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4ManPro
Elements For
Manufacturing Processes

Model VMEPT1020 series

OEM Pressure transmitter Stainless steel pressure sensor

Features

- Measuring ranges from 50mbar to 600bar
- Gauge pressure, Absolute pressure
- Accuracy: ±0.25%FSO(Typ.), ±0.5%FSO(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*	±0.25 %FS@25°C(Typ.) ±0.5 %FS@25°C(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	±0.3 %FS

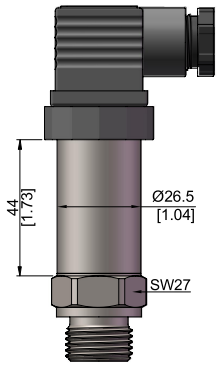
Electrical @25°C	
Output signal / Supply	2-wire 4...20 mA / V_S = 10...30 VDC
	3-wire 1...5 VDC / V_S = 10...30 VDC
	3-wire 0...5 VDC / V_S = 10...30 VDC
	3-wire 0...10 VDC / V_S = 12...30 VDC
	3-wire 0.5...4.5 VDC / V_S = 8...30 VDC
	3-wire 0.5...4.5 VDC ratiometric / V_S = 5 V±0.1 VDC
	3-wire 0.5...2.5 VDC / V_S = 3.3 V±0.1 VDC
	3-wire 0.5...2.5 VDC / V_S = 5 V±0.1 VDC
	3-wire 4...20mA(Level)+4...20mA(Temp.) / V_S = 12...30 VDC
	4-wire RS485 Modbus RTU / V_S = 12... 30 VDC
	4-wire I^2C / V_S = 3.3...5 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

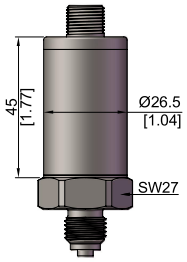
[1] Linearity (best straight line) + Hysteresis + Repeatability

Dimensions in mm [in]

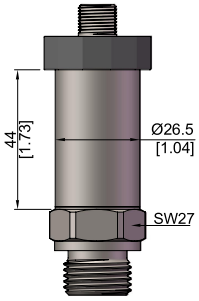
Code E1
DIN175301-803A/DIN43650/IP65



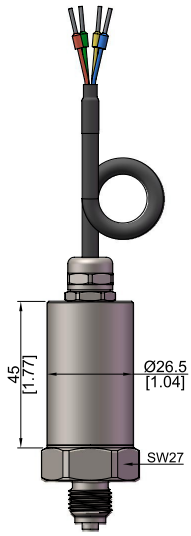
Code E2
Circular connector M12x1(4-pin)/IP66



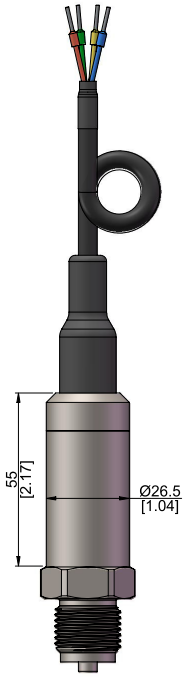
Code E3
DIN43650 with Circular connector M12x1(4-pin)/IP65



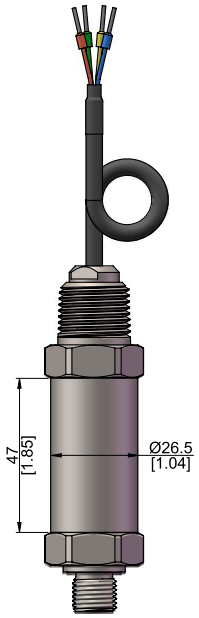
Code E4
Cable outlet,1.5m/IP67



Code E5
Cable outlet,1.5m/IP68

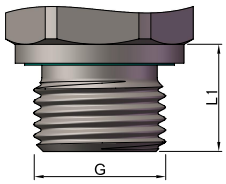


Code E6
1/2NPT conduit male, with cable outlet,1.5m/IP67

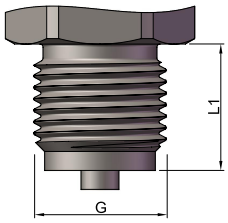


S0~D5 output: Length of housing increases by 30mm

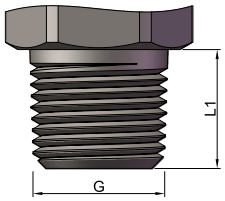
Process connections in mm [in]



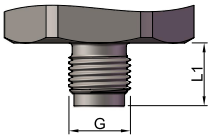
G	L1	Standard
G¼ A	14	DIN EN ISO 1179-2
G½ A	17	
G¾ A	17	
M12x1.5	14	DIN EN ISO 9974-2
M14x1.5	14	
M20x1.5	16.5	



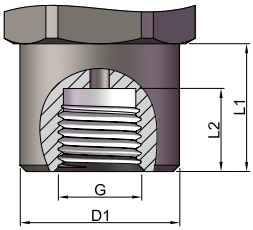
G	L1	Standard
G¼ B	13	EN 837
G½ B	20	
G⅜ B	16	
M12x1.5	15	
M20x1.5	20	



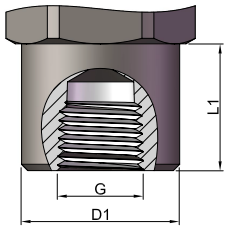
G	L1	Standard
⅛ NPT	10	ANSI/ASME B1.20.1
¼ NPT	13	
½ NPT	19	
PT ¼	13	KS
PT ½	19	
R ¼	13	ISO7
R ½	19	



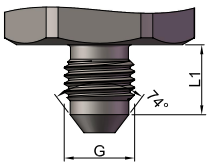
G	L1	Standard
G⅛ B	10	EN 837



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

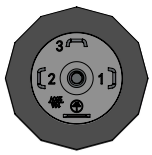


G	D1	L1	L2	Standard
⅛ NPT Female	25	20	12	ANSI/ASME B1.20.1
¼ NPT Female	25	20	14	
½ NPT Female	25	25	19	

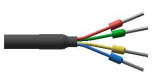


G	L1	Standard
7/16-20UNF-74°	14	SAE J514E

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		√	√

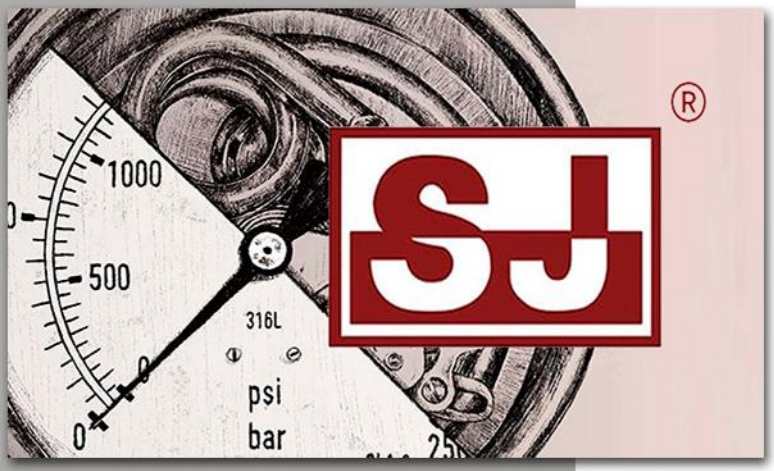
Code	Nominal pressure [bar]	Gauge	Sealed gauge	Absolute
19	0...600		√	√
20	-0.1...+0.1	√		
21	-0.2...+0.2	√		
22	-0.5...+0.5	√		
23	-1...0	√		
24	0...-1	√		
25	-1...+1	√		
26	-1...+1.6	√		
27	-1...+2.5	√		
28	-1...+4	√		
29	-1...+6	√		
30	-1...+9	√		
31	-1...+10	√		
32	-1...+16	√		
33	-1...+25	√		
34	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^2C(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	G⅛ B male	**15**	R¼ male		
05	G¼ B male	**16**	R½ male		
06	G½ B male	**17**	M12x1.5 male		
07	G⅜ 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	⅛NPT male	**21**	¼NPT female		
11	¼NPT male				

[2] The pressure unit can be selected from mH_2O, inH_2O, psi, mbar, bar, kPa.
[3] For temperature measurement output, temperature measurement range = -20...+80°C
[4] I^2C output, cable length ≤15m.



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