



## FPDMP343 Industrial Pressure Transmitter

- without Media Isolation
- accuracy according to IEC 60770: 0.35 % FSO

The pressure transmitter FPDMP 343 has been especially designed for the measurement of very low gauge pressure and for vacuum applications. Permissible media are gases, pressurized air and non-aggressive low viscos oils.

The FPDMP 343 features excellent thermal behaviour and outstanding long term stability. A variety of standard output signals as well as mechanical and electrical connections make the FPDMP 343 covering a wide field of applications.

### Preferred areas of use are



Plant and Machine Engineering



Heating and Air Conditioning

### Nominal pressure

- from 0 ... 10 mbar
- up to 0 ... 1000 mbar

### Product Characteristics

- excellent linearity
- small thermal effect
- excellent long term stability

### Optional Versions

- IS-version: Ex ia = intrinsically safe for gases and dusts
- SIL 2 application according to IEC 61508 / IEC 61511
- different electrical and mechanical connections
- customer specific versions

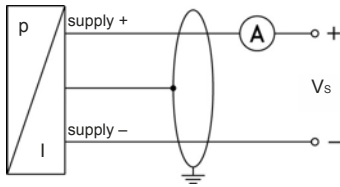


## ■ Technical data

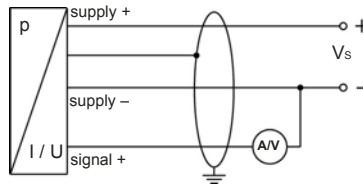
Input pressure range													
Nominal pressure gauge [mbar]	-1000 ... 0	10	16	25	40	60	100	160	250	400	600	1000	
Overpressure [bar]	3	0.2	0.2	0.2	0.5	0.5	1	2	3	3	3	3	
Burst pressure [bar]	5	0.3	0.3	0.3	0.75	0.75	1.5	3	5	5	5	5	
Output signal / Supply													
Standard	2-wire: 4 ... 20 mA / $V_s = 8 \dots 32 V_{DC}$												
Option IS-protection	2-wire: 4 ... 20 mA / $V_s = 10 \dots 28 V_{DC}$												
Options 3-wire	3-wire: 0 ... 20 mA / $V_s = 14 \dots 30 V_{DC}$ 0 ... 10 V / $V_s = 14 \dots 30 V_{DC}$												
Performance													
Accuracy <sup>1</sup>	standard: $\leq \pm 0.35 \% \text{ FSO}$ nominal pressure $\leq 100 \text{ mbar}$ : $\leq \pm 0.50 \% \text{ FSO}$												
Permissible load	current 2-wire: $R_{max} = [(V_s - V_{s \text{ min}}) / 0.02] \Omega$ current 3-wire: $R_{max} = 500 \Omega$ voltage 3-wire: $R_{min} = 10 \text{ k} \Omega$												
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / k $\Omega$												
Response time	2wire: $\leq 10 \text{ msec}$ 3wire: $\leq 3 \text{ msec}$												
<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)													
Thermal effects (Offset and Span)													
Nominal pressure $P_N$ [mbar]	-1000 ... 0	$\leq 100$			$\leq 400$			$> 400$					
Tolerance band [% FSO]	$\leq \pm 0.75$	$\leq \pm 1.5$			$\leq \pm 1$			$\leq \pm 0.75$					
in compensated range [°C]	-20 ... 85	0 ... 50			0 ... 70			-20 ... 85					
Permissible temperatures													
Permissible temperatures	medium: -40 ... 125 °C electronics / environment: -40 ... 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 (25 ... 2000 Hz)			according to DIN EN 60068-2-6									
Shock	500 g / 1 msec			according to DIN EN 60068-2-27									
Materials													
Pressure port	stainless steel 1.4404 (316L)												
Housing	stainless steel 1.4404 (316L)												
Seals (media wetted)	FKM												
Sensor	stainless steel 1.4404 (316L), silicon, epoxy or RTV, mineral glass												
Media wetted parts	pressure port, seals, sensor												
Explosion protection (only for 4 ... 20 mA / 2-wire)													
Approval DX19-FPDMP 343	IBExU10ATEX1068X Zone 0: II 1 G Ex ia IIC T4 Ga Zone 20: II 1 D Ex iaD 20 T85 °C												
Safety technical maximum values	$U_i = 28 \text{ V}$ , $I_i = 93 \text{ mA}$ , $P_i = 660 \text{ mW}$ , $C_i \approx 0 \text{ nF}$ , $L_i \approx 0 \text{ } \mu\text{H}$												
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: -25 ... 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 $\mu\text{H}/\text{m}$												
Miscellaneous													
Option SIL 2 application	according to IEC 61508 / IEC 61511												
Current consumption	signal output current: max. 25 mA signal output voltage: max. 5 mA												
Weight	approx. 140 g												
Installation position	any												
CE-conformity	EMC Directive: 2004/108/EC												

## ■ Wiring diagrams

2-wire-system (current)



3-wire-system (current / voltage)

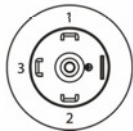
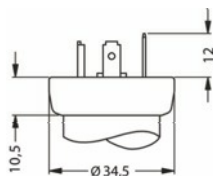


## ■ Pin configuration

Electrical connection	ISO 4400	Binder 723 (5-pin)	M12x1 / metal (4-pin)	field housing	cable colours (DIN 47100)
Supply +	1	3	1	IN +	wh (white)
Supply -	2	4	2	IN -	bn (brown)
Signal + (only for 3-wire)	3	1	3	OUT+	gn (green)
Shield	ground pin	5	4	⏏	gn/ye (green / yellow)

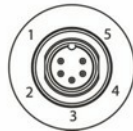
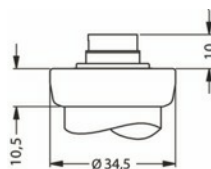
## ■ Electrical connections (dimensions in mm)

standard

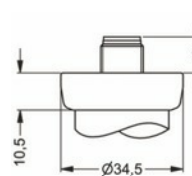


ISO 4400 (IP 65)

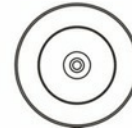
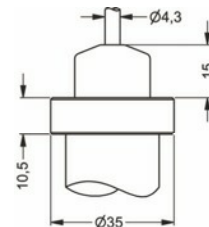
option



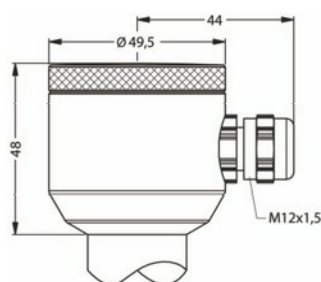
Binder Series 723 5-pin (IP 67)



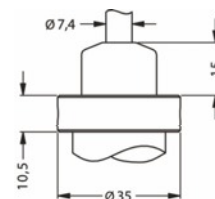
M12x1 4-pin (IP 67)



cable outlet with PVC cable (IP 67)<sup>2</sup>



compact field housing (IP 67)



cable outlet, cable with ventilation tube (IP 68)<sup>3</sup>

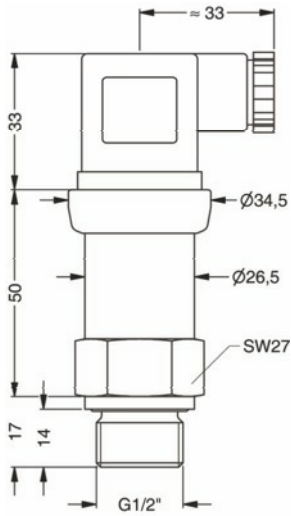
universal field housing stainless steel 1.4404 (316 L) with cable gland M20x1.5 (ordering code 880) and other versions on request

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

<sup>3</sup> different cable types and lengths available, permissible temperature depends on kind of cable

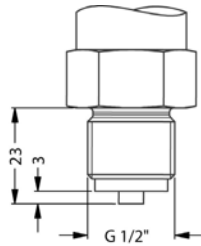
■ Mechanical connection (dimensions in mm)

standard

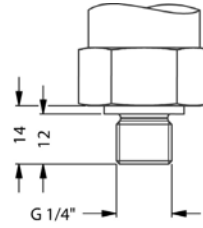


G1/2" DIN 3852  
with ISO 4400

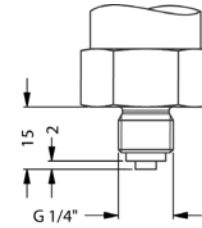
option



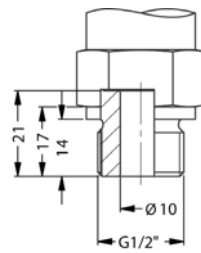
G1/2" EN 837



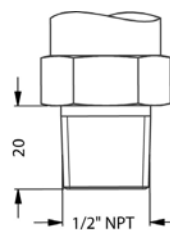
G1/4" DIN 3852



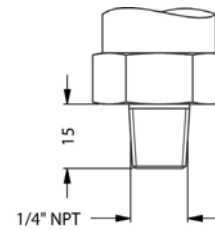
G1/4" EN 837



G1/2" open port



1/2" NPT



1/4" NPT

metric threads and others on request

