



# IMP 336

## Industrial Pressure Transmitter for Technical Gases and H<sub>2</sub> Applications

Welded, Dry  
Stainless Steel Sensor

accuracy according to IEC 60770:  
0.5 % FSO

### Nominal pressure

from 0 ... 16 bar up to 0 ... 1000 bar

### Output signal

2-wire: 4 ... 20 mA  
others on request

### Special characteristics

- ▶ media wetted parts of special stainless steel
- ▶ insensitive to pressure peaks
- ▶ high overpressure capability
- ▶ oil and grease free according to ISO 15001 (e.g. for oxygen applications)

### Optional version





- ▶ IS-version zone 0  
Ex ia = intrinsically safe for gases and dusts

The industrial pressure transmitter IMP 336 was especially developed for hydrogen applications and can also be used with other technical gases (e.g. oxygen).

This is achieved by using an alloy based on 316L which prevents hydrogen embrittlement of the media-wetted parts. Level of hydrocarbon and particle contamination are significantly reduced by special treatment during production and cleaning.

An IS- version is optionally available for explosion-protected applications zone 0 / 20.

### Preferred areas of use are

-  Technical gases
-  Hydrogen
-  Fuel cell
-  Medical technology



Input pressure range											
Nominal pressure gauge	[bar]	16	25	40	60	100	160	250	400	600	1000
Overpressure	[bar]	50	50	80	120	200	320	500	800	1200	1500
Burst pressure $\geq$	[bar]	125	125	200	300	500	800	1250	2000	2000	3000 <sup>1</sup>
Vacuum resistance		unlimited									

<sup>1</sup> UL confirmed max. burst pressure 2420 bar

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / $V_S = 8 \dots 32 V_{DC}$
Option IS-protection	2-wire: 4 ... 20 mA / $V_S = 10 \dots 28 V_{DC}$
Performance	
Accuracy <sup>2</sup>	$\leq \pm 0.5\%$ FSO
Permissible load	$R_{max} = [(V_S - V_{Smin}) / 0.02 A] \Omega$
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / k $\Omega$
Long term stability	$\leq \pm 0.2\%$ FSO / year at reference conditions
Response time	$\leq 10$ msec
<sup>2</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)	
Thermal effects (Offset and Span)	
Thermal error	$\pm 0.2\%$ FSO / 10 K
in compensated range	-25 ... 85 °C
Permissible temperatures	
Permissible temperatures	medium: -40 ... 125 °C electronics / environment: -40 ... 100 °C storage: -40 ... 85 °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	20 g RMS (25 ... 2000 Hz) according to DIN EN 60068-2-6
Shock	500 g / 1 msec according to DIN EN 60068-2-27
Materials	
Housing	stainless steel 316L (1.4404)
Pressure port, sensor, diaphragm	stainless steel 316L (1.4435)
Seals	none (welded)
Media wetted parts	pressure port, sensor, diaphragm
Explosion protection	
Approvals DX19-IMP 336	IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 135°C Da
Safety technical maximum values	$U_i = 28 V_{DC}$ , $I_i = 93$ mA, $P_i = 660$ mW, $C_i \approx 0$ nF, $L_i \approx 0$ $\mu$ H, the supply connections have an inner capacity of max. 27 nF
Permissible temperatures for environment	in zone 0: -20 ... 60 °C with $p_{atm}$ 0.8 bar up to 1.1 bar in zone 1 or higher: -20 ... 70 °C
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 $\mu$ H/m
Miscellaneous	
Current consumption	max. 25 mA
Weight	approx. 140 g
Installation position	any
Operational life	$p_N \leq 600$ bar: 100 million load cycles $p_N > 600$ bar: 10 million load cycles
CE-conformity	EMC Directive: 2014/30/EU Pressure Equipment Directive: 2014/68/EU (module A) <sup>3</sup>
ATEX Directive	2014/34/EU
<sup>3</sup> This directive is only valid for devices with maximum permissible overpressure > 200 bar.	
Purity regarding residual particles / greases	
Oil and grease free version	residual particles: no particles > 100 $\mu$ m (based on 10 dm <sup>2</sup> ) residual greases: residual grease content < 0.2 mg/dm <sup>2</sup>

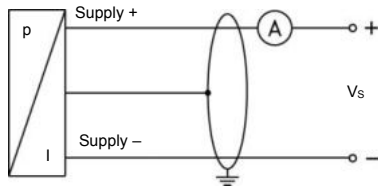
# IMP 336

Industrial Pressure Transmitter

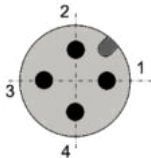
Technical Data

## Wiring diagram

2-wire-system (current)

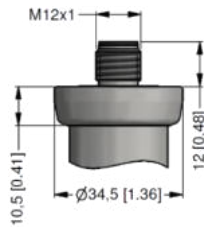


## Pin configuration

Electrical connections	M12x1 / metal (4-pin)		cable colours (IEC 60757)
supply +	1		WH (white)
supply -	2		BN (brown)
Shield	4		GNYE (green-yellow)

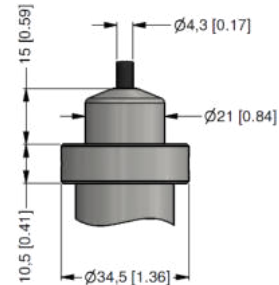
## Electrical connections (dimensions mm / in)

standard



M12x1 4-pin (IP 67)

option

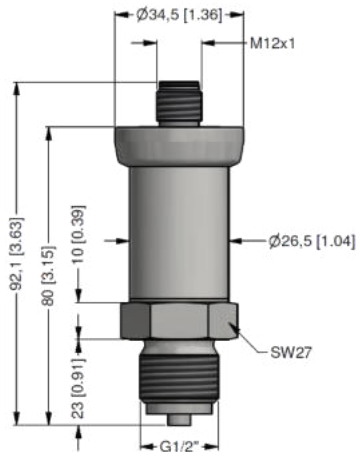


cable outlet with PVC cable (IP 67) <sup>4</sup>

<sup>4</sup> standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C)

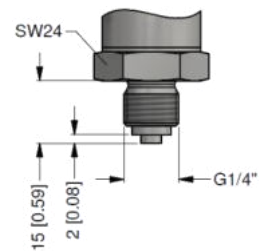
## Mechanical connections (dimensions mm / in)

standard

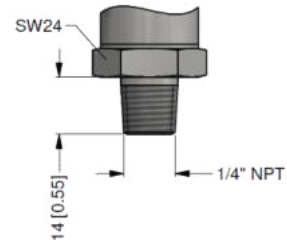


G1/2" EN 837

options



G1/4" EN 837  
p<sub>N</sub> ≤ 600 bar



1/4" NPT

⇒ metric threads and different types on demand

## Ordering code IMP 336

IMP 336



<b>Pressure</b>									
gauge	2	1	5						
<b>Input</b>									
[bar]									
16			1	6	0	2			
25			2	5	0	2			
40			4	0	0	2			
60			6	0	0	2			
100			1	0	0	3			
160			1	6	0	3			
250			2	5	0	3			
400			4	0	0	3			
600			6	0	0	3			
1000			1	0	0	4			
customer			9	9	9	9			consult
<b>Output</b>									
4 ... 20 mA / 2-wire									1
intrinsic safety 4 ... 20 mA / 2-wire									E
customer									9
									consult
<b>Accuracy</b>									
0.5 % FSO									5
customer									9
									consult
<b>Electrical connection</b>									
male plug M12x1 (4-pin) / metal									M 1 0
cable outlet with PVC cable (IP67) <sup>1</sup>									T A 0
customer									9 9 9
									consult
<b>Mechanical connection</b>									
G1/2" EN 837									2 0 0
p <sub>N</sub> ≤ 600 bar G1/4" EN 837									4 0 0
1/4" NPT									N 4 0
customer									9 9 9
									consult
<b>Seal</b>									
without (welded version)									2
customer									9
									consult
<b>Special version</b>									
oil-and grease free -oxygen									0 0 7
customer									9 9 9
									consult

<sup>1</sup> standard: 2 m PVC cable without ventilation tube (permissible temperature: -5 ... 70 °C); others on request