

Differential-Pressure transmitter



piezoresistive stainless steel sensor

Stainless steel diaphragms

Accuracy according to IEC 60770: 0,5 % FSO

0 ... 20 mbar up to 0 ... 16 bar

Description

Type 5358 is a differential pressure transmitter for industrial use, based on a piezoresistive stainless steel sensor, which can be applied on both sides with fluids and gases compatible with stainless steel 1.4571 (316Ti) or 1.4435 (316L).

The compact design allows the integration of the 5358 also in plant constructions / machines with small space available. When pressure is applied the 5358 determines the pressure difference between positive and negative sides and transforms this into proportional electrical signal.

Available output signals are 4 ... 20 mA / 2-wire and 0 ... 10 V / 3-wire.

Characteristics

- Differential pressure wet / wet
- Permissible static pressure – one sided – up to 30 times of differential pressure range
- Excellent long term stability
- Compact design
- Mechanical robust and reliable at dynamic pressures as well as shock and vibration

Applications

- Mechanical engineering and plant
- Filter monitoring
- Hydraulic applications
- Flow measurement

Technical specification

Input pressure range							
Nominal range	bar	0,2	0,4	1	2,5	6	16
Differential pressure range	bar	0 ... 0,02 up to 0 ... 0,2	0 ... 0,04 up to 0 ... 0,4	0 ... 0,1 up to 0 ... 1	0 ... 0,25 up to 0 ... 2,5	0 ... 0,6 up to 0 ... 6	0 ... 1,6 up to 0 ... 16
permissible stat. pressure one-sided	bar	0,5	1	3	6	20	60

Output signal / supply			
Standard	2-wire	4...20 mA	$V_s = 12 \dots 36 V_{DC}$
Options	3-wire	0...10 V	$V_s = 14 \dots 36 V_{DC}$

Performance			
Accuracy ¹⁾	$\leq \pm 0,5 \% \text{ FSO}$		
Permissible load	Current 2-wire	$R_{max} = [(U_B - U_{B.min}) / 0,02A] \Omega$	
	Voltage 3-wire	$R_{min} = 10 \text{ k}\Omega$	
Influence effects	Supply:	0,05 % FSO / 10 V	
	Load:	0,05 % FSO / k Ω	
Long tern stability	$\leq \pm 0,2 \% \text{ FSO} / \text{year}$ at reference conditions		
Response time	< 5 msec		

¹⁾ Accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatable)

Thermal effects (relating to nominal pressure range) – Offset and Span			
Nominal pressure P_N	0,2	0,4	$\geq 1,0$
Tolerance band % FSO	$\leq \pm 2,5$	$\leq \pm 2$	$\leq \pm 1,5$
TC, average, FSO/10K	$\pm 0,4$	$\pm 0,3$	$\pm 0,2$
In compensated range	0 ... 50	0 ... 50	0 ... 70

Permissible temperatures	
Medium	-25 ... 125°C
Electronics / environment	-25 ... 85°C
Storage	-40 ... 100°C

Electrical protection	
Short-circuit protection	permanent
Reverse polarity protection	No damage, but also no function
Electromagnetic compatibility	Emission and immunity according to EN 61326

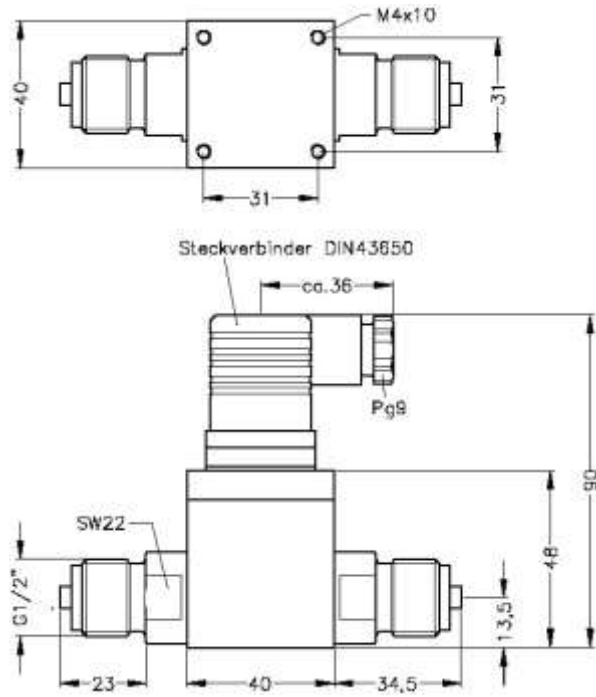
Mechanical stability	
Vibration	10 g RMS (20 ... 2000 Hz)
Shock	100 g / 11 ms

Electrical connections		
Standard	IP 65	Male and female plug DIN 43650
Optional ³⁾	IP 67	Brad Harrison Mini Change
Others		On request

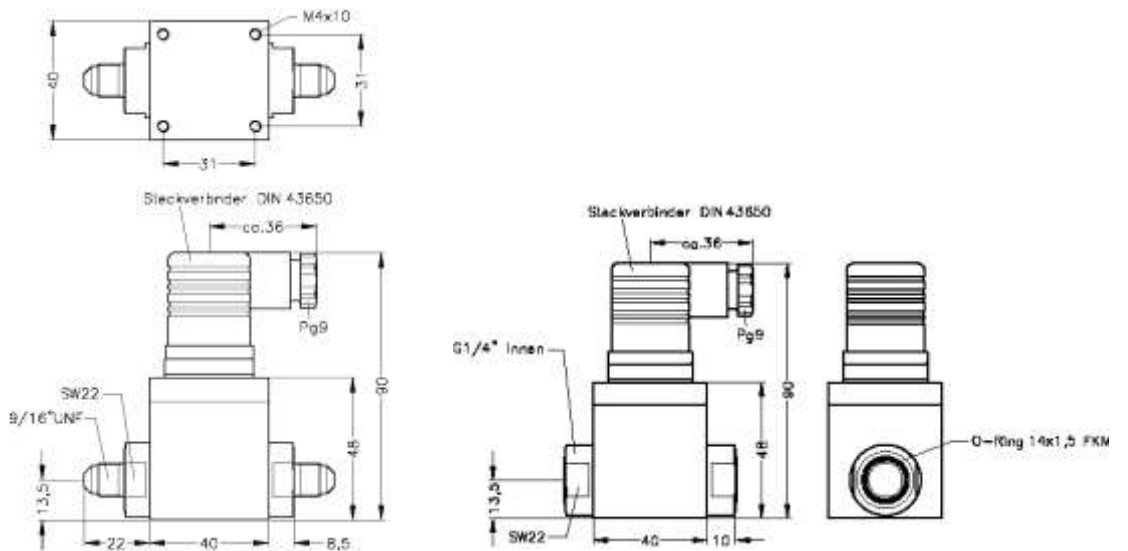
³⁾ Possible with 2-wire version

Mechanical connection

Standard



Optional



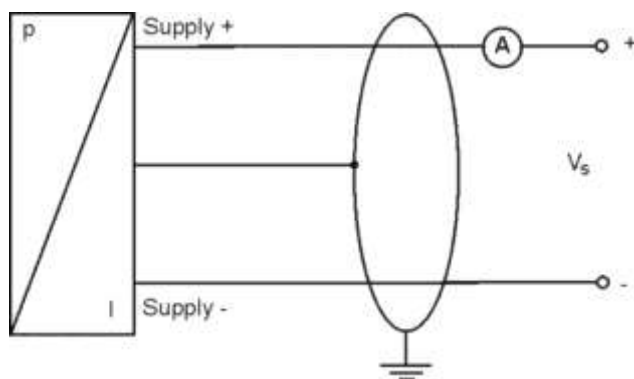
Materials	
Pressure connection	Stainless steel 1.4404 (316L)
Housing	Aluminium, black anodized
Seals (media wetted)	FKM, other on request
Diaphragm	Stainless steel 1.4435 (316L)
Media wetted parts	Pressure port, seals, diaphragm

Miscellaneous	
Current consumption	Signal output current: Max. 25 mA Signal output voltage: Max. 7 mA
Weight	Approx 250 g
Operational life	> 100 x 10 ⁶ cycles
Ingress protection	IP 65
CE-conformity	EMC Directive: 2004/108/EC

Pin configuration	
Electrical connection	ISO 4400
Supply+	1
Supply-	2
Signal+ (only 3-wire)	3
Shield	ground pin

Wiring diagrams

2-wire-system (current)



3-wire-system (voltage)

