

US300



- OEM and End User
- High Accuracy
- Compact Package
- Wide Temperature Range

DESCRIPTION

The low cost US300 Series incorporates stainless steel isolation, and provides a wide choice of standard pressure ranges and electrical outputs in a very compact package. This product uses MEAS' UltraStable™ technology that provides stability over a wide temperature range, performance previously available only in much higher priced sensors. The modular design is adaptable to a wide variety of pressure ports and electrical connectors. Standard outputs include 0 to 10mV/V, 0.5 to 4.5V ratiometric, 1 to 5V regulated and 4 to 20mA current loop.

FEATURES

- $\pm 0.1\%$ Accuracy
- -40°C to $+105^{\circ}\text{C}$ Operating Temperature Range
- 100% Stainless Steel 316L Isolation
- Wide Variety of Pressure Ranges and Electrical Outputs
- Low Cost and Compact Package
- UltraStable™ Technology

APPLICATIONS

- Refrigeration and HVAC Controls
- Compressed Gases
- Process Control
- Water Pressure Monitoring

STANDARD RANGES

Range	psig	psia	Range	Barg	Bara
0 to 015	•	•	0 to 001	•	•
0 to 030	•	•	0 to 002	•	•
0 to 050	•	•	0 to 3.5	•	•
0 to 100	•	•	0 to 007	•	•
0 to 300	•	•	0 to 020	•	•
0 to 500	•	•	0 to 035	•	•
0 to 01k	•	•	0 to 070	•	•
0 to 03k	•	•	0 to 200	•	•
0 to 05k	•	•	0 to 350	•	•

Intermediate ranges available

US300

PERFORMANCE SPECIFICATIONS (AMPLIFIED OUTPUT)

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Accuracy (combined non linearity, hysteresis, and repeatability)	-0.15	±0.1	0.15	%Span	FS<1kpsi @25°C
	-0.25	±0.2	0.25	%Span	FS≥1kpsi @25°C
Span Tolerance	-1.0	±0.5	1.0	%Span	@25°C
Zero Offset	-1.0	±0.5	1.0	%Span	@25°C
Temperature Error – Span	-1.5	±0.75	1.5	%Span	
Temperature Error – Offset	-1.5	±0.75	1.5	%Span	
Thermal Hysteresis – Span		±0.05		%Span	
Thermal Hysteresis – Offset		±0.05		%Span	
Long Term Stability – Span		±0.10		%Span/year	
Long Term Stability – Offset		±0.10		%Span/year	
Insulation Resistance (50Vdc)	50			MΩ	
Response Time	1		1	Ms	
Proof Pressure			3X	Rated	
Burst Pressure			4X	Rated	
Compensated Temperature	-20		+85	°C	Except cable -20~80°C
Operating Temperature	-40		+105	°C	Except cable -20~80°C
Storage Temperature	-40		+125	°C	Except cable -20~80°C
Media Compatibility	Liquids and gases compatible with 316/316L Stainless Steel				
Vibration	±20g MIL-STD-810C, Procedure 514.2, Figure 514-2, Curve L				
Shock (11ms)	100g 11mS				
Pressure Cycles (Zero to Full Scale)	1 million cycles 0 to full scale				
Environmental Protection	IP67 (Cable Version)				

For custom configurations, consult factory.

US300

PERFORMANCE SPECIFICATIONS (mv OUTPUT)

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span	99	100	101	mV	FS≥15psi
	98	100	102	mV	FS≥1kpsi
Zero Pressure Output	-1.0		1.0	mV	
Pressure Non Linearity	-0.10		0.10	%Span	FS≥15psi
	-0.25		0.25	%Span	FS≥1kpsi
Pressure Hysteresis	-0.05	±0.02	0.05	%Span	FS≥15psi
	-0.1		0.1	%Span	FS≥1kpsi
Repeatability		±0.02		%Span	FS≥15psi
Input Resistance	6.0	10.0	19.0	kΩ	
Output Resistance	4.0		6.0	kΩ	
Temperature Error – Span	-1.0		1.0	%Span	
Temperature Error – Offset	-1.0		1.0	%Span	
Thermal Hysteresis – Span	-0.25		0.25	%Span	FS≤15psi over -20°~85°C
	-0.15		0.15	%Span	FS>15psi over -20°~85°C
Thermal Hysteresis – Offset	-0.25		0.25	%Span	FS≤15psi over -20°~85°C
	-0.15		0.15	%Span	FS>15psi over -20°~85°C
Long Term Stability – Span		±0.10		%Span/year	
Long Term Stability – Offset		±0.10		%Span/year	
Supply Voltage	2.5	10	14	Vdc	
Output Load Resistance	5			MΩ	
Insulation Resistance (50Vdc)	50			MΩ	
Output Noise (10Hz to 1kHz)		1.0		uV p-p	
Response Time (10% to 90%)			0.1	ms	
Proof Pressure			3X	Rated	
Burst Pressure			4X	Rated	
Compensated Temperature	-20		+85	°C	Except cable -20~80°C
Operating Temperature	-40		+125	°C	Except cable -20~80°C
Storage Temperature	-40		+125	°C	Except cable -20~80°C
Media Compatibility	Liquids and gases compatible with 316/316L Stainless Steel				
Vibration	±20g MIL-STD-810C, Procedure 514.2, Figure 514-2, Curve L				
Shock (11ms)	100g 11mS				
Pressure Cycles (Zero to Full Scale)	1 million cycles 0 to full scale				
Environmental Protection	IP67 (Cable Version)				

For custom configurations, consult factory.

US300

DIMENSIONS

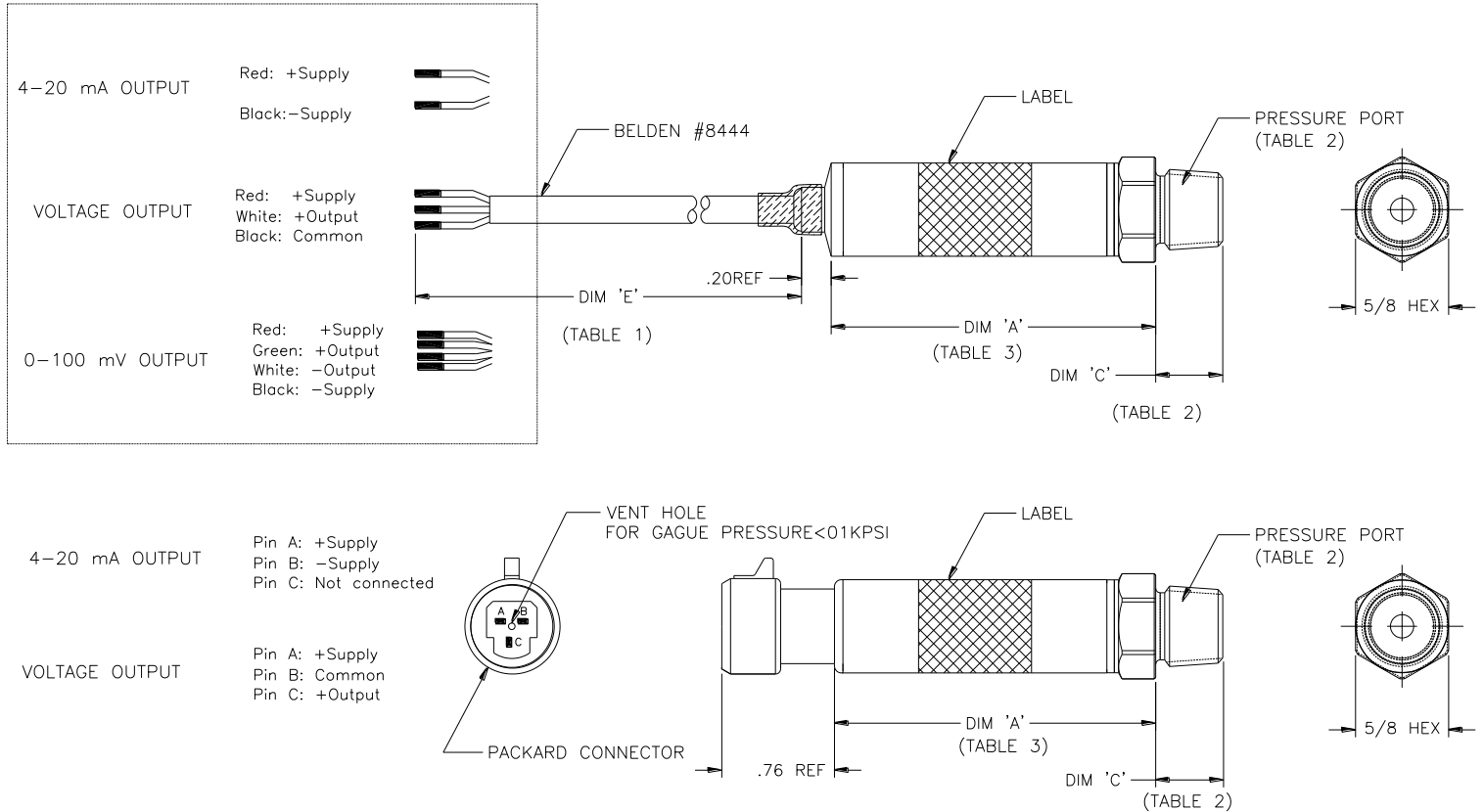


TABLE 1 : CONNECTION		
CODE	CONNECTION	DIM 'E'
1	CABLE,BELDEN #8444 2 FEET	24"±1"
2	CABLE,BELDEN #8444 4 FEET	48"±2"
3	CABLE,BELDEN #8444 10 FEET	120"±4"
4	PACKARD CONNECTOR	-

TABLE 2: PRESSURE PORT		
CODE	PRESSURE PORT	DIM 'C'
2	1/4-19 BSPP	0.45 [11.43]
4	7/16-20 UNF Male SAE J514 Straight Thread Boss O-Ring Buna-N 70SH -904, ID8.92mm X W1.83mm	0.33 [8.38]
5	1/4-18 NPT	0.45 [11.43]
6	1/8-27 NPT	0.32 [8.13]

TABLE 3				
DIM 'A'	CONNECTION	V/mA OUTPUT		mV OUTPUT
		<1000 PSIG/A	≥1000 PSIG/A	
	CABLE	2.18" MAX	2.24" MAX	1.21"
	PACKARD	2.14" MAX	2.19 MAX	-

US300

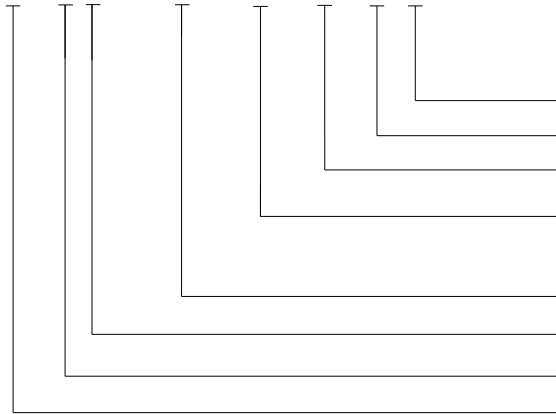
OUTPUT OPTIONS

Code	Output	Supply (V)		
		MIN	TYP	MAX
2	0 – 100mV (Constant Voltage 10mV/V Output)	2.5	10	14
3	0.5 – 4.5 V (Ratiometric @ 5V)	4.75	5	5.25
4	1 – 5 V	8		30
8	4 – 20 mA	9		30

Packard connector not available with mV output

ORDERING INFORMATION

US381-000005-500PG



Type (A = Absolute, G = Gage)

Units (P = psi, B = Bar)

Pressure Range (See Pressure Range Table)

Pressure Port (2 = 1/4-19BSP, 4 = 7/16-20UNF, 5 = 1/4-18NPT, 6 = 1/8-27NPT)

Options (nnnnn = Custom Drawing)

Connection (1 = 2ft, 2 = 4ft, 3 = 10ft Cable, 4 = Packard)

Output (2 = 0 - 100mV Ratiometric, 3 = 0.5 - 4.5V, 4 = 1 - 5V, 8 = 4 - 20mA)

Model

NORTH AMERICA

Measurement Specialties
45738 Northport Loop West
Fremont, CA 94538
Tel: 1-800-767-1888
Fax: 1-510-498-1578
Sales: pfg.cs.amer@meas-spec.com

EUROPE

Measurement Specialties
(Europe), Ltd.
26 Rue des Dames
78340 Les Clayes-sous-Bois, France
Tel: +33 (0) 130 79 33 00
Fax: +33 (0) 134 81 03 59
Sales: pfg.cs.emea@meas-spec.com

ASIA

Measurement Specialties
(China), Ltd.
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen 518057
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
Sales: pfg.cs.asia@meas-spec.com

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.