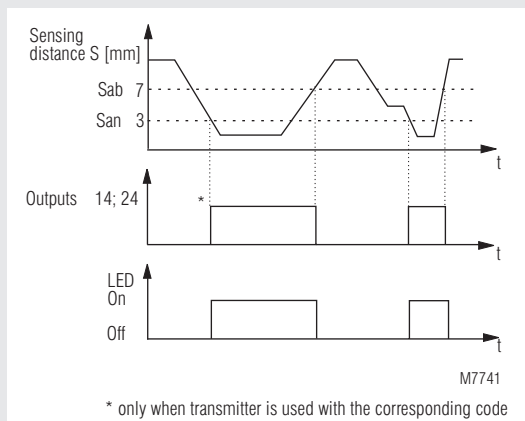


- Usable for safety application by using a correctly installed and connected, security module (e. g. BG 5925/920 or LG 5925/920)
- According to IEC/EN 60 204-1, EN 1088
- 2 channel system
- Standard switching distance: $S_{an} \leq 5.5 \text{ mm}$
 $S_{ab} \geq 13 \text{ mm}$
- 2 NO semiconductor outputs providing diversity and redundancy
- Magnetic coded, safe against manipulation
- Open end connection wires
- M8 or M12 connector as option
- Long service life
- Easy to mount
- Resistant against vibration
- Not sensitive to external magnetic fields
- Protection class IP 67
- LED indicator

Function Diagram



Approvals and Marking



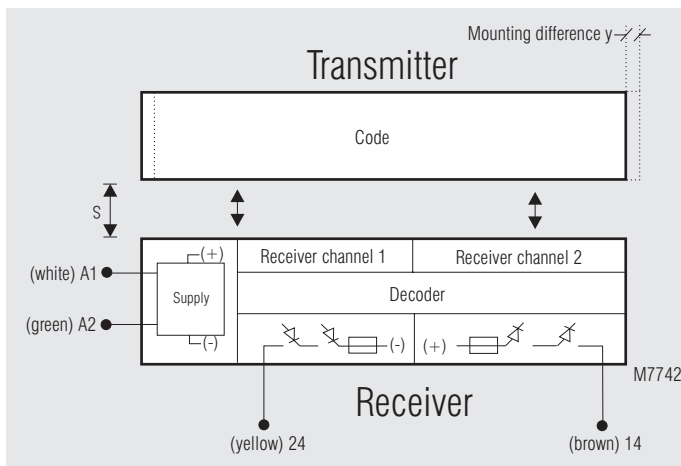
Additional Information about this topic

- Data sheet control unit BG 5925/920 or LG 5925/920 for safety switch

Application

The magnetic switch NE 5020 is suitable to detect the closed state of safety gates, sliding gates and removable covers also under rough ambient conditions or for hygienic requirements. The corresponding control unit is BG 5925/920 or LG 5925/920.

Block Diagram



Drawing shows contacts in inactive state

Function

The magnetic switch NE 5020 includes a magnetic coded transmitter and a receiver as decoder. The semiconductor outputs close, when the receiver recognises the right code from the transmitter. The control unit detects cross faults on the lines 14 and 24. The control unit is switched off when a fault is detected and inhibits a new start. The switch is protected against short circuits and peak voltages.

Connections

The NE 5020 is connected to the control unit BG 5925/920 or LG 5925/920 according to the application example below.

Indication

green LED: switch is active, outputs switched on

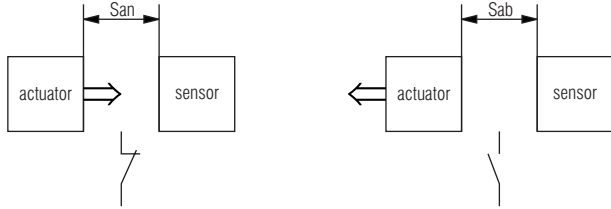
Notes

The code of transmitter and receiver are identically on delivery. This can be verified by a mark on the test sticker.

Technical Data

Input

Nominal voltage A1/A2 U_N:	DC 24 V
Voltage range:	0.9 ... 1.1 U _N
Nominal consumption:	27 mA
Operating distance	
S _{on} :	≤ 5.5 mm
S _{off} :	≥ 13 mm
undefined situation:	5.6 ... 12.9 mm
Max. mounting difference:	y = ± 1 mm



M8351_a

Output

NE 5020.92	2 semiconductor outputs
Output 14:	+ DC 24 V (+ switching)
Output 24:	0V (- switching)
Reaction time:	max. 50 ms
Thermal current I_{th}:	max. 200 mA
Electrical life:	50 x 10 ⁶ switching cycles
Permissible switching frequency:	3 600 switching cycles / h

General Data

Operating mode:	Continuous operation	
Temperature range:	- 25 ... + 60 °C	
Strain relieve:	VDE 0623, IEC/EN 60 669-1 (appendix B)	
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:	0.5 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 67	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:	25 / 060 / 04	IEC/EN 60 068-1
Wire connection:	4 wires with open end	
	white: + 24 V	
	green: 0 V	
	brown: +24 V switched signal	
	yellow: 0 V switched signal	
	or M8/M12-connector, pin configuration see drawing	
Length of cable:	4 m, according to UL Style 2464	
Mounting:	Screw M4 with plain washer	
	max. 1.1 Nm	EN ISO 7092
Mounting torque:		
Weight:		
Transmitter:	45 g	
Receiver:	95 g	

Dimensions

Width x height x depth:	
Transmitter:	92 x 24 x 18 mm
Receiver:	92 x 24 x 23.5 mm

Technical Data

Statistic related data

λ _{total} :	408	FIT
MTTF:	279,8	a
d _{op} :	365	days/a
h _{op} :	24	h/day
t _{cycle} :	3600	s/cycle
n _{op} :	8760	cycles/a
B ₁₀ :	245098	cycles

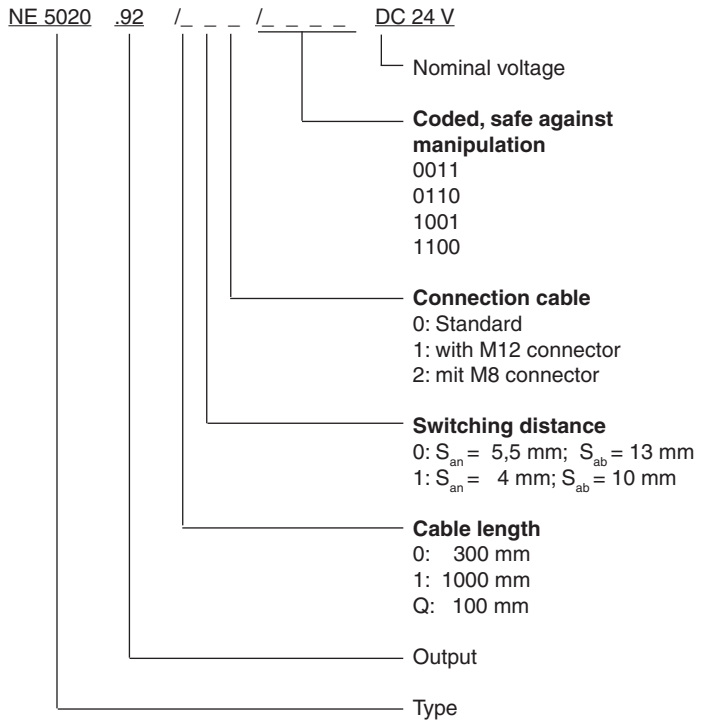
Standard Type

NE 5020.92 DC 24V	
Article number:	0051641 (for Receiver and Transmitter)
• Output:	2 semiconductor outputs
• Nominal voltage U _N :	DC 24 V
• Connection cable:	4 m, open wire

Variants

NE 5020.92/001	Connection cable with M12 connector (on request)
NE 5020.92/002	Connection cable with M8 connector (on request)
NE 5020.92/01_:	S _{an} : 3 mm
	S _{ab} : 7 mm

Ordering example for variants



Accessories

Control units for magnetic switch NE 5020

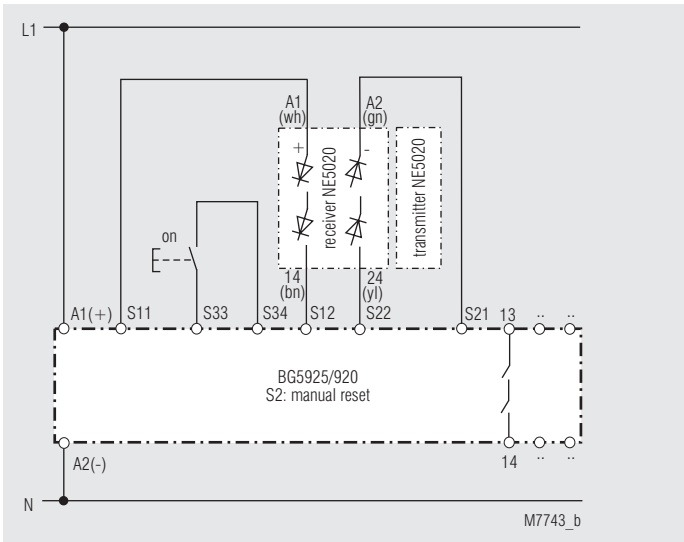


BG 5925.22/920
Article number: 0052272

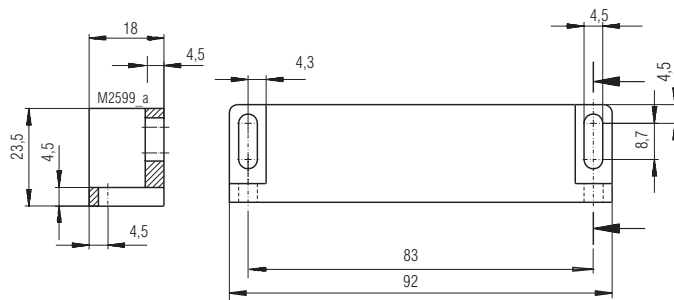


LG 5925.48/920
Article number: 0063683

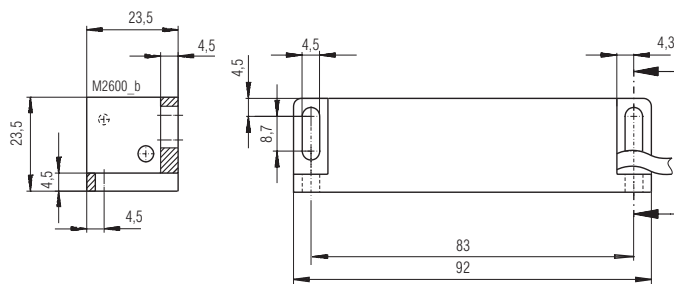
Connection Example



Dimension Diagrams



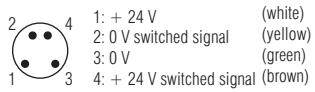
Transmitter



Receiver

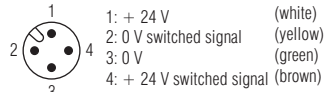
Pin Configuration for variant with connector

Pin configuration M8-connector:



- 1: + 24 V (white)
- 2: 0 V switched signal (yellow)
- 3: 0 V (green)
- 4: + 24 V switched signal (brown)

Pin configuration M12-connector:



- 1: + 24 V (white)
- 2: 0 V switched signal (yellow)
- 3: 0 V (green)
- 4: + 24 V switched signal (brown)

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Pin configuration M8/M12-connector

