

Model VMEPT1020 series

OEM Pressure transmitter Stainless steel pressure sensor



Features

- Measuring ranges from 50mbar to 600bar
- Gauge pressure, Absolute pressure
- Accuracy: $\pm 0.25\% \text{FSO}(\text{Typ.})$, $\pm 0.5\% \text{FSO}(\text{Max.})$
- Calibrated and temperature compensated
- Stainless steel pressure sensor
- Output 4...20mA, 1...5 VDC, 0.5...4.5 VDC, RS485 etc.

Application

- Hydraulic and pneumatic
- Machine building
- Pumps
- Water treatment
- HVAC controls, Refrigeration
- Air compressors

Technical data

Performance	
Accuracy*	$\pm 0.25\% \text{FS}@25^\circ\text{C}(\text{Typ.})$ $\pm 0.5\% \text{FS}@25^\circ\text{C}(\text{Max.})$ ¹⁾
Operating Temperature Range	-20 to 85°C
Compensated Temperature Range	0 to 70°C
Overpressure	150%FS
Vibration	10 g RMS(20 to 2000Hz)
Shock	100 g(11ms)
Cycles	10x10 ⁵
Long Term Stability	$\pm 0.3\% \text{FS}$

Electrical @25°C	
Output signal / Supply	2-wire 4...20 mA / $V_s = 10...30 \text{ VDC}$
	3-wire 1...5 VDC / $V_s = 10...30 \text{ VDC}$
	3-wire 0...5 VDC / $V_s = 10...30 \text{ VDC}$
	3-wire 0...10 VDC / $V_s = 12...30 \text{ VDC}$
	3-wire 0.5...4.5 VDC / $V_s = 8...30 \text{ VDC}$
	3-wire 0.5...4.5 VDC ratiometric / $V_s = 5 \text{ V} \pm 0.1 \text{ VDC}$
	3-wire 0.5...2.5 VDC / $V_s = 3.3 \text{ V} \pm 0.1 \text{ VDC}$
	3-wire 0.5...2.5 VDC / $V_s = 5 \text{ V} \pm 0.1 \text{ VDC}$
	3-wire 4...20mA(Level)+4...20mA(Temp.) / $V_s = 12...30 \text{ VDC}$
	4-wire RS485 Modbus RTU / $V_s = 12...30 \text{ VDC}$
	4-wire I ² C / $V_s = 3.3...5 \text{ VDC}$
Insulation Resistance	100 MΩ@100VDC
EMC Test	IEC61000-4-2/IEC61000-4-3
Reverse polarity protection	No damage – no function

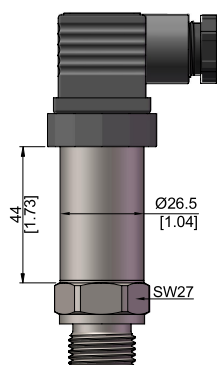
Physical Specifications	
Housing	SUS304 stainless steel
Diaphragm	SUS316L stainless steel
Oil Filling	Silicone oil
Protection	IP65
Sealing	NBR (Permissible temperature range: -30 to 85°C) (Standard) FKM (Permissible temperature range: -20 to 85°C)
Weight	~150g

¹⁾ Linearity (best straight line) + Hysteresis + Repeatability

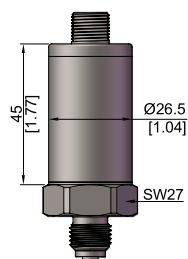


Dimensions in mm [in]

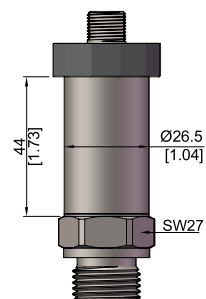
Code E1
DIN175301-803A/DIN43650/IP65



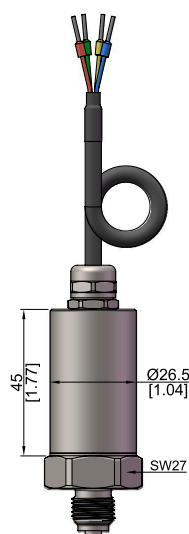
Code E2
Circular connector M12x1(4-pin)/IP66



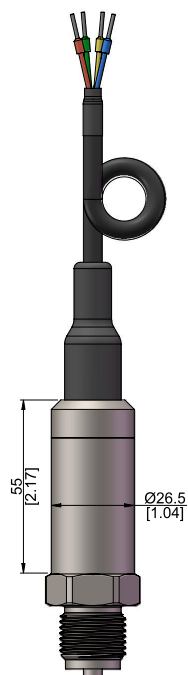
Code E3
DIN43650 with Circular connector M12x1(4-pin)/IP65



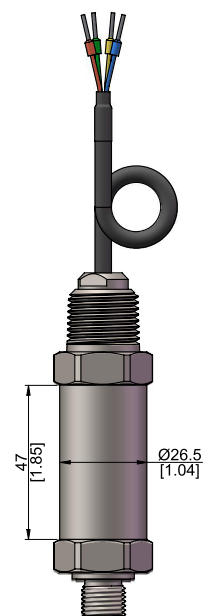
Code E4
Cable outlet, 1.5m/IP67



Code E5
Cable outlet, 1.5m/IP68



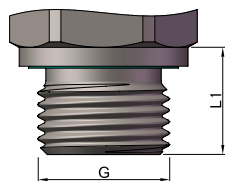
Code E6
1/2NPT conduit male, with cable outlet, 1.5m/IP67



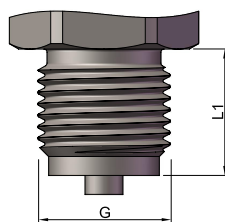
S0~D5 output: Length of housing increases by 30mm



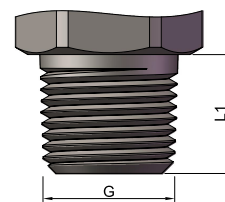
Process connections in mm [in]



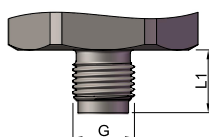
G	L1	Standard
G¼ A	14	DIN EN ISO 1179-2
G½ A	17	
G¾ A	17	
M12x1.5	14	DIN EN ISO 9974-2
M14x1.5	14	
M20x1.5	16.5	



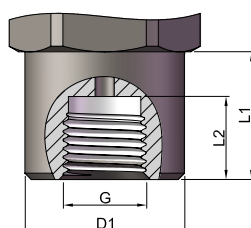
G	L1	Standard
G¼ B	13	EN 837
G½ B	20	
G¾ B	16	
M12x1.5	15	
M20x1.5	20	



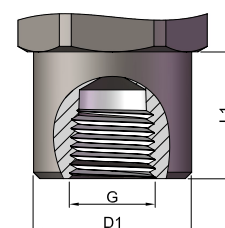
G	L1	Standard
¼ NPT	10	ANSI/ASME B1.20.1
½ NPT	13	
¾ NPT	19	
PT ¼	13	KS
PT ½	19	
R ¼	13	ISO7
R ½	19	



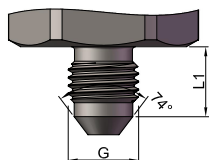
G	L1	Standard
G¾ B	10	EN 837



G	D1	L1	L2	Standard
G¼ Female	25	20	15.5	ISO 1179-2



G	D1	L1	L2	Standard
¼ NPT Female	25	20	12	ANSI/ASME B1.20.1
½ NPT Female	25	20	14	
¾ NPT Female	25	25	19	



G	L1	Standard
7/16-20UNF-74°	14	SAE J514E

Electrical connections

DIN175301-803A /DIN43650		4...20 mA	0...10 VDC 0...5VDC 0.5...4.5VDC	RS485
		2-wire	3-wire	4-wire
	+Vcc	1	1	1
	OUT	2	3	-
	GND	-	2	2
	RS485A	-	-	3
	RS485B	-	-	• •

Circular connector M12x1(4-pin)		4...20 mA	0...10 VDC 0...5VDC 0.5...4.5VDC	RS485
		2-wire	3-wire	4-wire
	+Vcc	1	1	1
	OUT	3	4	-
	GND	-	3	3
	RS485A	-	-	2
	RS485B	-	-	4

Cable outlet		4...20 mA	0...10 VDC 0...5VDC 0.5...4.5VDC	RS485
		2-wire	3-wire	4-wire
	+Vcc	Red	Red	Red
	OUT	Green/Black	Yellow	-
	GND	-	Green	Green
	RS485A	-	-	Yellow
	RS485B	-	-	Blue



Range code

Code	Nominal pressure [bar]	Gauge	Sealed gauge	Absolute
00	0...0.05	✓		
01	0...0.1	✓		
02	0...0.2	✓		
03	0...0.35	✓		✓
04	0...0.7	✓		✓
05	0...1	✓		✓
06	0...1.6	✓		✓
07	0...2.5	✓		✓
08	0...4	✓		✓
09	0...6	✓		✓
10	0...10	✓		✓
11	0...16	✓	✓	✓
12	0...25	✓	✓	✓
13	0...40		✓	✓
14	0...60		✓	✓
15	0...100		✓	✓
16	0...160		✓	✓
17	0...250		✓	✓
18	0...400		✓	✓

Code	Nominal pressure [bar]	Gauge	Sealed gauge	Absolute
19	0...600		✓	✓
20	-0.1...+0.1	✓		
21	-0.2...+0.2	✓		
22	-0.5...+0.5	✓		
23	-1...0	✓		
24	0...-1	✓		
25	-1...+1	✓		
26	-1...+1.6	✓		
27	-1...+2.5	✓		
28	-1...+4	✓		
29	-1...+6	✓		
30	-1...+9	✓		
31	-1...+10	✓		
32	-1...+16	✓		
33	-1...+25	✓		
34	0.8...2	✓		✓

Ordering code

Model	Range	Type	Output/Power supply	Electrical Connection
VMEPT1020	Code ²⁾	G Gauge	S1 4...20mA / V _S =10...30VDC	E1 DIN175301-803A/DIN43650/IP65
		A Absolute	S2 DC 1...5V / V _S =10...30VDC	E2 Circular connector M12x1(4-pin)/IP66
			S3 DC 0...5V / V _S =10...30VDC	E3 DIN43650 connector M12x1(4-pin)/IP65
			S4 DC 0.5...4.5V / V _S =8...30VDC	E4 Cable outlet,1.5m/IP67
			S5 DC 0.5...4.5V ratiometric / V _S =5 V±0.1 VDC	E5 Cable outlet,1.5m/IP68
			S6 DC 0.5...2.5V / V _S =5 V±0.1 VDC	E6 1/2NPT conduit male, with cable outlet,1.5m
			S7 DC 0.5...2.5V / V _S =3.3 V±0.1 VDC	
			S8 DC 0...10V / V _S =12...30VDC	
			S0 4...20 mA(Level)+4...20mA(Temp.) / V _S = 12...30 VDC ³⁾	
			D1 4...20 mA+HART/V _S =12...30 VDC	
			D2 RS485 Modbus RTU(Level)/V _S =12...30 VDC	
			D3 RS485 Modbus RTU(Level)/V _S =3.6...5 VDC	
			D4 RS485 Modbus RTU(Level+Temp.)/V _S =12...30 VDC ³⁾	
			D5 RS485 Modbus RTU(Level+Temp.)/V _S =3.6...5 VDC ³⁾	
			D6 I ² C(Level+Temp.) / V _S = 3.3...5 VDC ⁴⁾	

Pressure Port			Accuracy
01	G¼ A male	12 ½NPT male	A1 0.1%FS
02	G½ A male	13 PT¼ male	A2 0.25%FS(Standard)
03	G¾ A male	14 PT½ male	A3 0.5%FS
04	G¼ B male	15 R¼ male	
05	G¼ B male	16 R½ male	
06	G½ B male	17 M12x1.5 male	
07	G¾ B male	18 M14x1.5 male	
08	7/16-20UNF with 74° taper	19 M20x1.5 male	
09	7/16-20UNF with 90° taper	20 G¼ female	
10	¼NPT male	21 ¼NPT female	
11	¼NPT male		

²⁾ The pressure unit can be selected from mH₂O, inH₂O, psi, mbar, bar, kPa.

³⁾ For temperature measurement output, temperature measurement range = -20...+80°C

⁴⁾ I²C output, cable length ≤15m.



Accessory [Optional]		
Description	Version	Order number
 Circular connector M12x1, 4-pin, straight	With 2 m PVC cable	M124S2PV
	With 5 m PVC cable	M124S5PV
	With 2 m PUR cable	M124S2PU
	With 5 m PUR cable	M124S5PU
 Circular connector M12 x 1, 4-pin, angled	With 2 m PVC cable	M124A2PV
	With 5 m PVC cable	M124A5PV
	With 2 m PUR cable	M124A2PU
	With 5 m PUR cable	M124A5PU

