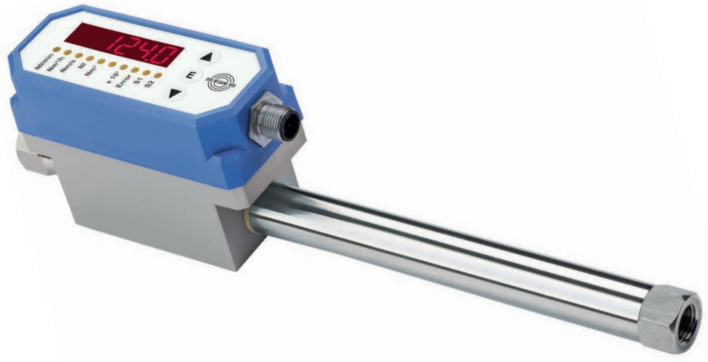
Product innovation

Programmable air flow sensor
Series LDN 1000



Use IO-Link
Universal · Smart · Easy

Easy installation - Accurate measurement

- Mass flow measurement of air
- Consumption measurement in compressed air networks
- Easy configuration via IO-Link interface
- User levels configurable
- Manipulation detection

Application

The LDN 1009 GAPL detects air flow and temperature in compressed air networks. It displays current air consumption of a connected tool or system component in an easy-to-read display and responds quickly to any changes in flow speed. At the same time, the sensor can be used to measure air consumed in standard litres or standard cubic metres.

Functions

- Displayed measurand and unit of measurement selectable
- Configurable outputs
- Reference values for standard pressure and standard temperature adjustable
- TAG ID programmable and readable on device
- IO-Link Device V 1.1

Type

LDN 1009 GAPL P11373 • G1/4 • 15 Nm³/h

Accessories

Mounting plate 72x63x3	Z01217
IOL-Master-Set V1.1	Z01216

IO-Link

IO-Link is a point-to-point communication interface include enabling parametrization of sensors and actuators using a PC / Notebook and an interconnected master module.

Installation

The sensor is inserted inline into the pipe line. Any run-in and run-out distances required result from pipe routes and any existing controls and instruments upstream of the sensor.

Operation and display

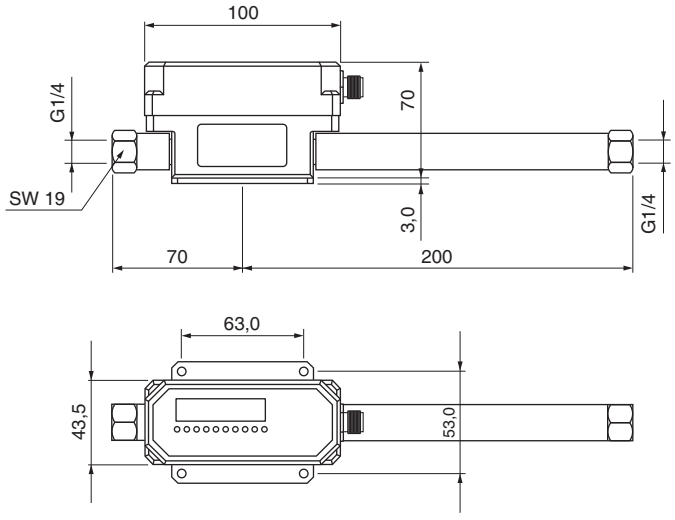
The sensor is parametrized using the front buttons or the IO-Link interface. Its 6-digit display shows the measurement values which can be sent as process data to an PLC via the IO-Link connection.

User levels

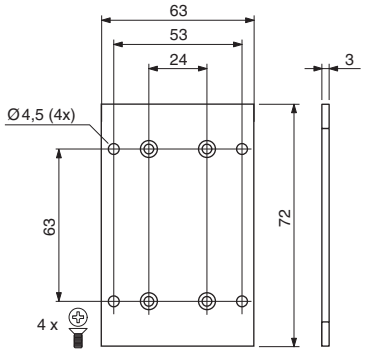
The sensor provides the option to restrict the scope of operation of a user group to the modification of certain parameters.

Manipulation detection

In a non-resettable modification counter, every reparametrization is registered, regardless of whether it was entered via the device buttons or via IO-Link interface. Manipulations are thus detected quickly and reliably.



Mounting plate
(Z01217)



Technical data

Detection ranges		
Air flow	**[Nm³/h]**	**0.04...15.00**
	[Nl/min]	0.5...250.0
	[Nm/s]	0.2...65.5
Temperature	[°C]	0.0...60.0
ID-No.		P11373
Type		**LDN 1009 GAPL**
Flow deviations		
from measurement value	[±%]	4
from measurement range end value	[±%]	0.5
Reproduceability	[±%]	2
Temperature deviation [1]	[±°C]	2
Output S1		PNP-NO/NC, NPN-NO/NC, IO-Link, pulse PNP-NO
Output S2		PNP-NO/NC, NPN-NO/NC, Analog 4...20 mA, reset input for dosage
Supply voltage	[V]	18...30 DC
Current consumption max.	[mA]	≤120
Switching current	[mA]	≤150
Ambient temperature	[°C]	–10...+60
Medium temperature	[°C]	0...+60
Start-up time	[s]	<10
Reaction time	[s]	<0.3
Compressive strength	[bar]	16
Sensor material		Aluminium, AISI 304, thermoplast, ceramic, glass coating
Housing material		Aluminium, PBT, polyester, AISI 316 Ti
Display flow		6-digit, 7-segment red
Protection	[EN 60529]	IP 54
Connection		M12 connector
Programmable functions		Operating modes: Hysteresis function, window function, fault monitoring, pulse output, analog output, dosage function Extended functions: Min/ Max/ average value memory, customised ID, display configuration, selectable units of measurement and standard values, access restrictions

[1] Flow rate min. 20% of full range