



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





MSP100

Pressure Transducer

SPECIFICATIONS

- Analog and 14-Bit Digital Output
- Small Size
- Low Cost
- 316L Stainless Steel or 17-4PH

The MSP100 pressure transducer provides stainless steel media compatibility in a low cost, small profile solution. This sensor has no silicone gel or polymeric media isolation methods to fail in contact with water or other harsh chemicals. Pressure connections are provided via an o-ring seal. The device is available in both analog and 14-bit digital output with a port material of either 316L SS or 17-4PH. Additional custom port options available to meet your application needs. The small size vs. performance and media compatibility are provided through solid-state technology.

FEATURES

- Single Piece Construction; No Welds, No Oil
- 100% Stainless Steel Isolation for Harsh Chemical Measurement
- Low Cost
- 14-Bit Digital Output or Analog

APPLICATIONS

- Beverage Dispensing Systems
- Water Pressure or Flow Monitor
- Medical Equipment
- Industrial Equipment/Hydraulics
- Tank Level Measurement
- Manifold Pressure

STANDARD RANGES

Range	psig
0 to 100	•
0 to 150	•
0 to 250	•
0 to 500	•

PERFORMANCE SPECIFICATIONS (ANALOG, OUTPUT SIGNAL "2")

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Supply Voltage	4.75	5.00	5.25	Vdc	
Zero Offset	-2		2	mV	Ratiometric
Span	98	100	102	mV	Ratiometric
Current Consumption			2	mA	
Proof Pressure	1.5X			Rated	
Burst Pressure	3X			Rated	
Endurance	1E+6			0~FS Cycles	
Accuracy	-0.5	±0.2	0.5	%Span	RSS of BFSL: Linearity, Hysteresis, Repeatability
Long Term Stability		0.25		%Span	
Minimum Resistance between Transducer and Body	50			MΩ	@250Vdc
Thermal Zero Shift	-2.0		2.0	%Span	Reference to 25°C over Compensated Temperature
Thermal Span Shift	-2.0		2.0	%Span	Reference to 25°C over Compensated Temperature
Compensation Temperature	0		45	°C	
Operating Temperature	0		55	°C	
Response Time (10% to 90%)		0.1		mS	
Vibration	±20g MIL-STD-810C, Procedure 514.2, Figure 514.2-2, Curve L				
Shock	50g, 11 msec half sine shock per mil standard 202F. Method 213B, Condition A				

For custom configurations, consult factory.

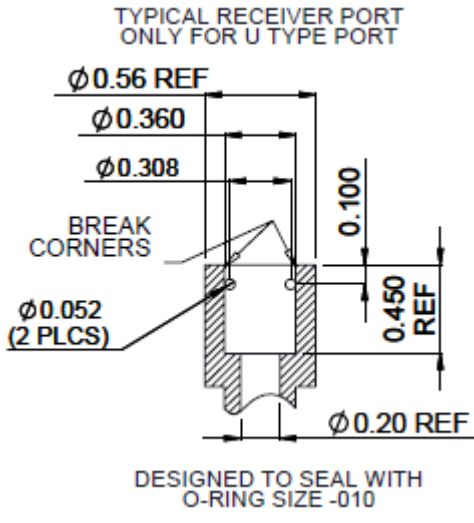
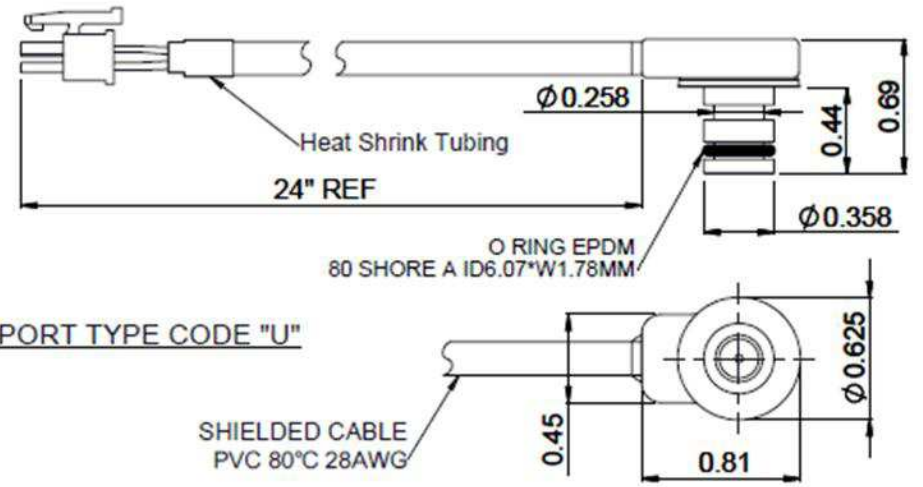
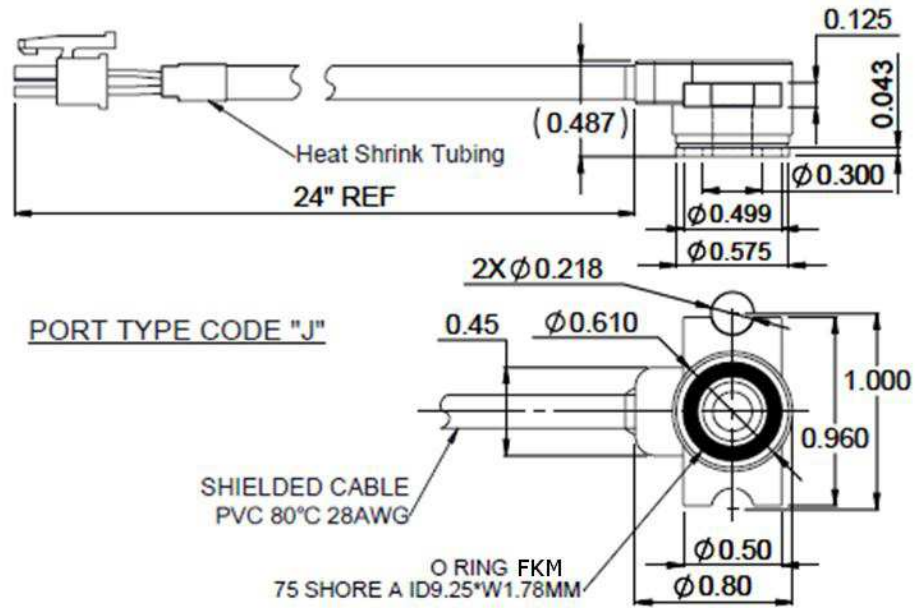
PERFORMANCE SPECIFICATIONS (DIGITAL, OUTPUT SIGNAL “J” OR “S”)

Ambient Temperature: 25°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Supply Voltage	2.7		5.0	Vdc	
Output at Zero Pressure	720	1000	1280	Count	
Output at FS Pressure	14,720	15,000	15,280	Count	
Current Consumption			3	mA	
Proof Pressure	1.5X			Rated	
Burst Pressure	3X			Rated	
Endurance	1E+6			0~FS Cycles	
Accuracy	-0.5		0.5	%Span	RSS of BFSL: Linearity, Hysteresis, Repeatability
A/D Resolution		14		Bit	
Operating Temperature	0		55	°C	@250Vdc
Operating Temperature Output	512		1075	Count	
Temperature Accuracy	-3		3	°C	Pressure Port Temperature
Thermal Zero Shift	-2.0		2.0	%F.S.	Reference to 25°C over Compensated Temperature
Thermal Span Shift	-2.0		2.0	%F.S.	Reference to 25°C over Compensated Temperature
Compensated Temperature	0		45	°C	
Response Time (10% to 90%)			3	mS @ 4MHz	Without Sleep Mode
Response Time (10% to 90%)			8.4	mS @ 4MHz	With Sleep Mode
Vibration	±20g MIL-STD-810C, Procedure 514.2, Figure 514.2-2, Curve L				
Shock	50g, 11 msec half sine shock per mil standard 202F. Method 213B, Condition A				

For custom configurations, consult factory.

DIMENSIONS



WIRING

Analog mV Output Wiring

Connection	PIN 1	PIN 2	PIN 3	PIN 4
Molex 4pin Connector PCB Mount	+SUPPLY	+OUTPUT	-OUTPUT	-SUPPLY

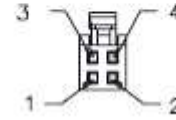
Digital I²C Output Wiring

Connection	PIN 1	PIN 2	PIN 3	PIN 4
Molex 4pin Connector PCB Mount	VDD	GND	SDA	SCL

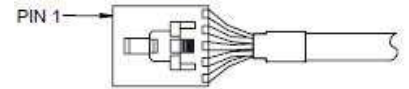
Digital SPI Output Wiring

Connection	PIN 1	PIN 2	PIN 3	PIN 4	PIN5
Molex 5pin Connector PCB Mount	VDD	GND	SDA	SCLK	SS

4 PINS MOLEX CONNECTOR
HOUSING:MOLEX 430-25-040
PIN:MOLEX 430-30-004



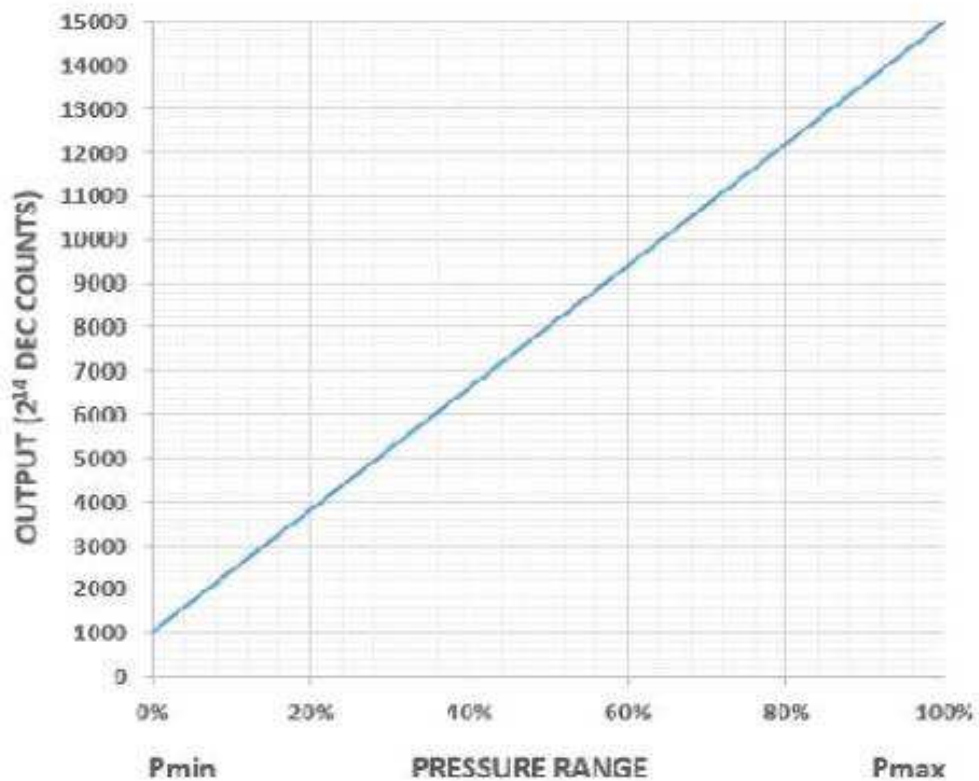
5 PINS MOLEX CONNECTOR
HOUSING:MOLEX 50-57-9405
PIN:MOLEX 16-02-0082



SENSOR OUTPUT

SENSOR OUTPUT AT SIGNIFICANT PERCENTAGES

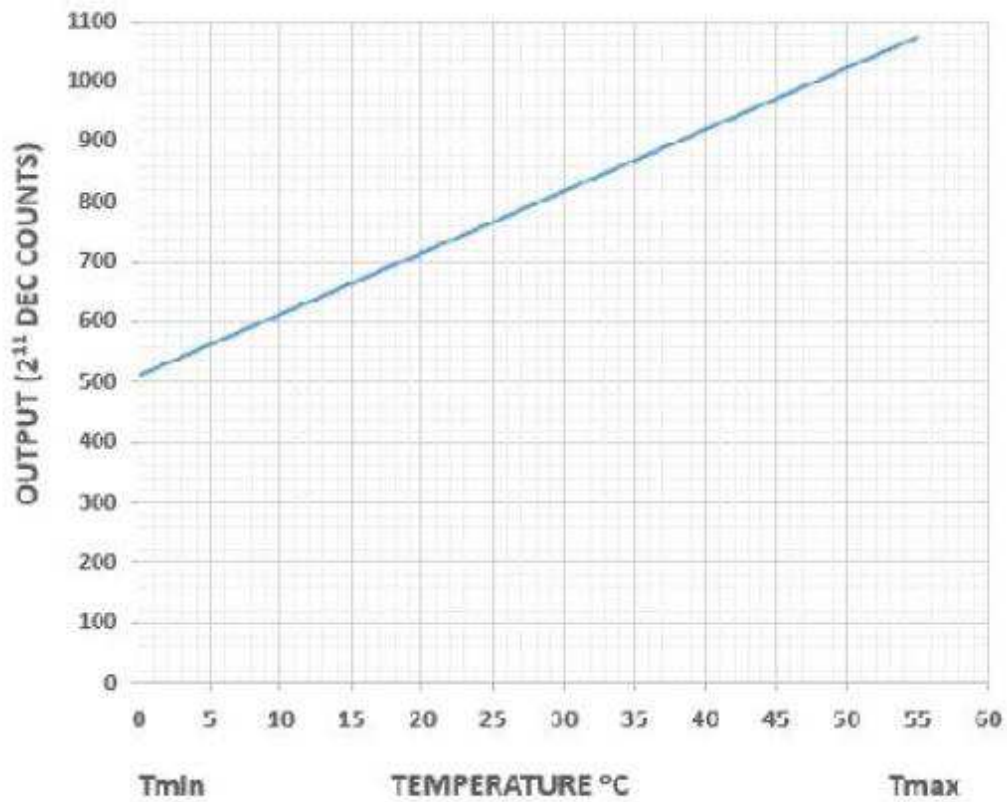
% OUTPUT	DIGITAL COUNTS (DECIMAL)	DIGITAL COUNTS (HEX)
0%	1000	0 × 3E8
5%	1700	0 × 6A4
10%	2400	0 × 960
50%	8000	0 × 1F40
90%	13600	0 × 3520
95%	14300	0 × 37DC
100%	15000	0 × 3A98



$$\text{OUTPUT (DECIMAL COUNTS)} = \frac{15000-1000}{P_{\text{max}} - P_{\text{min}}} \times (P_{\text{applied}} - P_{\text{min}}) + 1000$$

TEMPERATURE OUTPUT**TEMPERATURE OUTPUT**

OUTPUT °C	DIGITAL COUNTS (DECIMAL)	DIGITAL COUNTS (HEX)
0	512	0 × 200
10	614	1 × 266
25	767	2 × 2FF
40	921	3 × 399
55	1075	4 × 433



$$\text{OUTPUT (DECIMAL COUNTS)} = \frac{(\text{OUTPUT}^{\circ\text{C}} + 50^{\circ\text{C}}) \times 2048}{150^{\circ\text{C}} - (-50^{\circ\text{C}})}$$

MSP100

Pressure Transducer

OUTPUT SIGNAL

Code	Output Signal	Supply Voltage (V)
2	0 – 100mV	5 ± 0.25
J	I ² C	2.7 – 5.0
S	SPI	2.7 – 5.0

ORDERING INFORMATION

MS1	J	1	-	0	00	0	0	J	-	100P	G
Model	Output Signal	Connection Type	-	Port Material	00	Sleep Mode (Digital Only)	Address for I²C (Digital Only)	Port Type	-	Pressure Range	Pressure Type
MS1	2 = 0 - 100mV J = I²C S = SPI	1 = Cable 2 ft with Molex Connector	-	0 = 316L SS 1 = 17-4PH	00	0 = Without Sleep Mode 1 = With Sleep Mode (If Analog, use "0")	0 = 0x28H 1 = 0x36H 2 = 0x46H 3 = 0x48H 4 = 0x51H (If Analog or SPI, use "0")	J = O-Ring Face Seal U = O-Ring Radial Seal	-	100P 150P 250P 500P	G = Gauge

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity company
45738 Northport Loop West
Fremont, CA 94538
Tel: +1 800 767 1888
Fax: +1 510 498 1578
customercare.fmt@te.com

EUROPE

MEAS France SAS,
a TE Connectivity company
4 Rue Gaye Marie
31027 Toulouse, France
Tel: +33 (5) 822 822 00
Fax: +33 (5) 820 821 51
customercare.tlse@te.com

ASIA

Measurement Specialties (China) Ltd.,
a TE Connectivity company
No. 26 Langshan Road
Shenzhen High-Tech Park (North) Nanshan District,
Shenzhen, 518057
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
customercare.shzn@te.com

TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.