FlowJam A

Material Flow Detection for Hose Lines

PROCESS MONITORING SYSTEMS FOR SOLIDS

Product Information

FEATURES:

- microwave-based detector for monitoring the flow of solids conveyed by hose lines
- can be installed on electrically non-conductive hoses, such as plastic or rubber
- easy to retrofit
- 4 ... 20 mA output via converter

TECHNOLOGY

USE

FlowJam A is a sensor which has been specially developed for monitoring the flow of solids conveyed by hose lines.

The system can be applied to hose lines made of non-conducting materials such as plastic or rubber with external diameters of between 2 and 10 mm.

The hose line is inserted into the sensor for measuring.

FUNCTION

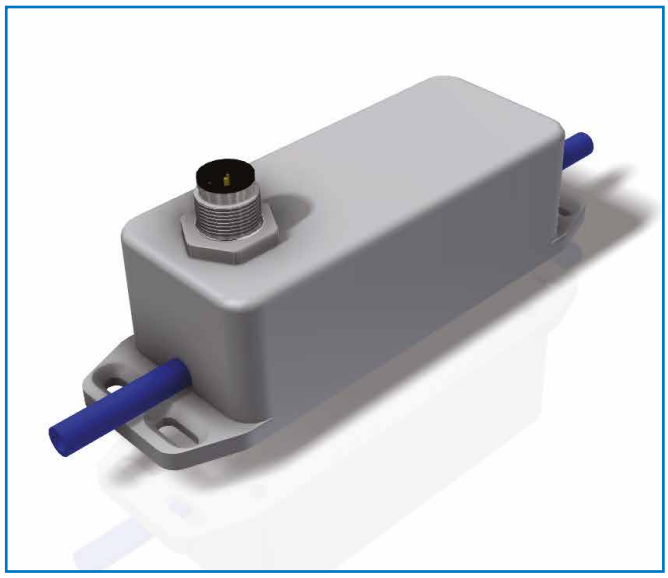
FlowJam A detects streams of solids of all types flowing at a minimum speed of 0.1 m/s through the detection area.

The detection is independent of the direction of flow through the Doppler effect evaluation system.

The flow of material through non-metallic pipelines is displayed by two switching states on the output relay.

The sensor differentiates between the two switching states:

- Material flow
- Material blockage or standstill

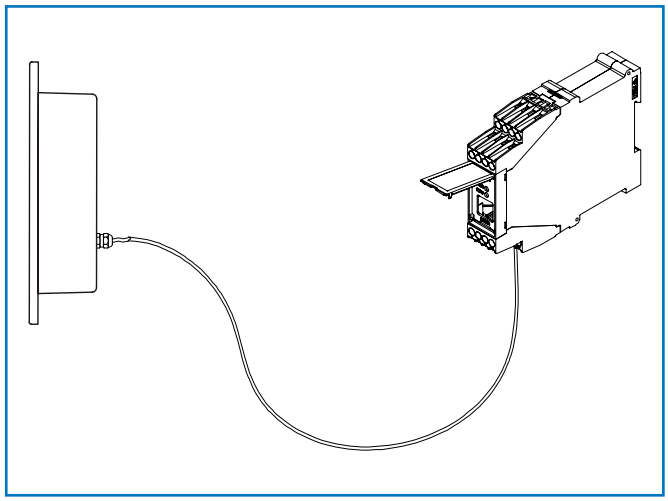


SYSTEM

A complete measuring device consists of the sensor and a Evaluation unit which powers the sensor and provides a switch output.

The control elements for the start-up procedure are found on the FlowJam A's DIN rail electronics.

Both the switching sensitivity and the response delay can be set.



TECHNOLOGY

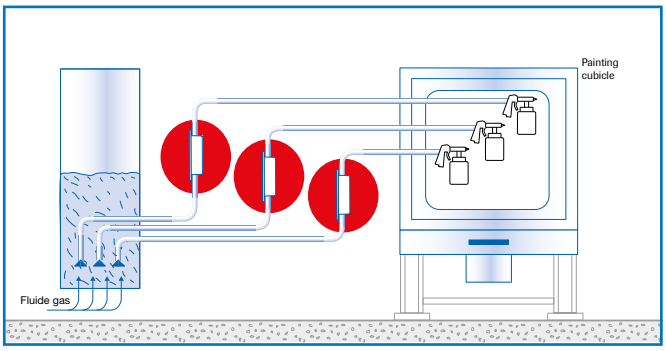
APPLICATION EXAMPLES

- **Powder coating**

  When coating components or devices with powder coating, it is always difficult to ensure a constant emission of powder coating from the spray nozzles.

  Failures in the conveying system often go undetected and can have a negative impact on the coating finish.

  FlowJam A can constantly monitor the stream of powder coating and immediately indicate any failures.

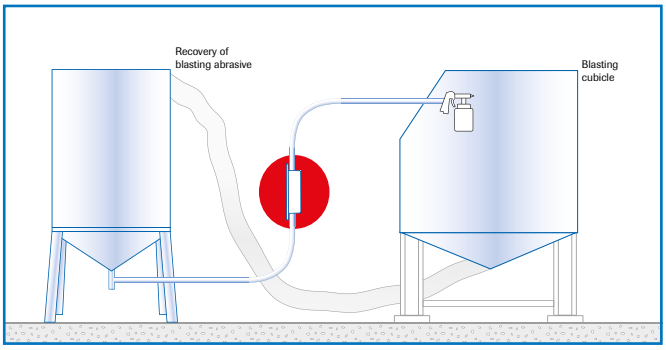


- **Blasting plants**

  To process surfaces, blasting media such as glass beads, ceramics, shell granulates or corundum are pneumatically blasted at high speed onto the surface.

  The constancy of the flow rate is important here too to ensure a good blast quality.

  FlowJam A can constantly monitor the stream of blasting media. Failures are rapidly detected with short response times.

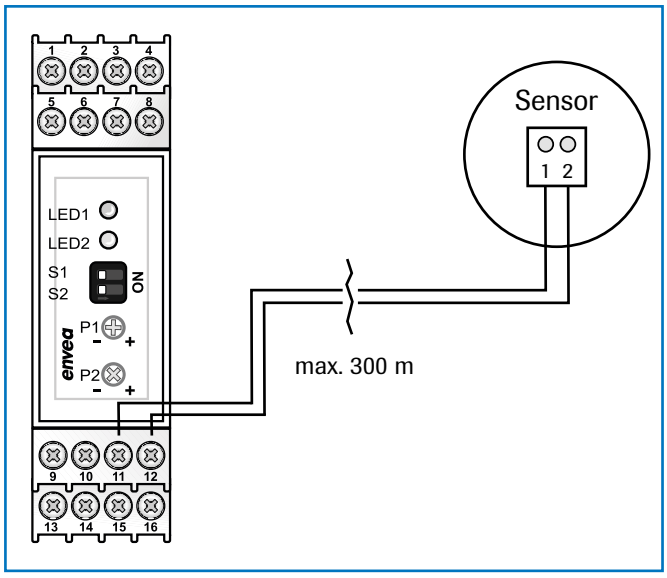


ELECTRICAL CONNECTION

A 2-core cable is required to connect the sensor to the Evaluation unit.

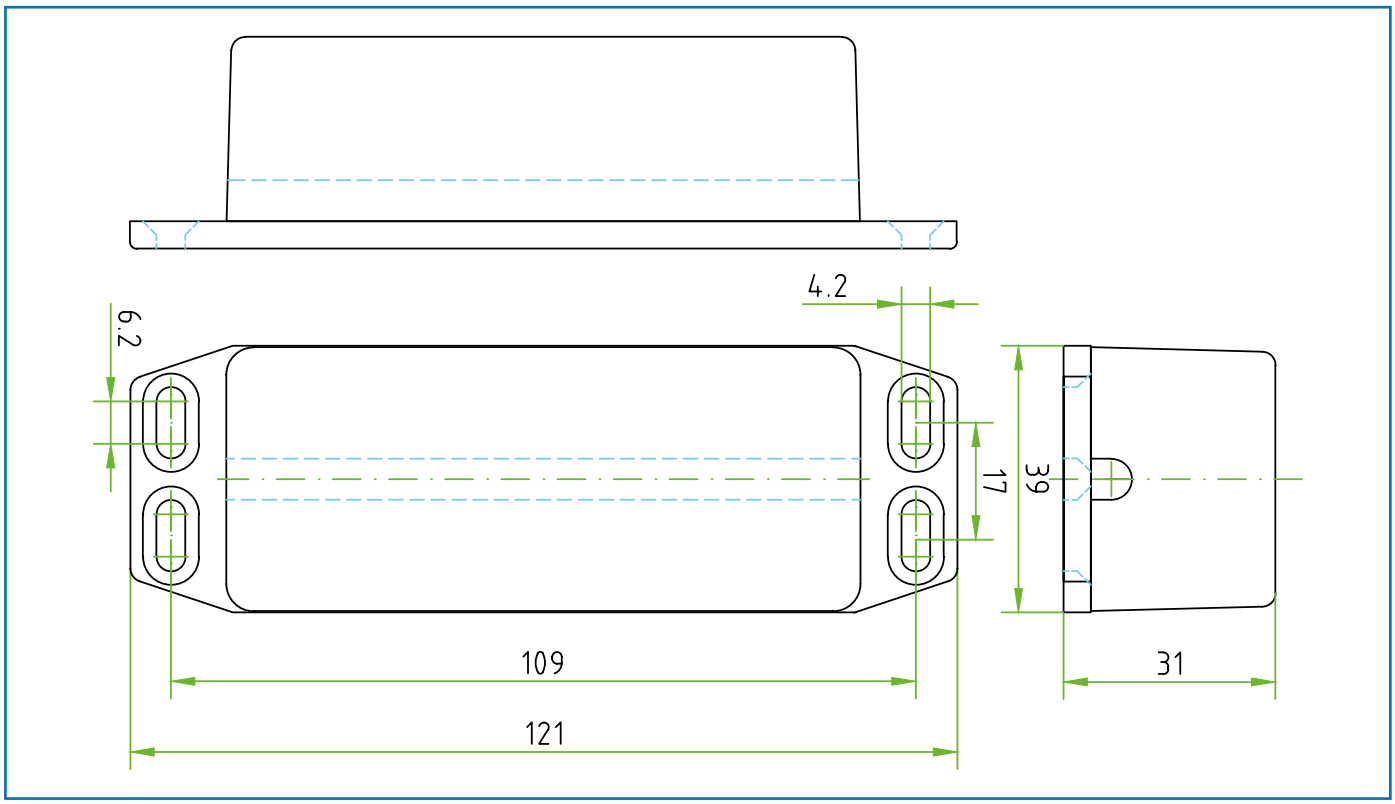
The length must not exceed 300 m.

The sensor is equipped with an M12 connector (including a mating plug).



SPECIFICATIONS

TECHNICAL DATA



Sensor	
Power supply	12 V DC powered by Evaluation unit
Connection	M12 connector
Power consumption	Approx. 1.5 W
Housing material	Aluminium
Protection type	IP 65
Process temperature	-20 ... +60 °C
Ambient temperature	-20 ... +60 °C
Required material speed for detection	Min. 0.1 m/s
Working frequency	K-Band 24.125 GHz; ±100 MHz
Transmitting power	Max. 5 mW
Dimensions	Housing: 122 x 39 x 44 mm (L x W x H)
Weight	Approx. 190 g

Evaluation unit (DIN Rail)	
Power supply	24 V DC ± 10 %
Power consumption	Approx. 3.5 W
Relay output	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)
Fall-delay time	250 ms ... 15 s (continuously adjustable)
Weight	Approx. 172 g

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