SOMLEVEL-15
SOMLEVEL-15-SDI-12

Level Sensor

The SOMLEVEL-15 is the ideal radar sensor for non-contact level measurement in all standard applications where a high degree of performance is required. It is particularly suitable for level measurements in rivers and channels, water treatment canals and pumping stations, lakes and rain overflow basins, and level monitoring for industrial applications with liquid handling.

The SOMLEVEL-15 emits a continuous 80-GHz radar signal towards the surface of the medium where it is reflected and then detected by the sensor antenna.

The frequency difference between the emitted and received signal is proportional to the distance and depends on the level. The determined level is then converted into a 4 ... 20 mA or SDI-12 output signal. The latter is designed for connection to data loggers with SDI-12 interface, making it particularly suitable for battery-powered applications requiring low power consumption.

Due to the contact-free, highly reliable technology the SOMLEVEL-15 is not affected by high temperature or intense humidity, floods, floating debris or turbid water and provides maximum data quality. With its compact and versatile design it is easily installed and requires no maintenance.

Versions

Art	Version
21472	SOMPULS-15, 4...20 mA output, straight cable outlet, 10-m cable
21473	SOMPULS-15, 4...20 mA output, elbow cable outlet, 5-m cable
21641	SOMPULS-15, SDI-12 output, elbow cable outlet, 25-m cable

Scope of delivery

Qty	Art	Name
1	-	Level sensor in the required version

Accessories

Art	Accessories
-	-

Specifications

Level sensor	
Measurement range	up to 15 m (49.21 ft)
Accuracy	≤ 2 mm
Beam angle	8°
Measurement frequency	W-band (80 GHz)
Output signal	4 ... 20 mA HART or SDI-12
Process fitting	Thread G1½, 1½NPT, R1½
Mounting connection	Thread G1, 1NPT, R1
Process pressure	-1 ... +3 bar (-100 ... 200 kPa, -14.5 ... 43.51 psig)
Process temperature	-40 ... +80 °C (-40 ... +176 °F)
Ambient temperature	-40 ... +80 °C (-40 ... +176 °F)
Operating voltage	12 ... 35 VDC
Material	Wetted parts: PVDF Process seal: FKM Connection cable: PVC insulated
Protection rating	IP68
Size Ø x H	Straight cable output: Ø76 x 109 mm (Ø2.99 x 4.28 in)
Weight	0.7 kg (1.543 lbs)

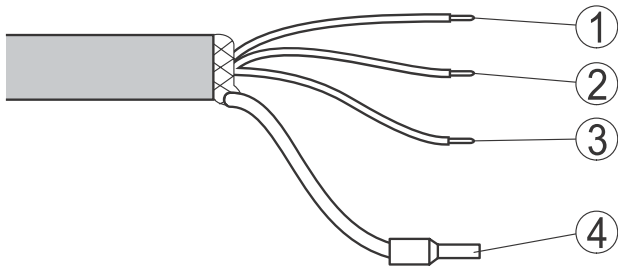## Connection wires

4 ... 20 mA output
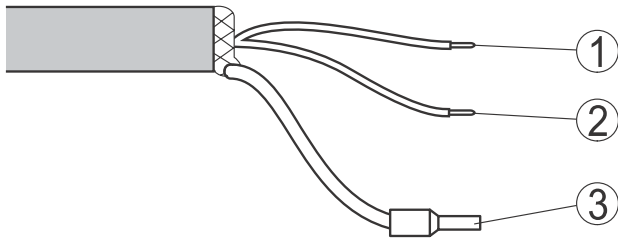
1 ... Brown (+)

2 ... Blue (-)

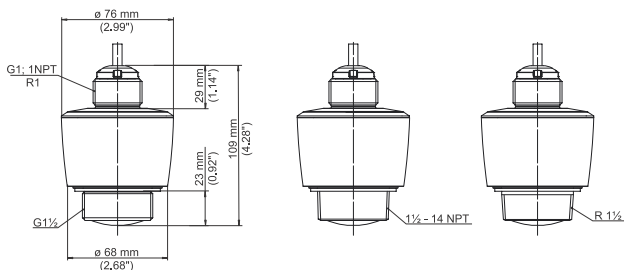3 ... Shield

SDI-12 output
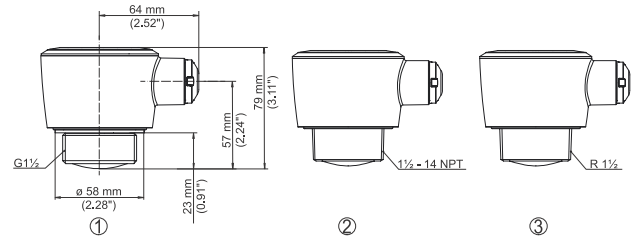

1 ... Brown (+)

2 ... Blue (-)

3 ... White (SDI-data)

4 ... Shield

Dimensions

Straight cable output

Elbow cable output

Basic SDI-12 commands

Command	Response	Description
Break	–	A data recorder starts a request by transmitting a break
a!	a<CR><LF>	Acknowledge Active
aI!	aiic- ccccccccmmmmmmvvvxx..- .xx<CR><LF>	Send Identification:SDI12-compatibility number, Company Name, Sensor model number, Sensor version, Series number
aAb!	b<CR><LF>	Change Adress
?!	b<CR><LF>	Adress Query
aM!	atttn<CR><LF>	Start Measurement
aMC!	atttn<CR><LF>	Start Measurement and Request CRC
aM1! ... aM9!	atttn<CR><LF>	Additional Measurements
aMC1! ... aMC9!	atttn<CR><LF>	Additional Measurements and Request CRC

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Command	Response	Description
aC!	atttn<CR><LF>	Start Concurrent Measurement
aCC!	atttn<CR><LF>	Start Concurrent Measurement and Request CRC
aC1! ... aC9!	atttn<CR><LF>	Additional Concurrent Measurements
aCC1! ... aCC9!	atttn<CR><LF>	Additional Concurrent Measurements and Request CRC
aR0! ... aR9!	a<values><CR><LF>	Continuous Measurements
aRC0! ... aRC9!	a<values><CRC><CR><LF>	Continuous Measurements and Request CRC
aD0! ... aD9!	a<values><CR><LF> a<values><CRC><CR><LF>	Send Data (M*, C*, V)
aV!	attn<CR><LF>	Start Verification

Device status

Failure

Code	Description
F013	No measured value available
F017	Adjusted span too small
F025	Error in the linearization table
F036	No executable software
F040	Error in the electronics
F080	General software error
F105	Measured value is determined
F260	Error in the calibration
F261	Error in the device setting
F264	Installation/setup error
F265	Measurement function

Maintenance

Code	Description
M500	Error in the delivery status
M501	Error in the non-active linearization table
M504	Error on an device interface
M505	No measured value available
M507	Error in the device setting
M508	Non executable Bluetooth software
M509	Software update running
M510	No communication with the main controller
M511	Inconsistent software configuration

Out of specifications

Code	Description
S600	Impermissible electronics temperature
S601	Overfilling
S603	Impermissible power supply

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