



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

 Heating and air conditioning

Preferred used for

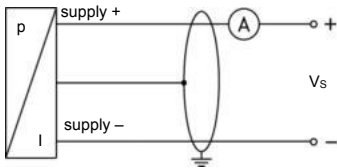
 Compressed air, non-aggressive gases



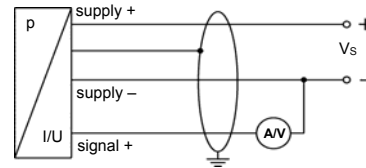
Input pressure range												
Nominal pressure P_N (over, differential pressure) [mbar]	0...6	0...10	0...20	0...40	0...60	0...100	0...160	0...250	0...400	0...600	0...1000	
Nominal pressure P_N symmetric (differential pressure) [mbar]	± 6	± 10	± 20	± 40	± 60	± 100	± 160	± 250	± 400	± 600	± 1000	
Overpressure [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: ≤ ± 0.35 % FSO $40 \text{ mbar} \leq P_N \leq 160$ mbar: ≤ ± 1 % FSO $P_N < 40$ mbar: ≤ ± 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	≤ ± 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]	≤ ± 2		≤ ± 1.5		≤ ± 1			≤ ± 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 Ø6.6 x 11: brass, nickel plated											
Housing	aluminium, silver anodised											
Seal (media wetted)	PUR, bonded											
Sensor	silicon, glass, RTV, ceramics Al ₂ O 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 µH/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)

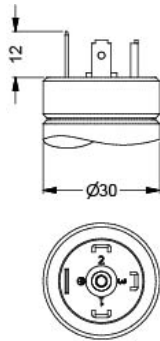


3-wire-system (current / voltage)



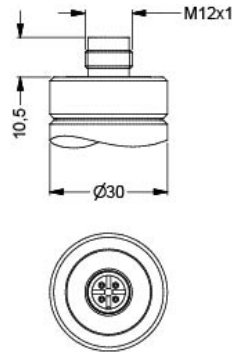
Electrical connections (dimensions in mm)

standard

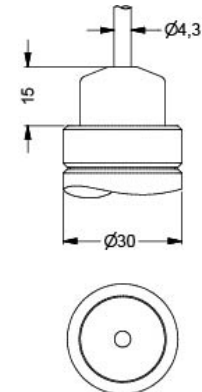


ISO 4400 (IP 65)

option



M12x1 4-pin (IP 67)

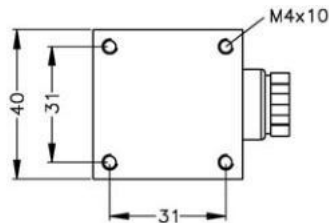


cable outlet with PVC-cable (IP 67)²

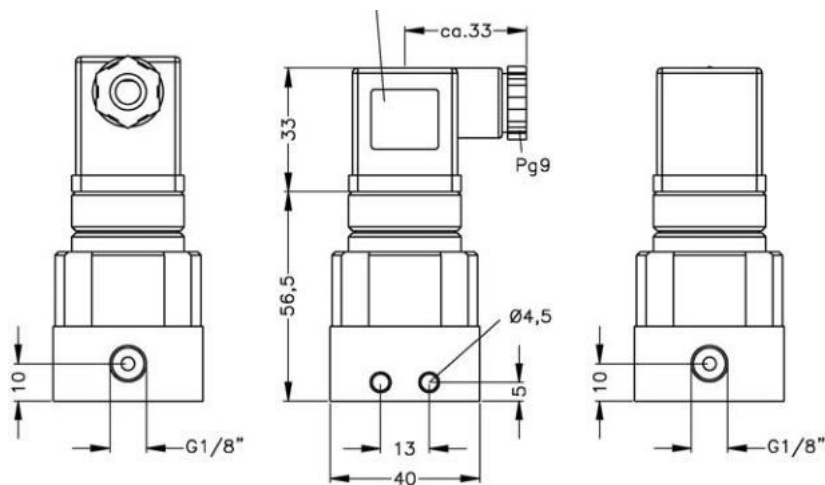
² standard: 2 m PVC cable (without ventilation tube), optionally cable with ventilation tube

Mechanical connection (dimensions in mm)

standard



connector ISO 4400



G1/8" internal

Ordering code IDM 341

IDM 341

Pressure																						
	differential pressure	3	3	0																		
	gauge pressure	3	3	1																		
Input																						
	[mbar]																					
	6	0	0	6	0																	
	10	0	1	0	0																	
	20	0	2	0	0																	
	40	0	4	0	0																	
	60	0	6	0	0																	
	100	1	0	0	0																	
	160	1	6	0	0																	
	250	2	5	0	0																	
	400	4	0	0	0																	
	600	6	0	0	0																	
	1000	1	0	0	1																	
	-6 ... 6	S	0	0	6															consult		
	-10 ... 10	S	0	1	0																consult	
	-20 ... 20	S	0	2	0																consult	
	-40 ... 40	S	0	4	0																consult	
	-60 ... 60	S	0	6	0																consult	
	-100 ... 100	S	1	0	0																consult	
	-160 ... 160	S	1	6	0																consult	
	-250 ... 250	S	2	5	0																consult	
	-400 ... 400	S	4	0	0																consult	
	-600 ... 600	S	6	0	0																consult	
	-1000 ... 1000	S	1	0	2																consult	
	customer	9	9	9	9																consult	
Output																						
	4 ... 20 mA / 2-wire																				1	
	0 ... 20 mA / 3-wire																					2
	0 ... 10 V / 3-wire																					3
	customer																					9
																						consult
Accuracy																						
	standard for P _N > 160 mbar	0,35 % FSO																				3
	standard for 40 mbar ≤ P _N ≤ 160 mbar	1,0 % FSO																				8
	standard for P _N < 40 mbar	2,0 % FSO																				G
	customer																					9
																						consult
Electrical connection																						
	male and female plug ISO 4400																					1 0 0
	male plug M12x1 (4-pin), metal																					M 1 0
	cable outlet with PVC cable ¹																					T A 0
	customer																					9 9 9
																						consult
Mechanical connection																						
	G1/8" internal thread																					Q 0 0
	Ø 6.6 x 11 (for flex. tubes Ø 6)																					Y 0 0
	customer																					9 9 9
																						consult
Seals																						
	PUR, bonded																					6
Special version																						
	standard																					0 0 0
	customer																					9 9 9
																						consult

¹ standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)