GL⬤BAL
TECHNOLOGY SYSTEMS

Manufactured by Superior with Solids **SWR**

ProGap
Microwave Point Level Switch

Use / Function

The ProGap is a microwave point level switch that consists of a transmitter and receiver. It is easy to install and program. It is typically used for High and Low Alarms or for positioning items. It comes in two ranges (gap between the transmitter and receiver): 0...13 ft or 0...60 ft. Higher ranges are possible but have to be discussed.

The level switch can be installed in bunkers, ducts, silos, chutes or any free-falling stretch. Since it uses the latest Microwave Technology, the system can penetrate plastic, fiberglass and other non-metallic material as an option for mounting.

Also, the Process Adapter allows the ProGap to be completely non-intrusive by a POM, Teekapeek or Ceramic window (see page 4). This is very useful for aggressive, abrasive or bulky material or at extreme pressures and temperatures. By using microwave technology, there is a high insensitivity to build-up on the sensor face.

Applications – practical 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 is successfully used in garbage incinerating plants.
The job of the ProGap is to control the feed of garbage via a feeding chute into the burner.

- **Dosage of fluff in a cement plant**

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

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

Installation

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

The mounting location of the devices are arbitrary. However, it is important that the transmitter and receiver are aligned perfectly. Also, the polarization mark of each sensor must point in the same direction. The adjustment is easily made by rotating the housing.

Connection

Connection of the power supply is made at the transmitter and receiver. The relay output is available on the receiver.

Commissioning

The sensitivity and response delay adjustments are located in the receiver housing. The installation is very easy due to the field intensity display blinker located in the receiver. No additional transmitter is required.

Technical Data

| Material	Housing: Stainless Steel 1.4571 Sensor Face: POM
Protective system	NEMA 4X (IP 65); DustEx (optional)
Process Temperature	- 4 … + 176 °F - 4 … + 428 °F (with process-adapter) Max. 1,832 °F (with ceramic-flange)
Ambient temperature	- 4 … + 140 °F
Process Pressure	Max. 1 bar Max. 20 bar (with process-adapter)
Detection range	0 … 13 ft 0 … 60 ft > 60 ft (consult factory)
Power supply	24 V DC (- 10 / + 15 %)
Power consumption	Approx. 1.8 VA
Current consumption	Max. 100 mA
Relay output max. ▪ Voltage ▪ Current ▪ Capacity	 120 V AC / DC 1.25 A 150 VA, 50 W
Response time	0.25 … 5 s (adjustable)
Measuring frequency	K-Band 24.125 GHz (± 100 MHz)
Transmitting power	Max. 5 mW
Weight	Transmitter: 2.42 lbs Receiver: 2.42 lbs
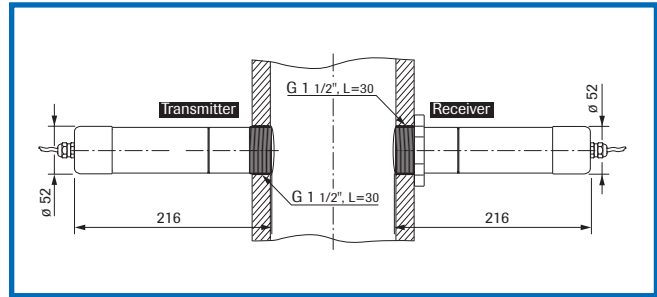
Transmitter & Receiver: Dimensions and Installation
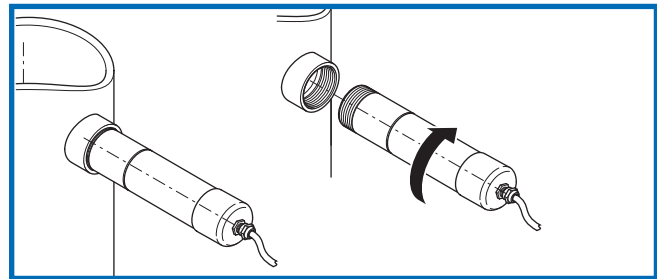
Thread mounting
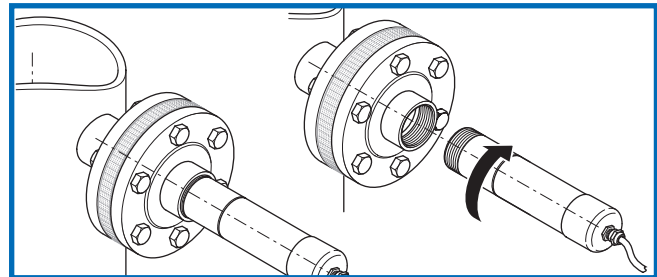
Mounting with separating flange
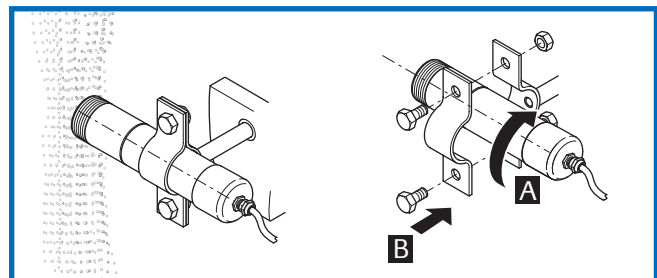
Mounting with pipe clamp

certificated according to **ATEX**

* The ProGap S (remote) is certified to ATEX 21, 22 for use in dust applications.

Use as pressure adapter / temperature adapter

The ProGap sensor by itself can be used at pressures up to 1 bar and temperatures up to 176 °F.

The Pressure Process Adapter has a POM window and is used up to 20 bar. The Temperature Process Adapter has a Tecapeek window and is used for temperatures up to 428 °F and pressures up to 20 bar.

Mounting of pressure adapter / temperature adapter

The mounting of the pressure / temperature adapter is identical. It is screwed into a welded G 1 1/2 inch threaded neck as provided by the customer.

The ProGap housing is screwed into the G 1 1/2 inch female thread of the process adapter and becomes completely nonintrusive

Technical Data

	P/N 21-0001	P/N 21-0002
Material	Stainless steel 1.4571, POM diaphragm	Stainless steel 1.4571, Tecapeek diaphragm
Temperature	-4…+176 °F	Max. +428 °F
Pressure	Max. 20 bar	Max. 20 bar
Thread	G 1 1/2 inch Female and Male threads	G 1½-Zoll on both sides
Wrench width	55 mm	55 mm

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