ProGap 2.0

Level detection

PROCESS MONITORING SYSTEMS FOR SOLIDS

Product Information

FEATURES:

- easy retrofitting
- Detection through compact non-conductive walls
- can be used with adapter up to 220 °C and 20 bar
- with ceramic mounting, usable up to 1.000 °C
- can be used up to a profile of 25 m (larger profiles on request)
- compact device, no additional evaluation unit needed
- Signalling through relay switching
- extra short sensor with separate evaluation unit for EX-Zones

TECHNOLOGY

USING / FUNCTION

The microwave barrier ProGap 2.0 is an universally and flexibly usable sensor, consisting of a transmitter and a receiver based on the latest microwave technology. It is brought into action for level detection or for positioning of items.

The microwave barrier is a contactless measuring method. It can be installed in bunkers, ducts, shafts or at free-falling stretches. The range of the measurement belongs 0.1 ... 25 m. Higher ranges are as well possible but have to be discussed. In case that container sides, housings or ducts are not of metal. It is possible to measure from the outside.

By means of appropriate windows of non-metallic material, the metering thus can be completely decoupled from the process. That's particularly interesting for the measurement of aggressive, abrasive or bulky material or at extreme pressures and temperatures.

The ProGap 2.0 can also be applied in difficult applications with high temperatures and pressures by means of a process adapter (see page 4). By using microwaves there is a high insensitivity to built-up on the sensor window.

APPLICATION EXAMPLES

Detection of beer foam

Ascending beer foam is detected through a quartz glass plate in order to avoid an unwanted development of foam which could exceed a problematic limit for the whole process.

Monitoring of garbage incineration

Due to its lack of sensitivity regarding build-up on the sensor window, the ProGap 2.0 is successfully used in garbage incinerating plants.

The job of the ProGap 2.0 is to control the feed of garbage via a feeding chute into the burner.

Dosage of fluff in a cement plant

The ProGap 2.0 executes a permanent Min/Max control of the dosage of fluff into the bunker.

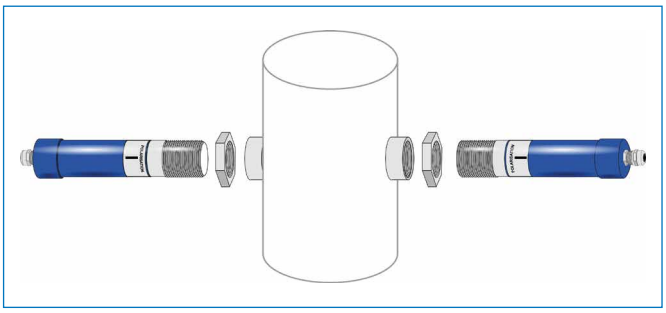
Min = filling start
Max = filling stop
Max-Max = overfilling protection

MONTAGE / SERVICE

MONTAGE

Transmitter and receiver are installed by screwing them into a G 1½ inch screw neck.

The fitting position of the devices is arbitrary. Important is that transmitter and receiver are positioned precisely to each other. The polarisation mark of each device must point in the same direction. The adjustment is made by means of a counter-screw fitting.

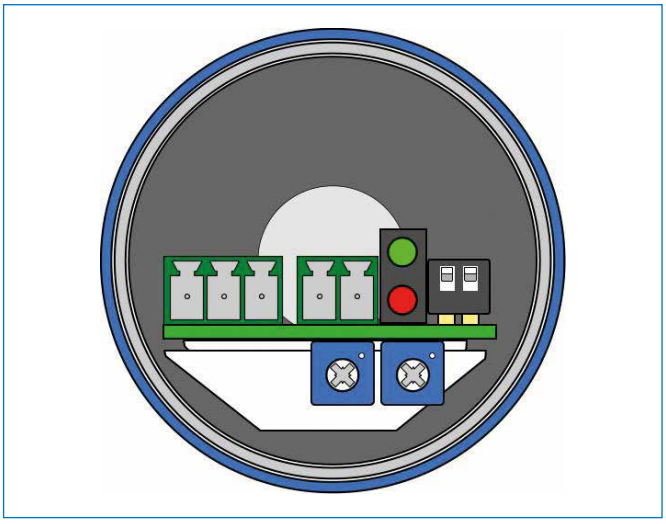


SERVICE

The transmitter and receiver units are supplied with 24 V DC. The switching output as well as all sensor settings are available at the receiver unit.

In the receiver housing, settings for the switching sensitivity and the relay delay time are available.

The integrated field-intensity-LED in the receiver enables quick and easy commissioning, no additional evaluation unit is necessary.



TECHNICAL DATA

Material	Housing: Stainless steel 1.4571 Sensor-Isolation: POM
Protective system	IP 65
Process temperature	20 ... +80 °C 20 ... +220 °C (with process adapter) max. 1000 °C (with ceramic flange)
Ambient temperature	20 ... +60 °C
Working pressure	max. 1 bar max. 20 bar (with process adapter)
Detection range	0.1 ... 25 m
Power supply	24 V DC (-10 / +15 %) 24 V AC (-10 / +15 %)
Power consumption	max. 20 VA
Current consumption	max. 850 mA
Relay contact	Max. rated load: 250 V AC Max. peak current: 6 A Max. rated load 230 V AC: 250 VA Max. breaking capacity DC1: 3/110/220 V: 3/0.35/0.2 A Min. switching load: 500 mW (10 V/5 mA)
Response time	0.25 ... 5 s (continuously adjustable)
Measuring frequency	K-Band 24.125 Ghz (± 100 MHz)
Transmitting power	max. 5 mW
Weight	Transmitter: 1.1 kg Receiver: 1.1 kg

SPECIFICATIONS

USE AS PRESSURE ADAPTER

The ProGap 2.0 sensor can be used at a pressure of 1 bar and process temperatures up to 80 °C.

For higher pressures (up to 20 bar) a pressure adapter made of POM, for higher temperatures a Tecapeek adapter (max. 220 °C) and a ceramic adapter (max. +1000 °C) are available.

A process adapter for applications in the food industry is also available.

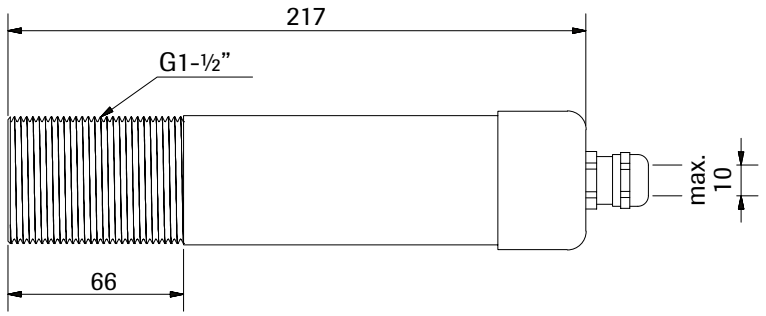
MOUNTING OF PRESSURE ADAPTER

The mounting of the pressure adapter / temperature adapter is identical. It´ is screwed into a welded G 1½ inch thread neck, provided by the customer.

Only the ceramic adapter is supplied as a flange and must be mounted separately. The housing of the ProGap 2.0 is screwed into the internal thread of the adapter.

TECHNICAL DATA

	Pressure adapter	Temperature adapter	Food adapter	High temperature adapter
Material	Stainless steel 1.4571 POM diaphragm	Stainless steel 1.4571 Tecapeek diaphragm	Stainless steel 1.4571 Tecapeek GF30 diaphragm	Steel Ceramic diaphragm
Temperature	-20 ... +80 °C	Max. +220 °C	Max. +220 °C	Max. 1000 °C
Pressure	Max. 20 bar	Max. 20 bar	Max. 20 bar	Max. 40 bar
Thread	G 1½" on both sides	G 1½" on both sides	G 1½" on both sides	G 1½" on sensor side
Wrench width	55 mm	55 mm	55 mm	17 mm



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