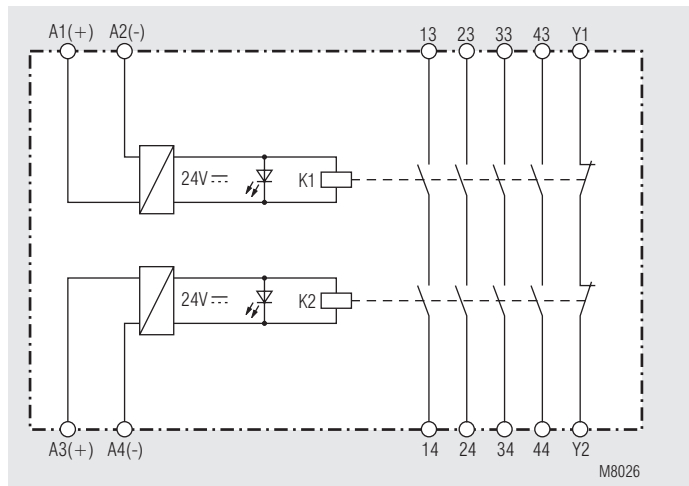
Block diagram



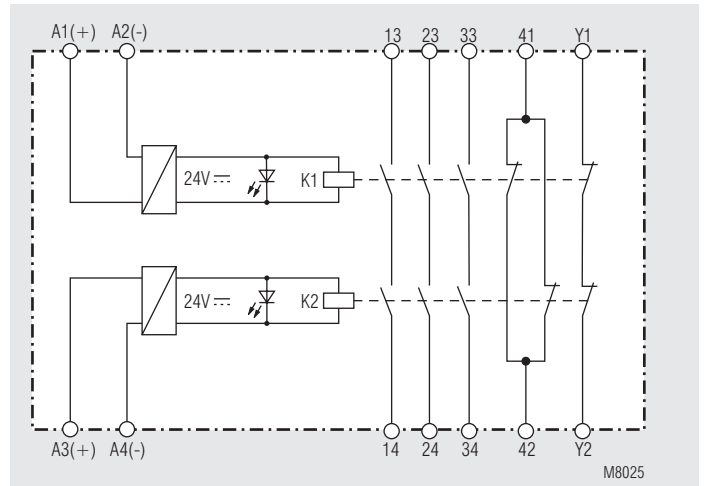
BG 5929.54



BG 5929.60

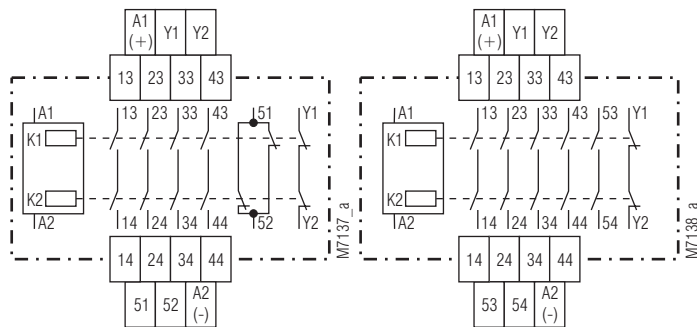


BG 5929.04/100



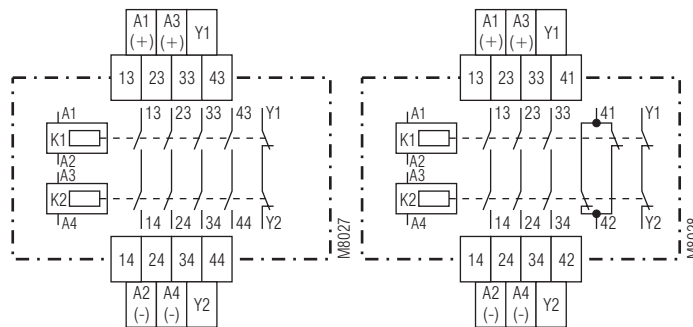
BG 5929.48/100

Circuit diagrams



BG 5929.54

BG 5929.60



BG 5929.04/100

BG 5929.48/100

Technical Data

Input

Nominal voltage U_N:	AC/DC 24 V
Voltage range:	AC 0.8 ... 1.1 U_N
at 10% residual ripple:	DC 0.9 ... 1.1 U_N
at 48% residual ripple:	DC 0.8 ... 1.1 U_N

Nominal consumption

BG 5929	
AC 24 V:	2.1 VA
DC 24 V:	1.5 W
BG 5929/100	
AC 24 V:	2 x 1.1 VA
DC 24 V:	2 x 0.75 W

Nominal frequency:

50 / 60 Hz

Control current:

BG 5929	
AC 24 V:	60 mA
DC 24 V:	65 mA
BG 5929/100	
AC 24 V:	2 x 40 mA
DC 24 V:	2 x 40 mA

Output

Contacts

BG 5929.60:	5 NO contacts, 1 NC contact for feed back circuit
BG 5929.54:	4 NO contacts, 1 NC contact 1 NC contact for feed back circuit
BG 5929.04/100:	4 NO contacts, 1 NC contact for feed back circuit
BG 5929.48/100:	3 NO contacts, 1 NC contact, 1 NC contact for feed back circuit

Operate time:

max. 20 ms

Release time:

max. 35 ms

Contact type:

relay, positively-driven

Nominal output voltage:

AC 250 V

Thermal current I_{th} :

see total current limit curve
max. 5 A

Switching capacity

to AC 15

NO contact: 3 A / AC 230 V IEC/EN 60 947-5-1

NC contact: 2 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 capacity:

1200 switching cycles / h
IEC/EN 60 947-5-1

Short circuit strength

max. fuse rating: 4 A gL

max. line circuit breaker: C8A

Mechanical life:

10×10^6 switching cycles

General Data

Operating mode:

Continuous operation

Temperature range:

- 15 ... + 55 °C

Clearance and creepage distances

rated impuls voltage /

pollution degree: 4 kV / 2

IEC 60 664-1

Technical Data

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:	4 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: 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: Thermoplast with V0 behaviour

according to UL subject 94

Vibration resistance: Amplitude 0.35 mm IEC/EN 60 068-2-6

frequency 10 ... 55 Hz

Climate resistance: 15 / 055 / 04 IEC/EN 60 068-1

Terminal designation:

Wire connection:

EN 50 005

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

terminal screws M 3.5

box terminal with wire protection

DIN rail IEC/EN 60 715

180 g

Wire fixing:

Mounting:

Weight:

Dimensions

Width x height x depth: 22.5 x 84 x 121 mm

Safety related data

Probability of dangerous

Failure per Hour (PFH_D): $1.59 \cdot 10^{-9}$ 1/h

Safe Failure Fraction (SFF): 99.7 %

Proof Test Interval (T1): 20 Years



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

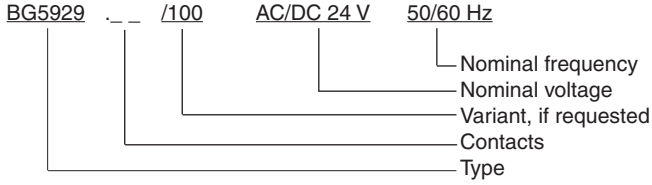
Standard type

BG 5929.60 AC/DC 24 V 50/60 Hz
 Article number: 0050807
 • Output: 5 NO contacts, 1 NC contact for feed back circuit
 • Nominal voltage U_N : AC/DC 24 V
 • Width: 22.5 mm

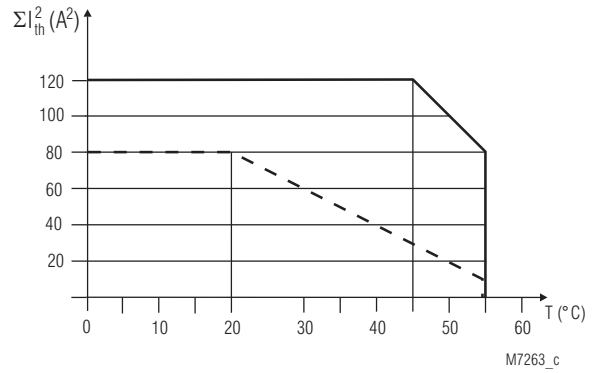
Variants

BG 5929.___/61: with UL-approval
 BG 5929.___/100: for 2-channel connection, with 2 LEDs

Ordering example for Variants



Characteristics



— AC / DC 24 V device mounted on distance with aircondition
 - - - AC / DC 24 V device mounted without distances heated by devices with same load

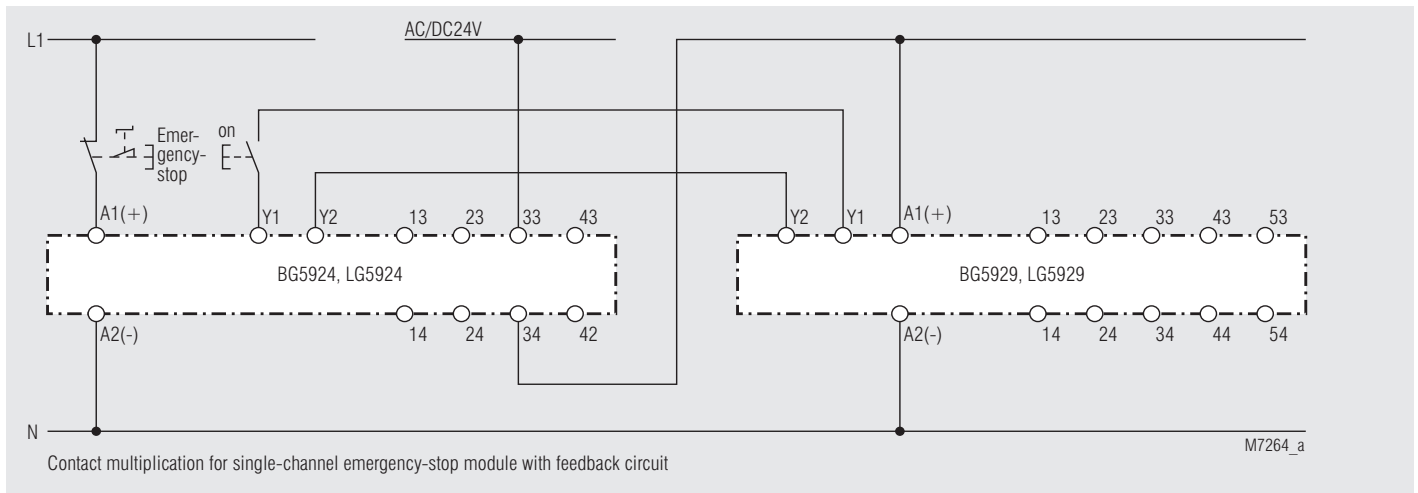
quadratic total current

$$\Sigma I_{th}^2 = I_{th1}^2 + I_{th2}^2 + I_{th3}^2 + I_{th4}^2 + I_{th5}^2$$

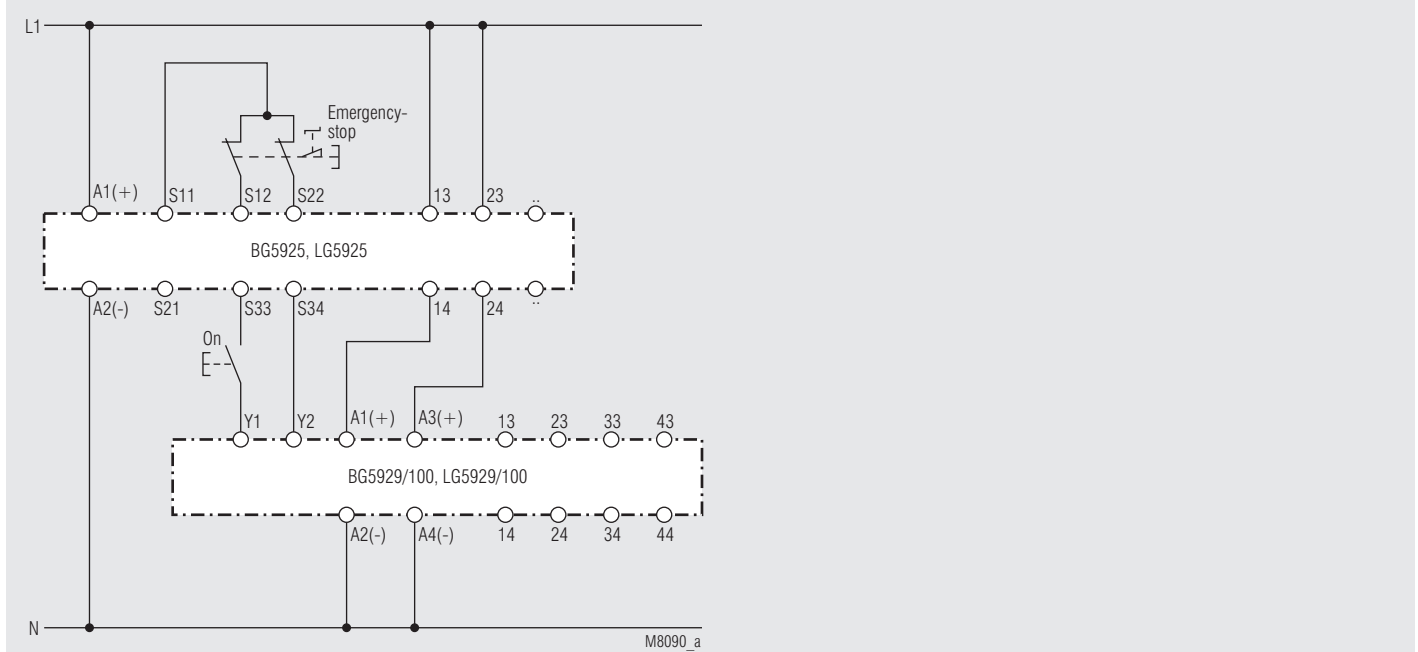
$I_{th1}, I_{th2}, I_{th3}, I_{th4}, I_{th5}$: thermal current I_{th} on contact rows

Total current limit curve

Application example



BG 5929



Contact multiplication with BG 5929/100

