

Flow monitoring
for all bulk solids
Microwave transmitter and receiver

FSM51

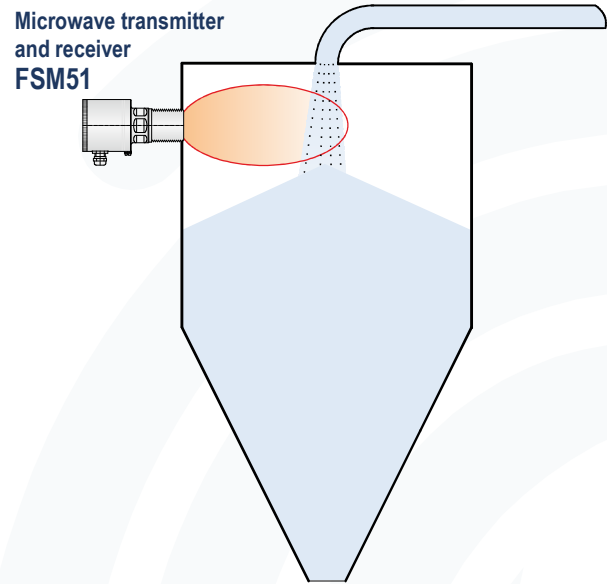
Appliance information

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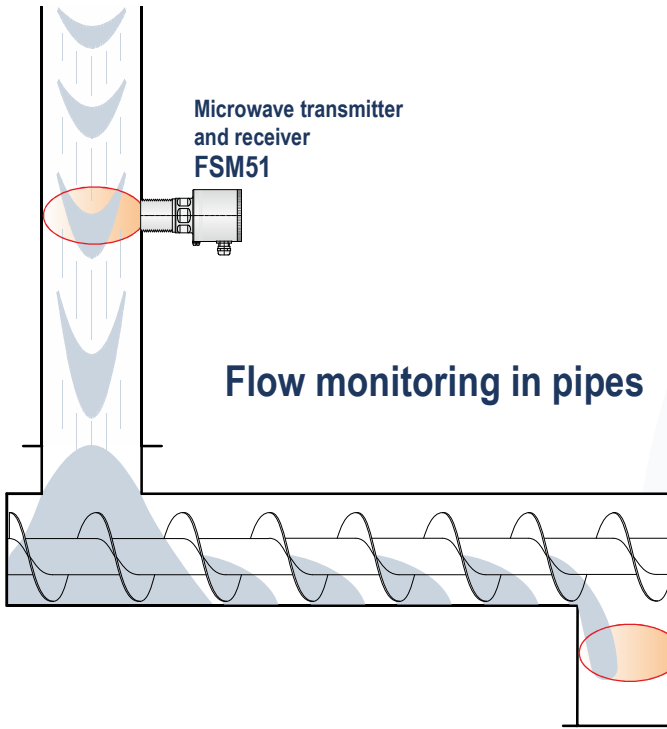
Sample applications

Flow monitoring in silos

Microwave transmitter
and receiver
FSM51



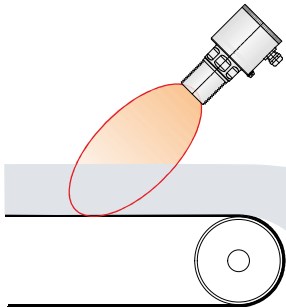
Microwave transmitter
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FSM51



Flow monitoring in pipes

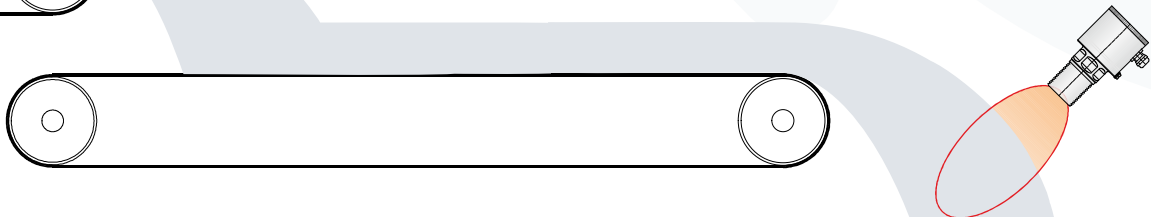
Microwave transmitter
and receiver
FSM51

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Flow monitoring on conveying belts

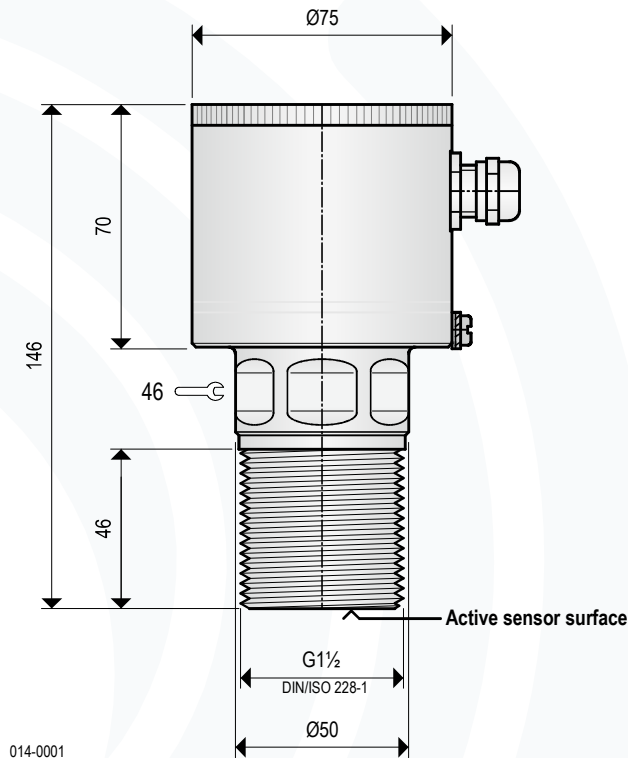
Microwave transmitter
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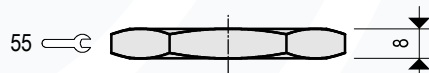
Appliance information

Dimensions

Microwave transmitter and receiver FSM51



014-0001



001-0150

Advantages

- Reliable microwave principle
- For all bulk solids
- For flow monitoring
- Easy installation due to compact design
- Process connection with flange, thread, and others
- Adjustable: sensitivity, signal damping, hysteresis and filter settings
- Easy and cost-effective installation in pipes, on conveying belts and fall plates or similar conveyors and although possible afterwards.

Use

The flow monitoring device **FSM51** is transmitting and receiving microwaves in order to monitor the flow of bulk solids. With this device flow disturbances, material jams and absence of bulk solids during the transport of powder, dust, pellets or granulates can be reliably and early detected. Plant breakdowns will be avoided.

Function

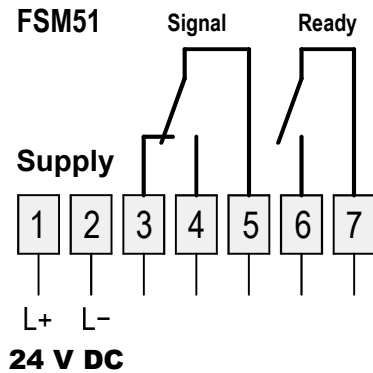
The measurement method of the flow monitoring device **FSM51** is based on the physical principle of the Doppler effect. For this purpose, the sensor emits a microwave field. If bulk solids are moved through this field, microwaves will be reflected and received from the sensor. This triggers a switching operation.

Technical data

Material	housing	stainless steel 1.4301 / 304
	active sensor surface	PTFE (optional ceramic)
Process temperature	$T_{(Process)}$	-20 °C ... +90 °C
Ambient temperature	T_a	-20 °C ... +70 °C
Supply voltage	Supply	24 V DC (18 - 30 V DC)
Power consumption		approx. 80 mA at 24 VDC
Transmission power		10 dBm
Measuring range		10 mm ... 500 mm (depending on bulk solids)
Signal contact	Contact	1 potential free change-over contact 1 normally open contact for Ready
Capacity of contact		10 µA ... 1 A 35 V AC or 45 V DC
Connection terminals		maximum 1.5 mm ² (pluggable)
Cable entry		gland 2x M16x1.5
Type of protection	IP	IP65 according to DIN EN 60529
Protection class		I ⊕
Process pressure	$p_{(Process)}$	up to 2 bar (optional 25 bar)
Weight		1,25 kg
Maintenance		none
Installation position		any
Adjustable parameters		sensitivity, signal damping, hysteresis and filter settings
Parameterization		at the device
Display	LED green LED yellow Bargraph	operation switch output signal power

Appliance information

Electrical connection



014-AP00

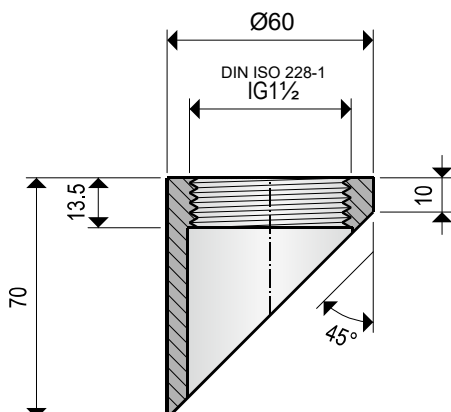
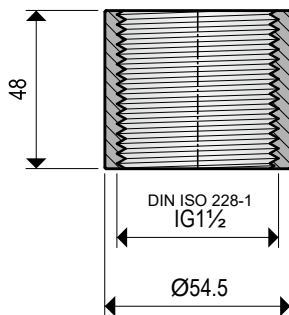
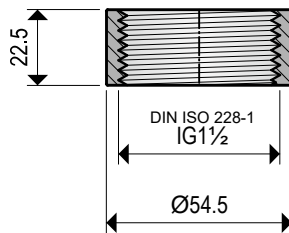
Sealing ring

DRG thread flat seal ring

PTFE (white)

Dimensions (mm)	Order number
60x47x3	K-SZIG2 DRG-PT

Mounting accessories



014-0002

Welding socket short

Size	Order number	Material
IG1½	MK3ST	St 37
IG1½	MK3V4	1.4571 / 316 Ti

Welding socket long

Size	Order number	Material
IG1½	ML3ST	St 37
IG1½	ML3V4	1.4571 / 316 Ti

Welding socket angled

Size	Order number	Material
IG1½	MW3ST	St 37
IG1½	MW3V4	1.4571 / 316 Ti