

Specification DataFile

- **Rugged stainless steel construction**
 - leak- and tamper-proof

- **High vibration tolerance**
 - for industrial environments

- **Long-term unattended operation**
 - over 100 million cycles

- **Ranges from 0 to 750mbar g up to 400bar g**
 - suitable for level or pressure measurement

- **Wide temperature range**
 - from -40° to +125°C (-40° to 250°F)

- **Sensors calibrated with standard mA outputs**
 - easy to change, without need for recalibration



A rugged transducer for general purpose industrial measurements

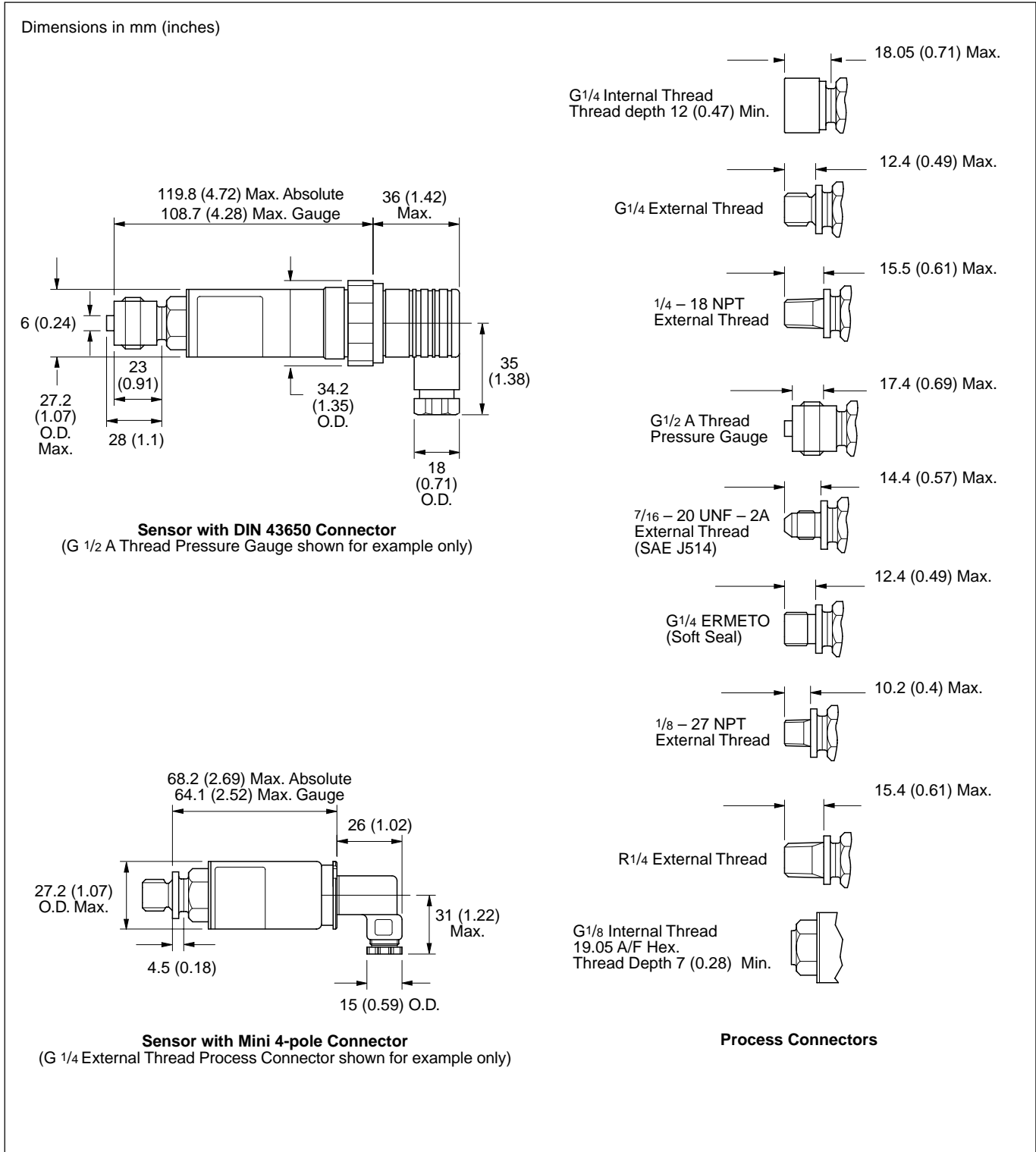
Introduction

The DATUM P881 transducer is a loop-powered pressure sensor giving a 4 to 20mA output.

The transducer operates as a non-submersible level measuring device when used with DATUM L150/L160 Indicators.

As a stand-alone unit it offers low cost, general purpose pressure measurement and can be the primary input for ABB's range of control and recording products.

Dimensions



Specification

Range

0 to 750 mbar g up to 0 to 400 bar g

Maximum overrange

2 x nominal range for 750 mbar to 250 bar
1.5 x nominal range for 400 bar

Burst pressure

Worst case: 5 x nominal range

Fatigue life

100 million cycles, zero to range pressure

Performance

Base Accuracy

Zero 4mA ± 0.16mA
Span 16mA ± 0.16mA
Typical Error Band ±0.25%

Long-term drift

< ±0.2% span/annum

Electrical

2-wire, loop-powered
4 to 20mA proportional to span
with reverse polarity protection and mini-DIN connector

Supply voltage

7 to 35V d.c.

Maximum load

Ω = 50 x (Supply voltage – 7)

Material of construction

Body tube 316 stainless steel
Process port 17–4pH stainless steel
Diaphragm 17–4pH stainless steel
Bonding Nicrobrase

Mechanical

Dimensions

See Dimensions Fig. – page 2

Process connection

G^{1/4} internal, G^{1/4} external, 1/4 – 18 NPT external, G^{1/2} pressure gauge,
7/16 – 20 UNF external, G^{1/4} ERMETO, 1/8 – 27 NPT external,
R^{1/4} external, G^{1/8} internal.

Weight

100g

Environmental

Operating temperature limit

–40° to +125°C (–40° to 250°F)

Compensated range

–20° to +80°C (–4° to 176°F)

Storage temperature

–45° to +150°C (–49° to 302°F)

Zero temperature coefficient

±0.02% per °C (±0.011% per °F)

Span temperature coefficient

±0.02% per °C (±0.011% per °F)

Vibration

35g – 5 to 2000Hz

Enclosure protection

IP65

Ordering Guide

Pressure Transducer		P881/	X/	XX/	XX/	X
Pressure Measurement	Gauge		G			
	Absolute		A			
Pressure Range	0 to 750 mbar			01		
	0 to 1.0 bar			02		
	0 to 1.6 bar			03		
	0 to 2.5 bar			04		
	0 to 4.0 bar			05		
	0 to 6.0 bar			06		
	0 to 10.0 bar			07		
	0 to 16.0 bar			08		
	0 to 25.0 bar			09		
	0 to 40.0 bar			10		
	0 to 60.0 bar			11		
	0 to 100.0 bar			12		
	0 to 160.0 bar			13		
	0 to 250.0 bar			14		
	0 to 400.0 bar			15		
Process Connection	G ^{1/4} internal thread					00
	G ^{1/4} external thread					01
	1/4 ? 18 NPT external thread					02
	G ^{1/2} A thread, pressure gauge					03
	7/16 ? 20 UNF ? 2A external					04
	G ^{1/4} ERMETO (soft seal)					05
	1/8 ? 27 NPT external thread					08
	R 1/4 external thread					0A
G ^{1/8} internal thread, 19.05 A/F Hex. thread depth 7mm (0.28 in.) Min.					09	
Electrical Connection	Mini 4 pole connector					A
	DIN 43650 connector					G



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