

Emergency Stop Relay

Type BG 5925
safemaster



Model BG 5925



CANADA
PENDING



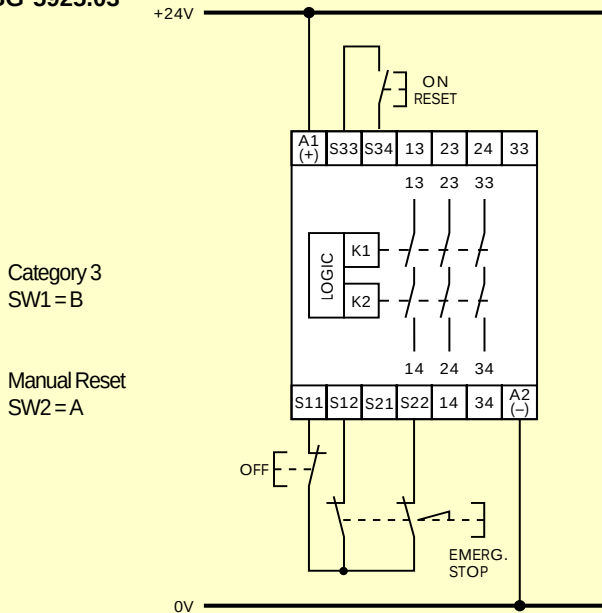
USA
PENDING



Technical Committee
of Electrical
Engineering

Typical Schematic Diagram

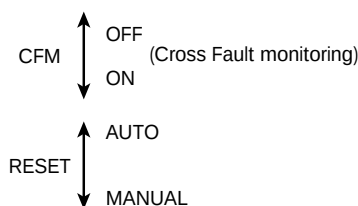
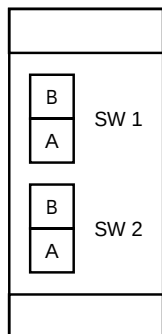
BG 5925.03



Diag 1

Category 3
SW1=B

Manual Reset
SW2=A



To select required function remove front cover with screwdriver (see diagram page x) and set switches to the desired position.

Features

- Category 3 or 4 switch programmable, SIL CL3
- Contacts 3 N/O, 2 N/O 1 N/C, 1 N/O 1 N/C, 2 N/O (5 microns gold plated)
- Removable terminal strips for fast replacement
- 22.5 mm wide case
- Internal auxiliary power supply protection with automatic reset
- 24V DC or 24V AC auxiliary power supply options
- Switch programmable single or dual channel operation, auto or manual reset with short circuit/link monitoring of Estop and reset push-buttons
- /900 version, for control of semiconductor output light barriers

Description

Emergency Stop Relay BG 5925 complies fully with the requirements of the Standard Specifications referred to on page *. The unit is housed in an ultra compact 22.5 mm wide case suitable for DIN rail mounting and is available in a wide range of auxiliary voltages. It differs from the BN 5983 described previously in that it employs fail-safe electronic circuitry for the self checking and short circuit / link monitoring features and has two switches under the front plate to enable the selection of :

Switch 1 - Cross fault monitoring of E-Stop circuits (Category 3 or 4).
Switch 2 - Auto or manual reset.

NB: On /900, /901 versions, only switch S2 is fitted.

NB: On /105, /106 (110V, 230Vac) versions, only switch S2 is fitted.

Circuit Connections

The OFF and the EMERGENCY STOP buttons are connected in series between terminals S11 and S12/S22 (Category 3) the auxiliary supply is connected to terminals A1(+) A2(-). The circuits to be tripped may be connected to terminals 13-14, 23-24 and 33-34.

When the EMERGENCY STOP button is activated power is removed from terminals S12/S22, relays K1, K2 are de-energised and contacts 13-14, 23-24 and 33-34 open.

Special Note

It is recommended that redundancy is carried through to the EMERGENCY STOP button by using a dual contact button as shown. If a single contact button is used then terminals S12 and S22 should be bridged (Category 2 applications only).

Indication

The relay is equipped with three green LEDs. When illuminated they indicate the healthy condition of the auxiliary supply and circuits K1-2.

Emergency Stop Relay

Type BG 5925 safemaster

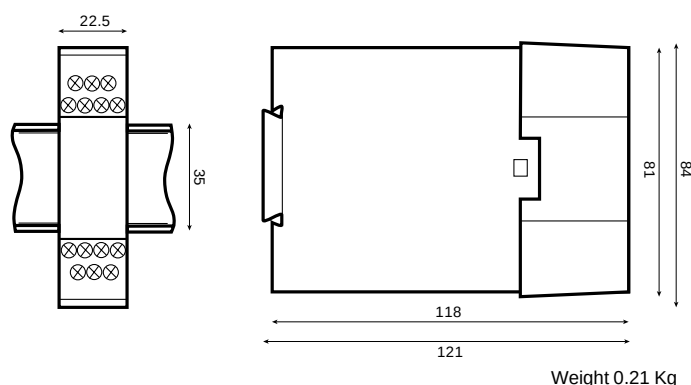


Additional Information

If additional switching contacts are required then Relay BG 5925 may be used with extension modules Type BG5929 / BN 3081. Should a timed delayed release contact be required then BG 5925 may be used with time delay modules BG 7925 / BG 7926 / IL 7824 / IN 7824 / BA 7924 (diag. 5). Model BG 5925 may be used with protective guards / screens and an insulation monitoring relay may be connected to monitor S21 to ground.

NB: When BG 5925 is used in automatic reset mode there will be a 250ms delay on reset.
(100ms available on request, /101, /901 versions).

Dimensions



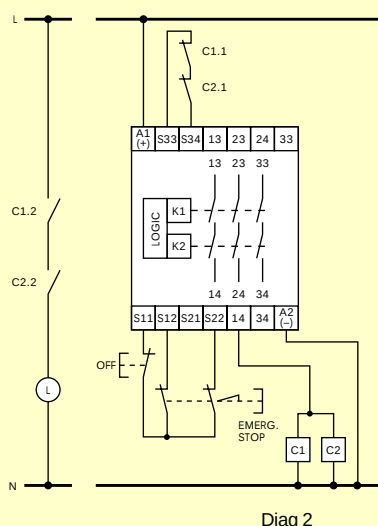
Weight 0.21 Kg

Schematic Diagram

BG 5925.03 with external contactors. This diagram shows how external contactors with positive guided contacts C1 and C2 may be used to reinforce the switching capacity of BG 5925 with continued redundancy.

Category 3
SW1 = B

Auto Reset
SW2 = B



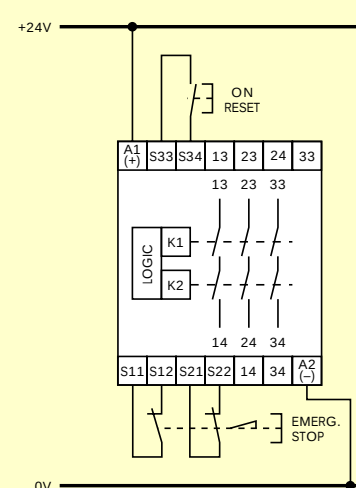
Diag 2

BG 5925.03 with cross fault monitoring of the E-Stop circuit

Category 4
SW1 = A

Manual Reset
SW2 = A

Category 4 applications
manual reset only

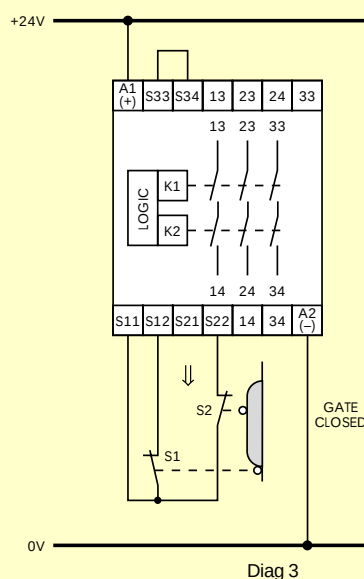


Diag 4

BG 5925.03 used as a safety gate monitor

Category 3
SW1 = B

Auto Reset
SW2 = B

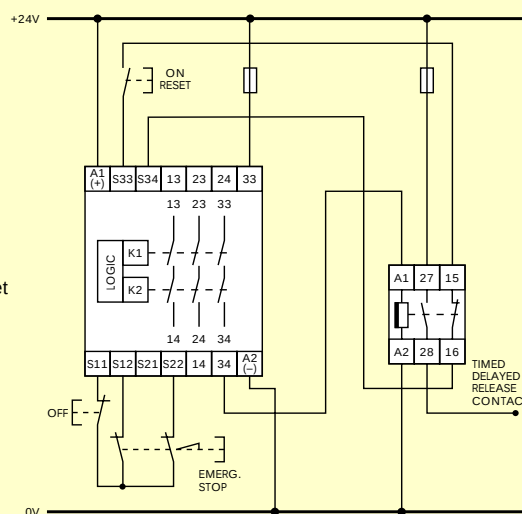


Diag 3

BG 5925.03 with additional delayed release safety timer IL 7824, IN 7824, BA 7924

Category 3
SW1 = B

Manual Reset
SW2 = A



Diag 5

Emergency Stop Relay

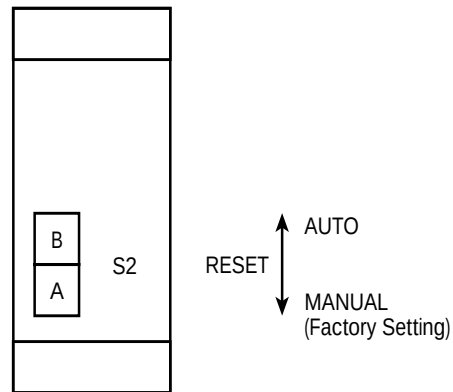
Type BG 5925
safemaster



Additional Information

When using BG 5925 with coded magnetic switches NE 5020 and NE 5021, the version BG 5925/920 should be used. This version is preset for cross fault monitoring and has only one internal switch S2 fitted. This switch allows manual or auto reset to be configured.

Additionally the 110V, 230Vac variant BG5925/105 (no cross fault monitoring) and BG5925/106 (with cross fault monitoring), also only have switch S2 fitted.



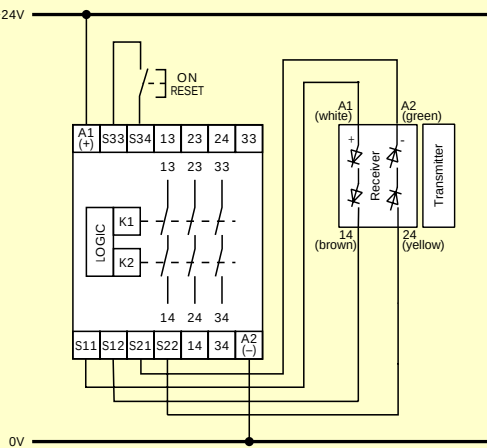
For versions, /105, /106/, /900, /901, /920

To select required function remove front cover with screwdriver (see diagram page x) and set switches to the desired position.

Schematic Diagram

BG 5925.03/920
with NE 5020.02
coded magnetic
switch.

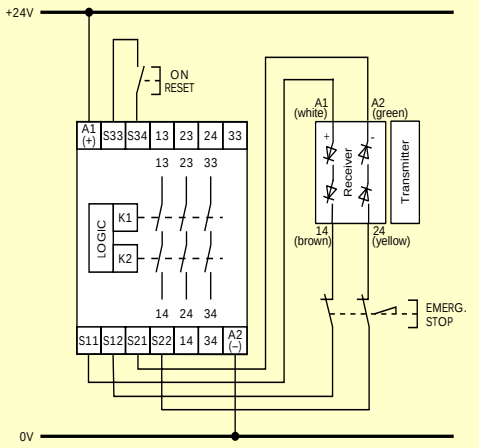
Category 4
Manual Reset
SW2 = B



Diag 6

BG 5925.03/920
with NE 5020.02
coded magnetic
switch and E-stop
pushbutton.

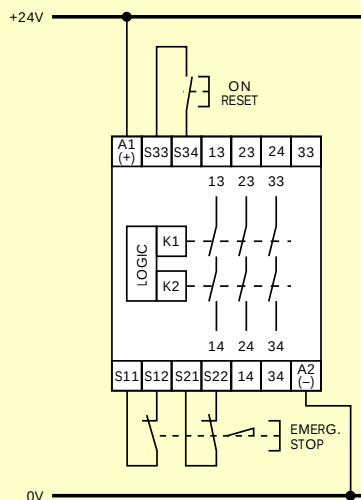
Category 3
Manual Reset
SW2 = B



Diag 8

BG 5925.03/106 with cross
fault monitoring of the E-Stop
circuit

Manual Reset
SW2 = A

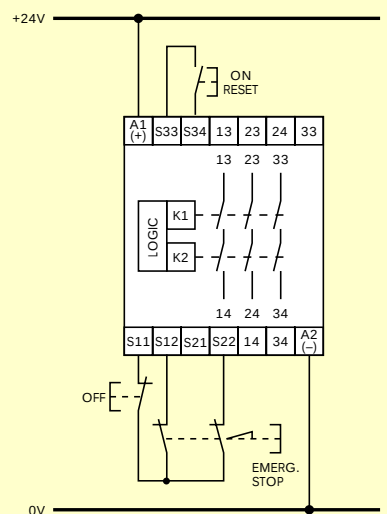


Category 4 applications only

Diag 7

BG 5925.03/105 without cross
fault monitoring of the E-Stop
circuit

Manual Reset
SW2 = A



Category 3 applications only

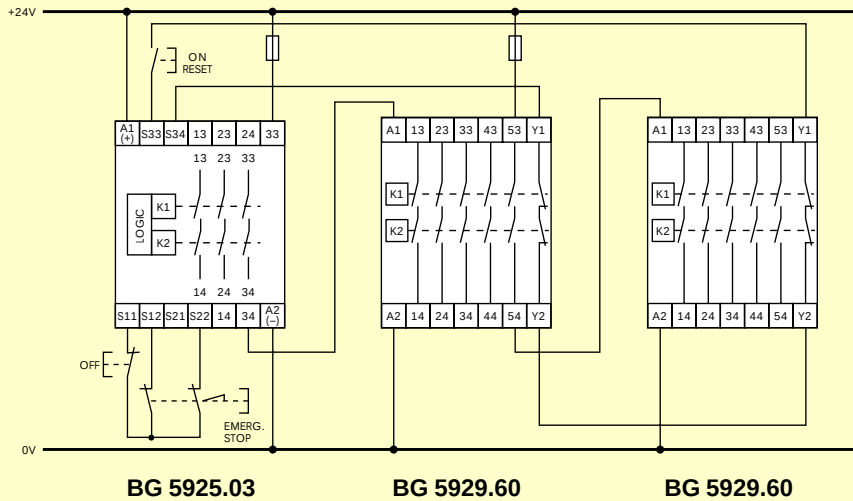
Diag 9

Emergency Stop Relay

Type BG 5925
safemaster



BG 5925 with BG 5929.60 Extension modules



Diag 10

Specifications

Nominal Voltage (Vn)	24V dc or 24V ac 110V, 230V ac (on request)
Burden	<2VA ac/1.2W 24V dc
Voltage Tolerance	0.8 – 1.1 Vn ac, 0.8–1.2 Vn dc
Frequency	50 to 60Hz ±5%
Control Voltage	24V dc (S11)
Min. Return Voltage	18.5V dc (S12/S22)
Contacts	Gold plated 5 microns
Max Switching Capacity	8A ac (cos φ 1 - 0.7) 8A dc See page xx
Continuous Current Rating	See page xx
Contact Life Mechanical	30 x 10 ⁶ operations
Contact Life Electrical	See page xx
Derated Capacity	AC15, 4A, 250V ac DC13, 4A, 24V dc
(for Heavy Inductive Loads)	
Min Switching Voltage & Current	0.1 – 60V, 1–300mA
Max Switching Voltage	250V ac, 250V dc
Max Switching Power	2000VA (AC1) / 192W dc
Max Switching Frequency	6000 operations/hour
Max Loop Resistance	110Ω
	S11/S12–S22
	Dual Channel Operation
Reaction Times	Manual Reset 40ms Auto Reset 250ms, /101, 100ms E-STOP < 20ms
Operating Temperature	–15°C...+55°C at 90% RH
Protection Class	Case IP40 Terminals IP20
Test Voltage	2.5kV 1 minute
Shock Loading	Amplitude 0.35mm Frequency 10–55Hz (5g @ 50Hz)
Enclosure Material	Thermoplastic VO Rating UL94
Terminations	1 x 4mm ² solid 2 x 2.5mm ² solid 1 x 2.5mm ² stranded ferruled 1 x 1.5mm ² stranded

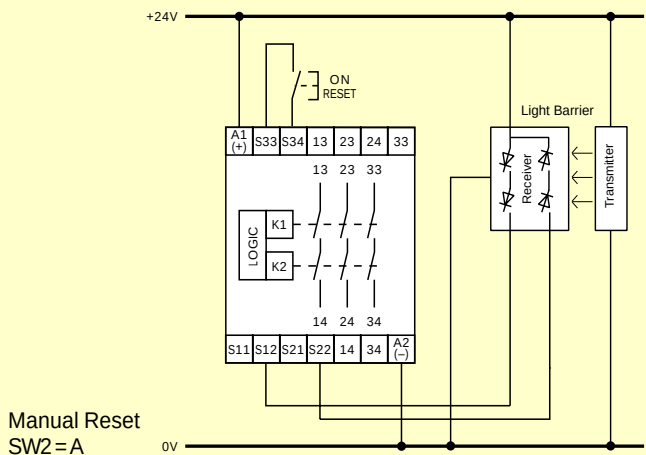
Information Required With Order

• Model type • Auxiliary supply

Example: Emergency Stop Relay Type BG 5925.03

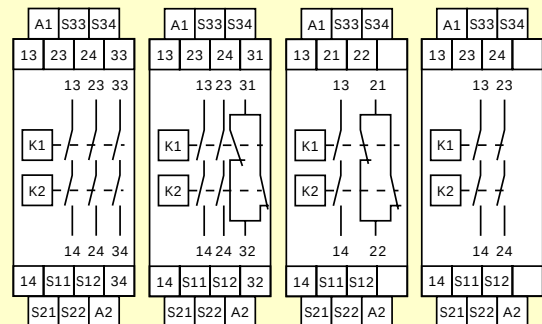
Auxiliary Supply 24V dc

BG 5925.03/900 used as a light barrier monitor for semiconductor output light barriers.



Diag 11

Terminal Layout



BG 5925.03 BG 5925.22 BG 5925.16 BG5925.02