

## Data sheet

**FD39**

**Digital flow transmitter / switch**

**With pressure sensors**



The device serves to measure the flow of non-aggressive fluid and gaseous media. It is imperative to consult the manufacturer before using the device for aggressive media because media-compatible materials need to be used for the measuring path.

### Typical applications

- Display unit
- Volume measuring unit
- Flow security

### Application fields

- Measuring steam
- Measuring oil
- Measuring water

### Important features

- Wear-free measuring system
- Maintenance-free

### Design and mode of operation

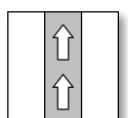
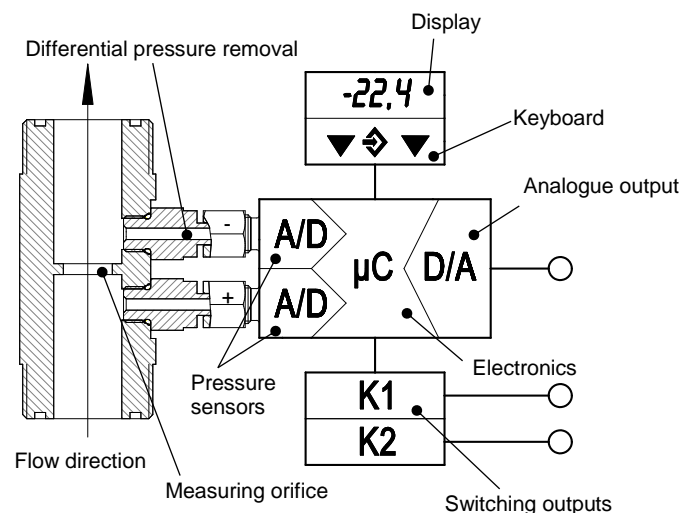
The measuring path comprises a measuring panel with differential pressure removal boreholes and two independent pressure sensors. The differential pressure created at the measuring panel is measured by the pressure sensors and turned into a root extracted analogue output signal by the microprocessor-controlled electronics.

The standard signals 0/4...20 mA and 0...10V are available for the analogue output.

Optionally there are additional switch outputs available (cf. order code).



### Function diagram

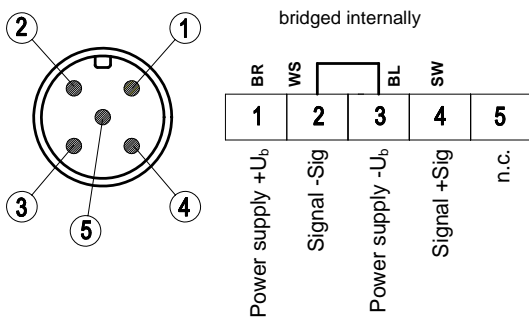


**Technical Specification**

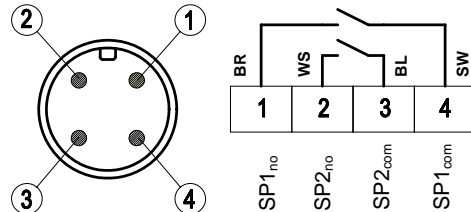
	<b>General</b>	
Admissible ambient temperature	-10 ... 70 °C	
Admissible media temperature	-10 ... 80 °C	
Admissible storage temperature	-20 ... 70 °C	
Enclosure protection class	IP65	
	<b>Electrical data</b>	
Nominal voltage	24 V AC/DC	
Admissible operating voltage $U_b$	12 ... 32 V AC/DC	
Electrical connection type	Three-wire	
Characteristic curve	Root extracted	
Output signal	0/4 ... 20 mA	0 ... 10 V
Admissible apparent ohmic resistance	$U_b \leq 26V$ $R_L \leq (U_b - 4V) / 0.02A$	$U_b \leq 15V$ $R_L \geq 2 k\Omega$
	$U_b > 26V$ $R_L \leq 1100 \Omega$	$U_b > 15V$ $R_L \geq 10 k\Omega$
Switch contacts	2 x potential-free relay contacts, One-pin activator NO/NC progr.	
	$U_{max}$ = 32 V AC/DC	$U$ = 3...32 V AC/DC
	$I_{max}$ = 2 A	$I_{max}$ = 0.25 A
	$P_{max}$ = 64 W/VA	$P_{max}$ = 8 W/VA
Power consumption	Approx. 2 W / VA	
Display	3.5 character LED	
	<b>Connections</b>	
Process connection	On request (cf. order code)	
electr. connection	2 x round connectors M12	
	Connector 1 for supply and analogue output signal (5-pin)	
	Connector 2 for switch contacts (4-pin)	
	1 x rectangular connector DIN EN 175 301 -803-A	
	<b>Materials</b>	
Casing	Polyamide PA 6.6	
Media-contacting material	Stainless steel 1.4305, VITON®, ceramic (Al <sub>2</sub> O <sub>3</sub> . 96%) Panel material on request (cf. order code)	
	<b>Assembly</b>	
	Installation in pipes acc. to ISO 5167-1	

**Electrical connection**

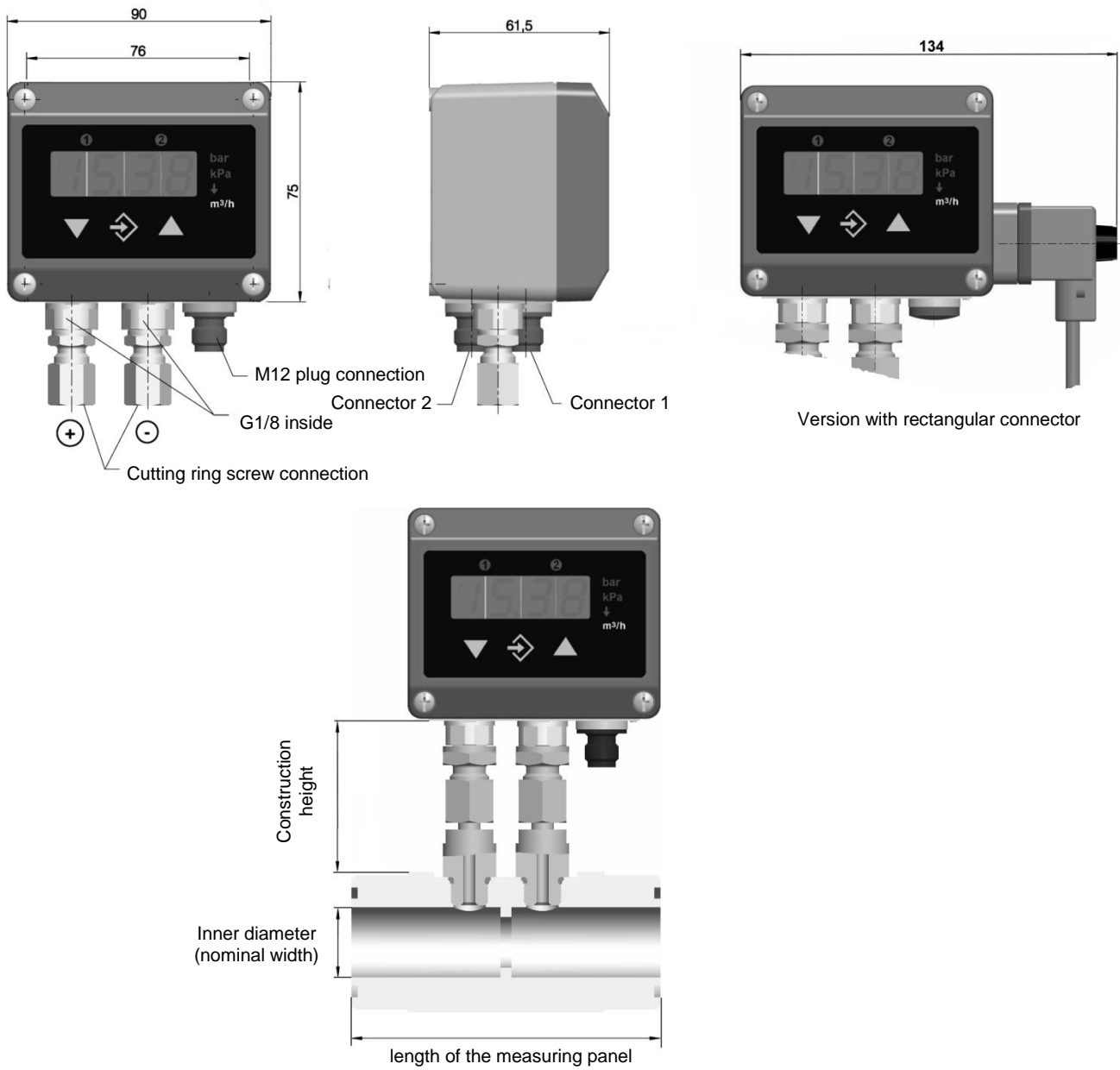
M12 plug: Supply and output signal



M12 plug: Switch outputs

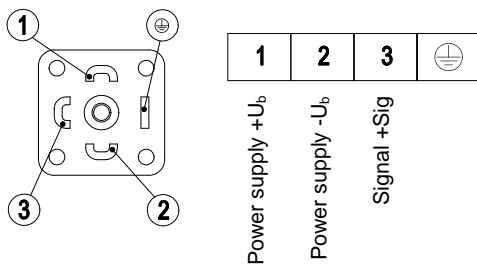


**Dimensional drawings** (All dimensions in mm unless stated otherwise)



**⚠** The dimensions of the measuring panel, in particular the construction height and overall length, are stated in the data information sheet and are recalculated for every application. Please contact our sales team.

**Rectangular connector DIN EN 175 301 -803-A**



No switch outputs are possible in models with rectangular connectors.

**Order Codes**

**Digital flow transmitter / switch  
With pressure sensors**

FD39 

				0		K			
--	--	--	--	---	--	---	--	--	--

**Nominal width/connection thread**

- DN15 G1.....> 1 A
- DN20 G1¼.....> 2 B
- DN25 G1½.....> 3 C
- DN32 G2.....> 4 D
- DN40 G2¼.....> 5 E
- DN50 G2¾.....> 6 F
- DN63 G3.....> 7 G

**Media-Contact Seal**

- EPDM.....> E
- NBR.....> N
- Viton.....> V
- Kalrez®.....> K

**Material used for the measuring panel**

- Polypropylene PP grey.....> A
- Polypropylene PP natural.....> B
- CrNi steel 1.4404.....> C
- Polyvinylide fluoride PVDF.....> D

**Measuring medium**

- Gas.....> G
- Liquid.....> F

**Electrical output signal**

- 0 ... 20 mA Three-phase root extracted.....> E
- 4 ... 20 mA Three-phase root extracted.....> F
- 0 ... 10 V Three-phase root extracted.....> G

**Operating voltage**

- 24 V AC/DC (12...32 V AC/DC).....> K

**Measuring unit**

- Without measuring unit> 0
- Nm³/h (only for gases).....> A
- m³/h.....> B
- l/min.....> F

**Measured Value Display**

- Without measuring value display.....> 0
- 3½ digit LED measuring value display without contacts.....> 7
- 3½ digit LED measuring value display with 2 potential-free contacts.....> 3
- 3½ digit LED measuring value display with 2 potential-free semiconductor switches.....> 6

**Electrical connection**

- Rectangular connector DIN EN 175 301 -803-A (only possible without contacts).....> H
- M12 plug connection.....> M

**Flow direction**

- Vertical.....> A
- Horizontal.....> D

**Customer information**

- Flow rate .....l/min
- .....m³/h
- .....Nm³/h

Max. static pressure .....bar

A completed data information sheet is imperative in order to produce the measuring panel.

