DPI 0 - 4.0

Differential Pressuresensor, Industry, 0 - 4.0 bar

TM04 4738 1909

Fig. 1 DPI sensor

Technical overview

Grundfos Direct Sensors ™ , type DPI, is a series of differential pressure sensors for industry. The DPI sensors are compatible with wet, aggressive media and are available for differential pressure ranges of 0 - 0.6 up to 0 - 10 bar.

The DPI sensor utilises MEMS sensing technology in combination with a novel packaging concept using corrosion-resistant coating on the MEMS sensing element. This makes the DPI sensor very robust and ideal for pump integration and monitoring in harsh environments.

Applications

- Pump and pump control systems
- Filters (monitoring)
- Cooling and temperature control systems
- Water treatment systems
- Boiler control systems
- Renewable energy systems
- Heat exchanger efficiency (monitoring of fouling).

Features

- Pressure ranges: 0 - 0.6; 0 - 1; 0 - 1.2; 0 - 1.6; 0 - 2.5; 0 - 4; 0 - 6 and 0 - 10 bar differential pressure
- Designed for harsh environments
- Analogue output signal
- Compact and well proven design
- MEMS sensing technology
- Approved for the EU, US and Canadian markets.

Benefits

- Compatible with wet, aggressive media
- Accurate, linearised output signal
- Cost-effective and robust design.

Specifications

Pressure	
Measuring range (differential)	4.0 bar
Accuracy (IEC 61298-2)	2 % FS
Response time	< 0.5 s
Static Pressure P_1	16 bar
Static Pressure P_2	10 bar
Max system pressure	16 bar
Media and environment	
Media	Liquids, gasses and air
Media temperature (operation)	–10 to +70 °C
Media temperature (peak)	up to +80 °C
Ambient air temperature	–40 to +70 °C
Ambient air temperature (peak)	–55 to +90 °C
Humidity	0 to 95 % (relative), non-condensing
System burst pressure	25 bar
Electrical data	
Power supply	12-30 VDC
Output signals	4-20 mA
Load impedance	24 V max. 500 kΩ 16 V max. 200 kΩ 12 V max. 100 kΩ
Sensor materials	
Sensing element	Silicon-based MEMS sensor
Seal	FKM rubber
Housing	DIN W.-Nr. 1.4305
Wetted materials	FKM and PPS
Environmental standards	
Enclosure class	IP55
Temperature cycling	IEC 68-2-14
Vibration (non-destructive)	20 to 2000 Hz, 10G, 4h
Immunity	EN 61000-6-2
Emission	EN 61000-6-3
Weight	550 g

Flow compensated differential pressure control

(SPR Reglung)

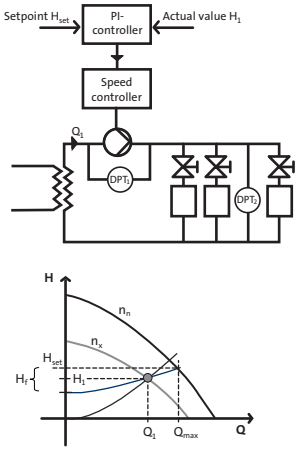

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Fig. 2 SPR Reglung

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Dimensions [mm]

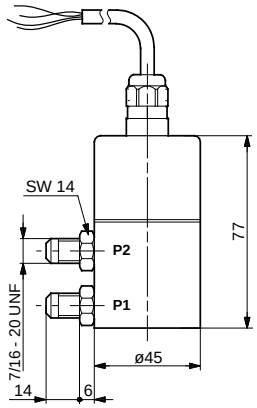

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Fig. 3 Dimensional sketch

Output signals

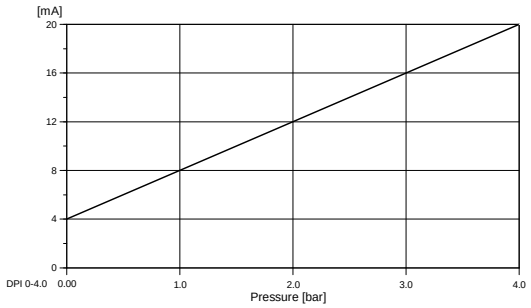

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Fig. 4 Differential pressure response

Electrical connections

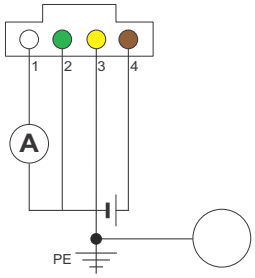

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Fig. 5 Electrical connections

Pin configuration		Colour
1	Test conductor (can be cut off during mounting). Do not connect this conductor to the voltage supply.	White
2	Signal conductor	Green
3	GND (earth conductor)	Yellow
4	12-30 V supply voltage	Brown

Sensor Interface type SI 001 PSU

Power supply and amplifier for cables above 30 m and 2 wire connection of 400 VAC

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Fig. 6 Sensor Interface, SI 001 PSU

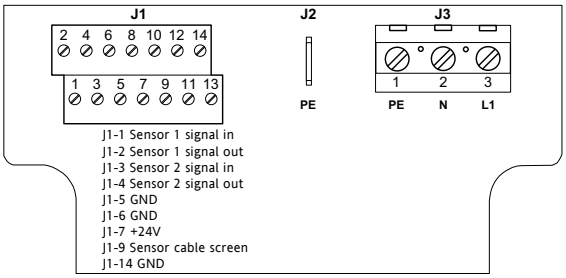

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Fig. 7 Connections for power supply / amplifier

Part
Sensor Interface, SI 001 PSU

Accessories

Pos.	Component		
A	Fitting 6 mm	AISI 316	Tube connection
	Fitting 8 mm		
	Fitting 6 mm		Cutting ring
	Fitting 8 mm		
B	Cable for DPI 5.0 m		
	Cable for DPI 10.0 m		
	Wall bracket for sensor		

Type key

The DPI sensor is labelled with a type designation.

	96573684	- XX	- XXX	XXXXX
Product number				
Version				
Production year and week				
Consecutive number				

For more information, see
http://www.grundfos.com/directsensors.

96985464 1109 GB

Subject to alterations.

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