



IDM 341

Differential Pressure Transmitter for Gases and Compressed Air in Compact Version

Silicon Sensor

accuracy according to IEC 60770:
0.35 % / 1% / 2%

Differential pressure

from 0 ... 6 mbar up to 0 ... 1000 mbar

Output signals

2-wire: 4 ... 20 mA

3-wire: 0 ... 20 mA / 0 ... 10 V

Special characteristics

- ▶ aluminium housing
- ▶ suited for non-aggressive gases and compressed air



Optional versions

- ▶ customer specific versions

The IDM 341 is a differential pressure transmitter for non-aggressive gases and compressed air. Because of its compact and robust aluminium housing it is particularly suited for machine and plant engineering.

Basic element of the IDM 341 is a piezo-resistive silicon sensor, which features high accuracy and excellent long term stability.

Preferred areas of use are

-  Plant and machine engineering
-  Heating and air conditioning

Preferred used for

-  Compressed air, non-aggressive gases
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Input pressure range											
Nominal pressure P_N [mbar] (over, differential pressure)	0...6	0...10	0...20	0...40	0...60	0...100	0...160	0...250	0...400	0...600	0...1000
Nominal pressure P_N symmetric (differential pressure) [mbar]	± 6	± 10	± 20	± 40	± 60	± 100	± 160	± 250	± 400	± 600	± 1000
Overpressure [mbar]	100	100	200	350	350	1000	1000	1000	1000	3000	3000

Output signal / Supply	
Standard	standard pressure range: 2-wire: 4 ... 20 mA / $V_S = 8 \dots 32 V_{DC}$
Options 3-wire	standard pressure range: 3-wire: 0 ... 20 mA / $V_S = 14 \dots 30 V_{DC}$ 0 ... 10 V / $V_S = 14 \dots 30 V_{DC}$

Performance	
Accuracy ¹	$P_N > 160$ mbar: $\leq \pm 0.35$ % FSO $40 \text{ mbar} \leq P_N \leq 160$ mbar: $\leq \pm 1$ % FSO $P_N < 40$ mbar: $\leq \pm 2$ % FSO
Permissible load	current 2-wire: $R_{max} = [(V_S - V_{S \text{ min}}) / 0.02 \text{ A}] \Omega$ current 3-wire: $R_{max} = 240 \Omega$ voltage 3-wire: $R_{min} = 10 \text{ k}\Omega$
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / k Ω
Long term stability	$\leq \pm 0.2$ % FSO / year at reference conditions
Response time	< 5 msec

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

Thermal effects (Offset and Span) / Permissible temperatures				
Nominal pressure P_N [mbar]	≤ 10	≤ 20	≤ 250	> 250
Tolerance band [% FSO]	$\leq \pm 2$	$\leq \pm 1.5$	$\leq \pm 1$	$\leq \pm 0.5$
TC, average [% FSO / 10 K]	± 0.3	± 0.25	± 0.15	± 0.08
in compensated range	0 ... 60 °C			
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 msec

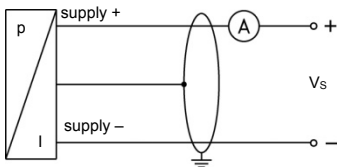
Materials	
Pressure port	G1/8" internal: aluminium, silver anodized flexible tube connection $\varnothing 6.6 \times 11$: brass, nickel plated
Housing	aluminium, silver anodised
Seal (media wetted)	PUR, bonded
Sensor	silicon, glass, RTV, ceramics Al_2O_3 , nickel
Media wetted parts	pressure port, housing, seal, sensor

Miscellaneous	
Connecting cables (by factory)	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1 μ H/m
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 250 g
Operational life	100 million load cycles
CE-conformity	EMC Directive: 2014/30/EU

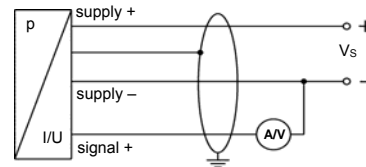
Pin configuration			
Electrical connection	ISO 4400	M12x1 (4-pin), metal	cable colour (IEC 60757)
Supply +	1	1	wh (white)
Supply -	2	2	bn (brown)
Signal + (only 3-wire)	3	3	gn (green)
Shield	ground pin	4	gnye (green-yellow)

Wiring diagrams

2-wire-system (current)

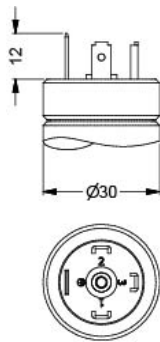


3-wire-system (current / voltage)



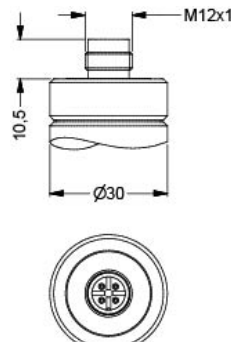
Electrical connections (dimensions in mm)

standard

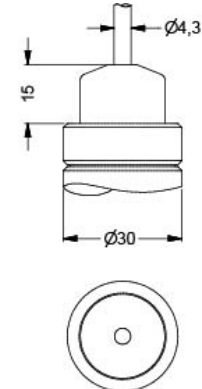


ISO 4400 (IP 65)

option



M12x1 4-pin (IP 67)



cable outlet with PVC-cable (IP 67)²

² standard: 2 m PVC cable (without ventilation tube), optionally cable with ventilation tube

Mechanical connection (dimensions in mm)

standard

