

**FM910321**

**FILLING LEVEL SENSORS • GUIDED MICROWAVE**

Filling level and level sensors operate according to different measuring principles. The selection of the sensor depends on the medium to be detected and the ambient conditions. The material flow in a vibratory bowl can be excellently queried with inductive filling level sensors whose pendulum is moved by the material in the pot. The detection of liquid or solid media is, for instance, possible with capacitive filling level sensor technology. These work according to the principle of the condensator, the medium changes the dielectricity between two electrodes. The resulting change is converted into a digital output signal. A further alternative for the detection of filling levels of conductive media is provided by conductive filling level relays. The resistance between reference and measuring electrode is determined. If a set threshold is exceeded, a relay output switches.



**MECHANICAL DATA**

Ambient temperature (MAX)	70 °C
Degree of protection (IP)	IP67
Housing design	Special construction
Housing material	Stainless steel 1.4571
Medium temperature (MAX)	80 °C
Pressure resistance	10 bar
Probe diameter	16 mm
Probe length	500 mm
Sensing element material	Stainless steel 1.4571
Sensor length	630 mm
Thread length	17 mm
Thread size, inches	3/4 inch
Type of process connection	G3/4 inch

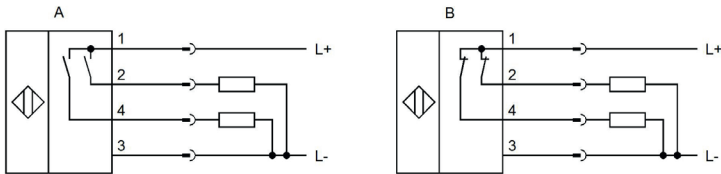
**ELECTRICAL DATA**

Max. output current	0.2 A
No-load current	45 mA
Number of pins	4
Number of probes	1
Physical measurement principle	Microwave
Rated control supply voltage Us at DC (MAX)	27 V
Rated control supply voltage Us at DC (MIN)	20 V
Response sensitivity, adjustable	Yes
Reverse polarity protection	Yes
Setting procedure	Parameterization
Short-circuit-proof	Yes
Switching frequency	5 Hz
Type of electrical connection	Connector M12
Type of switching function	Programmable/configurable

## ELECTRICAL DATA

Type of switching output	PNP
Voltage drop	2 V
Voltage type for actuation	DC
With LED display	Yes

## CONNECTION



**Colors:** A: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black)

B: 1 = BN (brown), 2 = WH (white), 3 = BU (blue), 4 = BK (black) **Functions:** A: 1 = L+, 2 = PNP NO, 3 = L-, 4 = PNP NO

B: 1 = L+, 2 = PNP NC, 3 = L-, 4 = PNP NC

## DIMENSIONAL DRAWING

### INSTALLATION



Mounting / Installation may only be carried out by a qualified electrician!

### DISPOSAL



### SAFETY WARNINGS

Before initial operation, please make sure to follow all safety instructions that may be provided in the product information!

Never use these devices in applications where the safety of a person depends on their functionality.