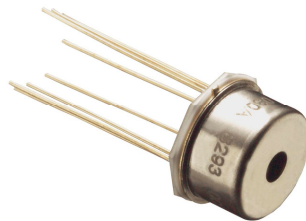


Model 17 and 47 UltraStable™



Model 17



Model 47

- PC Board Mountable Pressure Sensor
- 0-100 mV Output
- Current Excitation
- Gage and Absolute
- Temperature Compensated

DESCRIPTION

The Models 17 and 47 UltraStable™ are high performance, temperature compensated, piezoresistive silicon pressure sensors packaged in TO-8 configurations. It uses Measurement Specialties' proprietary UltraStable™ die to provide excellent performance and long-term stability over wide temperatures.

Gage and absolute pressure ranges from 0-15 to 0-250 psi are available. Integral temperature compensation is provided over a range of -20°C to +85°C using laser-trimmed resistors. An additional laser-trimmed resistor is included to normalize pressure sensitivity variations by programming the gain of an external differential amplifier. This provides sensitivity interchangeability of ±1%.

Please refer to Models 13 and 43 for information on products with operating pressures less than 0-15 psi.

FEATURES

- TO-8 Package
- -20°C to +85°C Compensated Temperature Range
- ±0.1% Non Linearity
- 1.0% Interchangeable Span (provided by gain set resistor)
- Solid State Reliability

APPLICATIONS

- Medical Instruments
- Process Control
- Factory Automation
- Altitude Measurement
- Vacuum Measurement
- Handheld Calibrators

STANDARD RANGES

Range	psig	psia
0 to 15	•	•
0 to 30	•	•
0 to 50	•	•
0 to 100	•	•
0 to 250	•	•

Model 17 and 47 UltraStable™

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5 mA

Ambient Temperature: 25 °C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span	75	100	150	mV	1
Zero Pressure Output	-2		2	mV	
Pressure Non Linearity	-0.1	±0.05	0.1	%Span	2
Pressure Hysteresis	-0.1	±0.01	0.1	%Span	
Input Resistance	2200	4000	5800	Ω	
Output Resistance		4200		Ω	
Temperature Error – Span	-0.5	±0.3	0.5	%Span	3
Temperature Error – Zero	-0.5	±0.1	0.5	%Span	3
Temperature Coefficient – Resistance		0.15		%/°C	3
Thermal Hysteresis – Zero		±0.05		%Span	3
Short Term Stability (Offset & Span)		±0.05		%Span	4
Long Term Stability (Offset & Span)		±0.1		%Span	5
Supply Current	0.5	1.5	2.0	mA	
Response Time (10% to 90%)		1.0		mS	6
Output Noise (10Hz to 1kHz)		1.0		μV p-p	
Pressure Overload			3X	Rated	7
Compensated Temperature	0		50	°C	
Operating Temperature	-40		+125	°C	
Storage Temperature	-50		+150	°C	
Weight			3	grams	
Solder Temperature	250°C Max 5 Sec.				
Media	Non-Corrosive Dry Gases Compatible with Silicon, Pyrex, RTV, Gold, Nickel, and Aluminum				

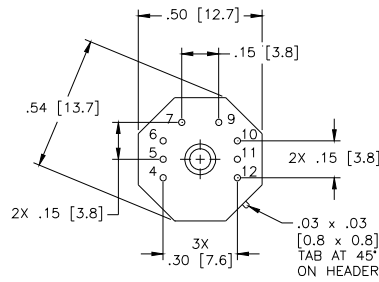
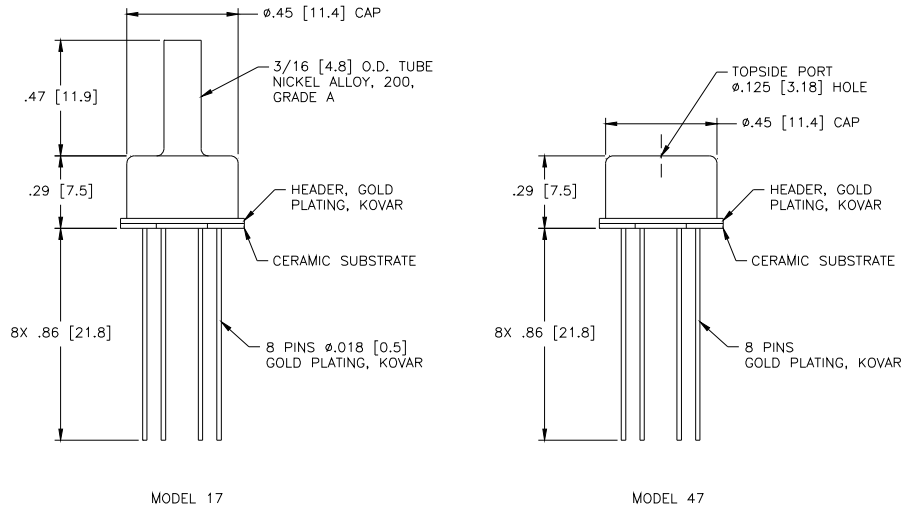
Notes

1. Ratiometric to supply current. For 250 psi devices, the minimum span value is 62 mV.
2. Best fit straight line.
3. Maximum temperature error between -20 °C and +85 °C with respect to 25 °C.
4. Short term stability over 7 days with constant current and temperature.
5. Long term stability over a one year period with constant current and temperature.
6. For a zero-to-full scale pressure step change.
7. 2X maximum for 250 psi device.

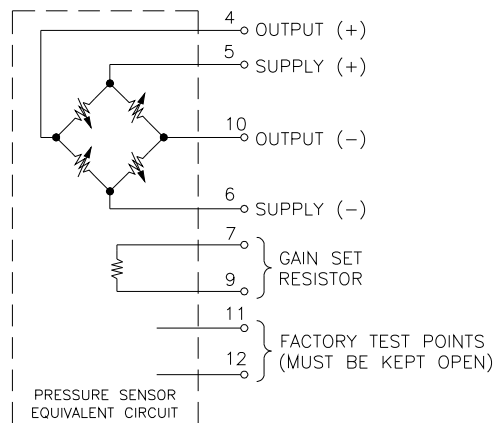
Model 17 and 47 UltraStable™

DIMENSIONS

DIMENSIONS ARE IN INCHES [mm]

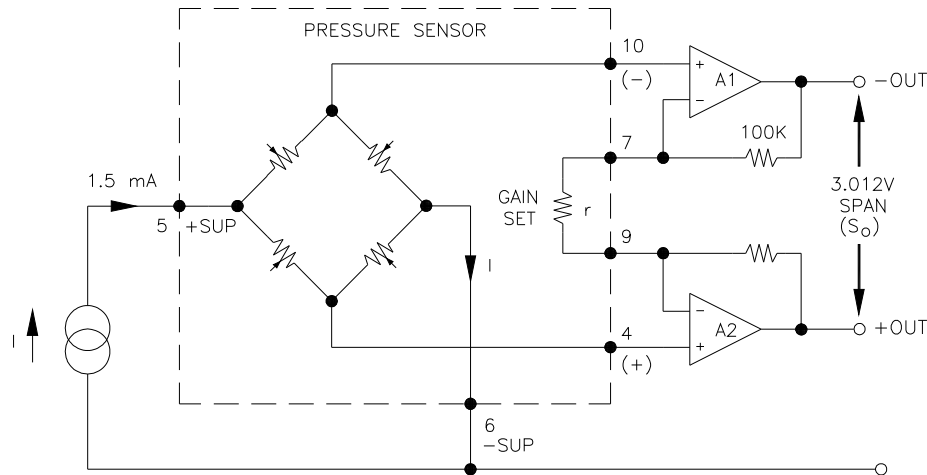


CONNECTIONS



Model 17 and 47 UltraStable™

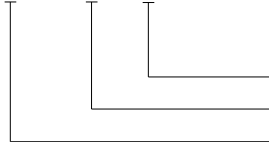
APPLICATION SCHEMATIC



APPLICATION SCHEMATIC

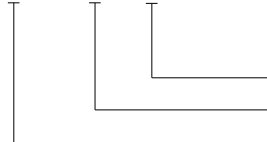
ORDERING INFORMATION

17 - 015 G



Type (G = Gage, A = Absolute)
Pressure Range
Model

47 - 015 G



Type (G = Gage, A = Absolute)
Pressure Range
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.
F1.6-4D, Tian An Development
Compound
Shenzhen, China 518048
Tel: +86 755 8330 1004
Fax: +86 755 8330 6797
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.

Headquarter Switzerland:
Pewatron AG
Thurgauerstrasse 66
CH-8050 Zurich
Phone +41 44 877 35 00
info@pewatron.com

Office Germany:
Pewatron Deutschland GmbH
Edisonstraße 16
D-85716 Unterschleißheim
Phone +49 89 374 288 87-0
info.de@pewatron.com



PEWATRON
SENSORS · POWER SOLUTIONS

We are here for you. Addresses and Contacts.

Sales Germany & Austria

Postcode 00000 – 31999
Postcode 38000 – 39999
Postcode 80000 – 99999
Austria

Kurt Stritzelberger

Phone +49 89 260 52 80
Mobile +49 171 803 41 35

kurt.stritzelberger@pewatron.com

Postcode 32000 – 37999
Postcode 40000 – 79999

Gerhard Vetter

Phone +49 674 394 75 75
Mobile +49 163 762 74 30

gerhard.vetter@pewatron.com

Geometrical sensors
Sensor elements

Thorsten Ravagni

Phone +49 60 479 53 627

thorsten.ravagni@pewatron.com

Sales Switzerland & Liechtenstein

Postcode 3000 – 9999

Basil Frei

Phone +41 44 877 35 18
Mobile +41 76 279 37 26

basil.frei@pewatron.com

Postcode 1000 – 2999

Christian Mohrenstecher

Mobile +41 76 444 57 93

christian.mohrenstecher@pewatron.com

Sales International Key Accounts

Peter Felder

Phone +41 44 877 35 05
Mobile +41 79 406 49 83

peter.felder@pewatron.com

Sales Other Countries / Product Management

Pressure Sensors

Philipp Kistler
Phone +41 44 877 35 03
philipp.kistler@pewatron.com

Accelerometers / Level Flow sensor elements

Thorsten Ravagni
Phone +49 60 479 53 627
thorsten.ravagni@pewatron.com

Drive technology CH Postcode 5000 – 9999 / DE

Roman Homa
Mobile +41 76 444 00 86
roman.homa@pewatron.com

Gas sensors / Gas sensor modules Load cells

Dr. Thomas Clausen
Phone +41 44 877 35 13
thomas.clausen@pewatron.com

Power supplies

Sebastiano Leggio
Phone +41 44 877 35 06
sebastiano.leggio@pewatron.com

Drive technology CH Postcode 1000 – 4999 / AT / IT / FR

Christian Mohrenstecher
Mobile +41 76 444 57 93
christian.mohrenstecher@pewatron.com

Flow / Level / Medical products

Dr. Adriano Pittarelli
Phone +49 8245 774 95 44
adriano.pittarelli@pewatron.com

Linear position sensors Angle sensors

Eric Letsch
Phone +41 44 877 35 14
eric.letsch@pewatron.com

Current sensors Power solutions

Osman Coban
Phone +49 71 635 363 898
osman.coban@pewatron.com