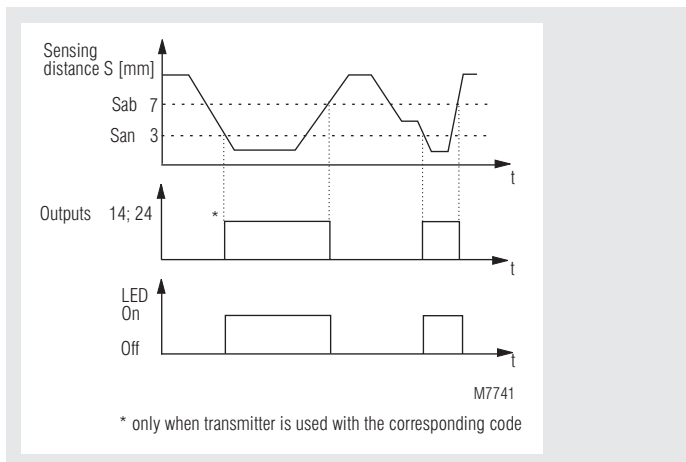


- Usable for safety application by using a correctly installed and connected, security module (e. g. BG 5925/920 or LG 5925/920)
- According to IEC/EN 60 204-1, EN 1088
- 2 channel system
- Standard switching distance:  $S_{an} \leq 5.5 \text{ mm}$   
 $S_{ab} \geq 13 \text{ mm}$
- 2 NO semiconductor 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



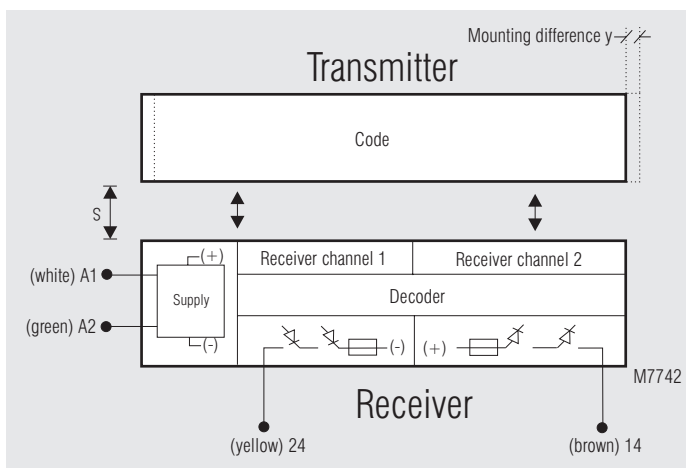
### Additional Information about this topic

- 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

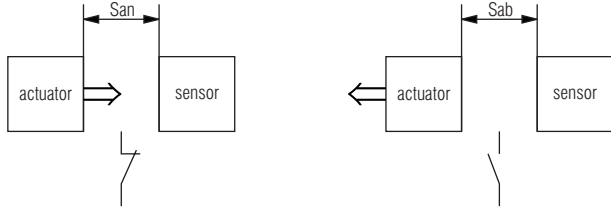
### Notes

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

## Technical Data

### Input

<b>Nominal voltage A1/A2 U<sub>N</sub>:</b>	DC 24 V
<b>Voltage range:</b>	0.9 ... 1.1 U <sub>N</sub>
<b>Nominal consumption:</b>	27 mA
<b>Operating distance</b>	
S <sub>on</sub> :	≤ 5.5 mm
S <sub>off</sub> :	≥ 13 mm
undefined situation:	5.6 ... 12.9 mm
<b>Max. mounting difference:</b>	y = ± 1 mm



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### Output

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

### General Data

<b>Operating mode:</b>	Continuous operation	
<b>Temperature range:</b>	- 25 ... + 60 °C	
<b>Strain relieve:</b>	VDE 0623, IEC/EN 60 669-1 (appendix B)	
<b>EMC</b>		
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
<b>Degree of protection</b>		
Housing:	IP 67	IEC/EN 60 529
<b>Housing:</b>	Thermoplast with V0-behaviour according to UL subject 94	
<b>Vibration resistance:</b>	Amplitude 0.35 mm	IEC/EN 60 068-2-6
	frequency 10 ... 55 Hz	
<b>Climate resistance:</b>	25 / 060 / 04	IEC/EN 60 068-1
<b>Wire connection:</b>	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	
<b>Length of cable:</b>	4 m, according to UL Style 2464	
<b>Mounting:</b>	Screw M4 with plain washer EN ISO 7092 max. 1.1 Nm	
<b>Mounting torque:</b>		
<b>Weight:</b>		
Transmitter:	45 g	
Receiver:	95 g	

### Dimensions

<b>Width x height x depth:</b>	
Transmitter:	92 x 24 x 18 mm
Receiver:	92 x 24 x 23.5 mm

## Technical Data

### Statistic related data

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

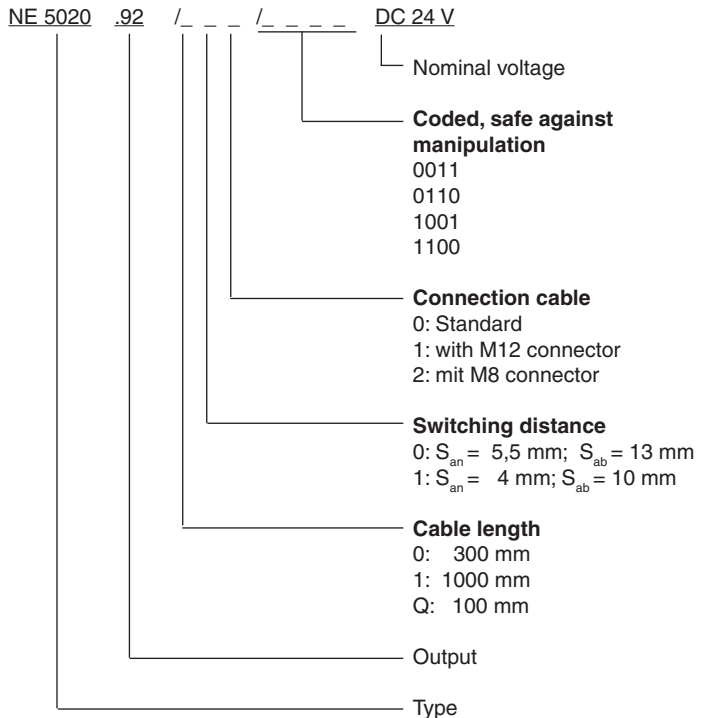
### Standard Type

NE 5020.92 DC 24V	
Article number:	0051641 (for Receiver and Transmitter)
• Output:	2 semiconductor outputs
• Nominal voltage U <sub>N</sub> :	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 <sub>an</sub> : 3 mm
	S <sub>ab</sub> : 7 mm

### Ordering example for variants



### Accessories

Control units for magnetic switch NE 5020

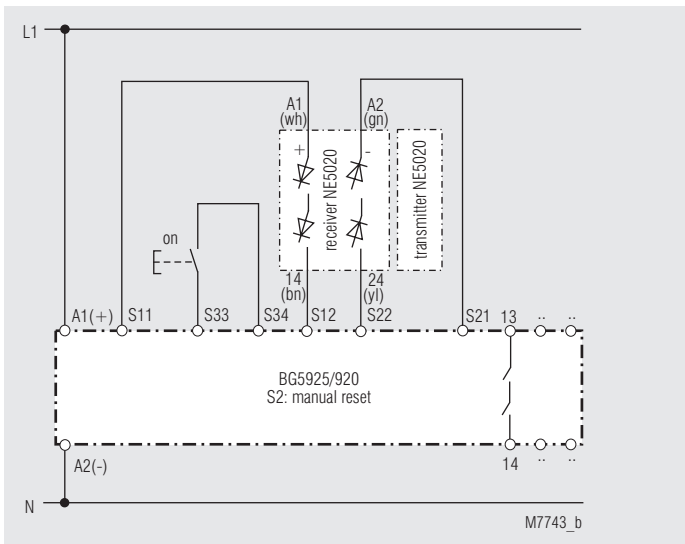


BG 5925.22/920  
Article number: 0052272

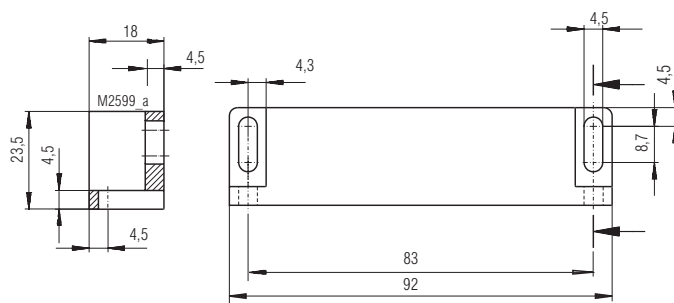


LG 5925.48/920  
Article number: 0063683

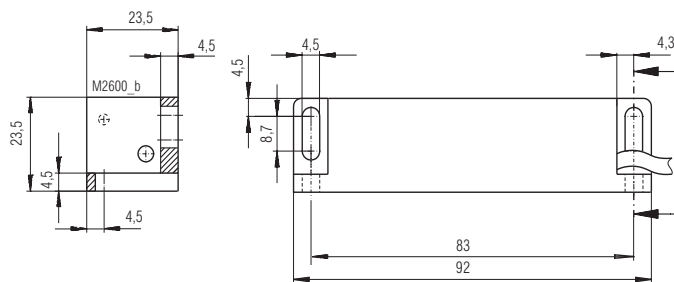
## Connection Example



## Dimension Diagrams



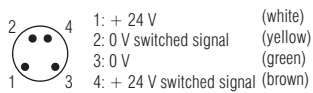
**Transmitter**



**Receiver**

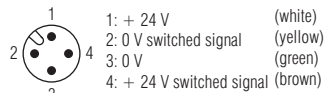
## Pin Configuration for variant with connector

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

