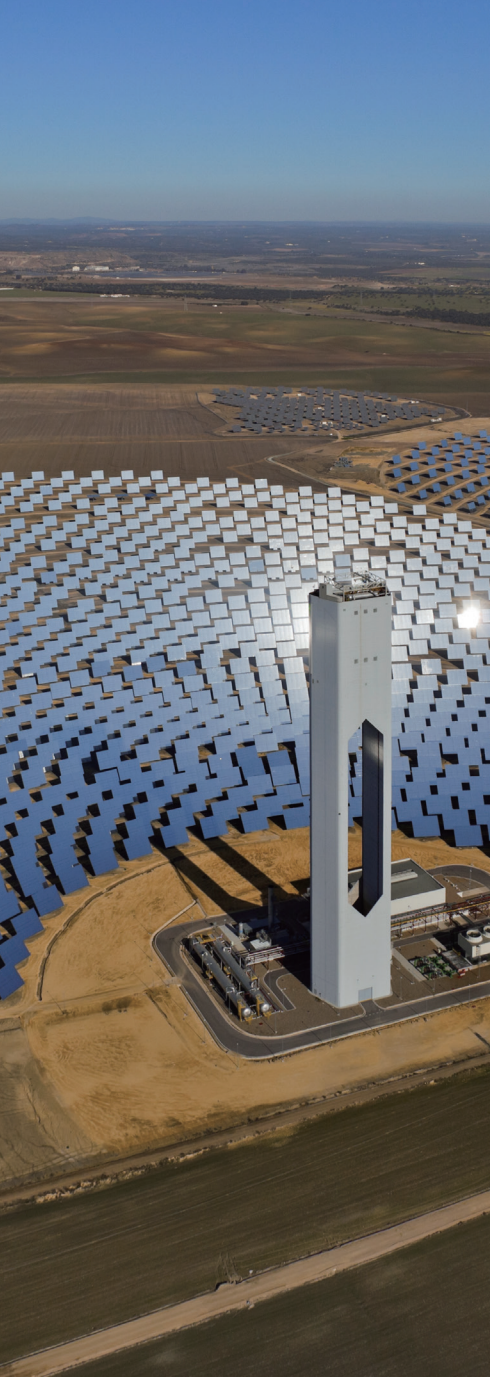

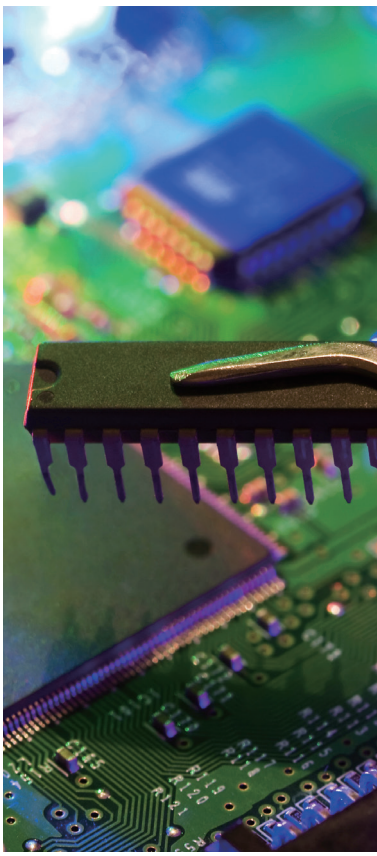

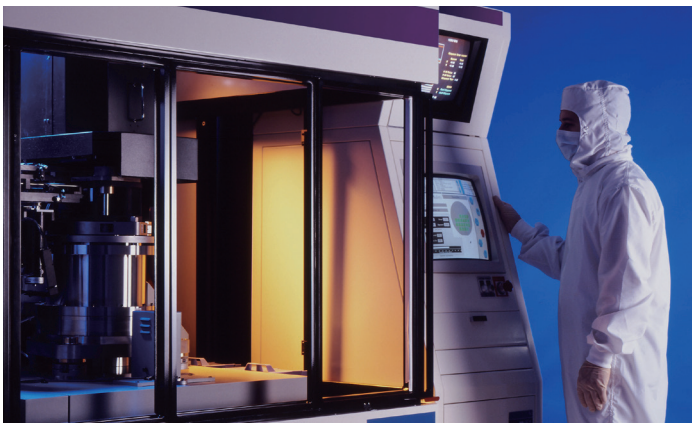

HIGH PURITY TRANSDUCERS
HPT SERIES

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HIGH PURITY PRESSURE TRANSDUCERS

DESCRIPTION

Honeywell's HPT Series Pressure Transducers use piezoresistive sensing technology with ASIC (Application Specific Integrated Circuit) signal conditioning in a stainless-steel housing with electrical connector. The HPT Series are fully calibrated including temperature compensation from 0°C to 60°C.

VALUE TO CUSTOMERS

- High precision with Total Error Band (TEB) (±1.5 %FSS): Provides the most comprehensive, clear and meaningful indication of the transducer's true measurement performance over a specified temperature range; small error promotes system uptime and efficiency.
- Corrosion resistance with wetting material of 316L VIM-VAR.
- Surface roughness Ra 0.13 µm, UHP-compliant.
- Robust EMC performance: Operate reliably in the presence of electromagnetic fields, such as near wireless signals, RF communication, and electrical devices.
- Good long-term stability.

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FEATURES AND BENEFITS

FEATURES

- Oil-free and grease-free, fully media isolated.
- Pressure range: -14.7~250PSI,-14.7~3000PSI (gage).
- Output: 4-20mA
- Full temperature range compensation and supports software zero adjustment.
- Accuracy Per IEC61298-2: 0.25%FSS
- Mean temperature coefficient at -20~85°C
  - Zero point≤0.1%FS/10K
  - Span≤0.1%FS/10K
- Meets UHP application requirement
- Dielectric strength: 250Vac, 1min.
- EMC: Heavy Industrial Level
- Response time < 2 ms TYP.
- RoHS, REACH, and CE compliant

POTENTIAL APPLICATIONS

- Production equipment for semiconductor, flat panel display (FPD), and solar photovoltaic (PV).
- High-purity media and specialty gas systems.

PORTFOLIO

Honeywell's HPT Series joins the GPT, MIPS, PX2 Series, PX3 Series, MLH Series, and SPT Series pressure transducers.

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HP SERIES SPECIFICATIONS

Table 1. Performance Specifications (At 25ºC unless otherwise noted.)

Characteristic	Parameter
Output Wiring	2-Wire
Output	4-20mA
Supply Voltage (Vs)	10-30Vdc
Over and reverse Voltage	+36 Vdc
Operating temperature range	-20 °C to 85 °C
Storage temperature range	-20 °C to 85°C
Compensated temperature range	0 °C ~ +60 °C
Accuracy [1]	±0.25%FSS
Mean temperature coefficient at 0 ~ +60 °C	Zero point≤ 0.1%FS/10K Span≤ 0.1%FS/10K
Response time	2 ms TYP (10% to 90% step change in pressure)
Turn on time[2]	<7 ms
TEB(-20~85°C)	±1.5%FSS
Electrostatic discharge	±8 kV contact, ±15 kV air per IEC 61000-4-2
Radiated immunity	30 V/m (26 MHz to 1000 MHz) per IEC 61000-4-3 3V/m (1.4GHz~2.7GHz) per IEC 61000-4-3
Fast transient burst	±4 kV per IEC 61000-4-4
Surge Immunity	±1 kV per IEC 61000-4-5
Immunity to conducted disturbances	10 V per IEC 61000-4-6
Radiated emissions	50 dB (30 MHz to 230 MHz), 57 dB (230 MHz to 1000 MHz) per CISPR 11:2009, A1:2010
Radiated immunity	100V/m (200 to 2500 MHz) per ISO 11452-2
Insulation resistance	>100 Mohm, 500 Vdc
Dielectric strength	250 Vac, 1 min.
Load resistance	Current Output: (Vs-8)*50 ohm max
Life	1 million cycles minimum to 90% full scale pressure
Leakage (Helium leak rate)	< 1 x 10-9 mbar l/sec (atm STD cc/sec) per Semi F1

[1]**Accuracy:** The maximum deviation in output from a Best Fit Straight Line (BFSL) fitted to the output measured over the pressure range at 25 °C [77 °F]. Includes all errors due to pressure non-linearity, pressure hysteresis, and pressure non-repeatability.

[2]**Turn on time:** Duration from power applied until first valid output.

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HP SERIES SPECIFICATIONS

Table 2. Pressure Reference Definitions

Pressure Reference	Definition
Gage	The output is calibrated to be proportional to the difference between applied pressure and the real-time atmospheric pressure.

Table 3. Pressure Ratings

PSI		
Rated Pressure	**Over Pressure**	**Burst Pressure**
250	1.5XFS	3XFS
3000	1.5XFS	3XFS

Table 4. Environmental and Mechanical Specifications

Characteristic	Parameter
Vibration	EN 60068-2-6: 20G swept frequency, 10 Hz - 2000 Hz IEC60068-2-6: 0.35 mm (10...58Hz) / 5g (58.1...2,000Hz)
Shock	IEC60068-2-27: 500g (1.5ms)
Humidity	0 %RH to 45 %RH, non-condensing
Wetted materials	Port and Diaphragm: 316L VIM-VAR
External materials housing connector	304 Stainless Steel

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HP SERIES

Nomenclature and order guide[1]

HP HP Series
TP TP Series

T Pressure Transducer

Mounting
S Straight

Pressure Connector
M 1/4 VCR Male
F 1/4 VCR Female

Connector material
V Pressure Sensor: SUS316L Vim-Var; Fitting: SUS316L Vim-VarF

Pressure Range
F -14.7 psi ~ 250 psi
I -14.7 psi ~ 3000 psi
6 0 psi ~ 250 psi
9 0 psi ~ 3000 psi

Accuracy
N ±0.25%FSS

Power Source
S 10 ~ 30VDC

Output
C 4~20mA DC (2 Wire)

Connector
S M12x1 IEC61076-2 Metal

Documents
X None
1 Required

HP	T	-	S	M	V	-	F	N	S	C	S	X

General part numbers for example:

No.	General P/N	Brand	Description
1	HPT-SMV-FHSCSX	Honeywell	-14.7 ~ 250 psi, 1/4 VCR Male connector, SS316L Vim Var
2	HPT-SMV-6HSCSX	Honeywell	0 ~ 250 psi, 1/4 VCR Male connector, SS316L Vim Var
3	HPT-SMV-IHSCSX	Honeywell	-14.7 ~ 3000 psi, 1/4 VCR Male connector, SS316L Vim Var
4	HPT-SMV-9HSCSX	Honeywell	0 ~ 3000 psi, 1/4 VCR Male connector, SS316L Vim Var
5	TPT-SMV-FHSCSX	Blank	-14.7 ~ 250 psi, 1/4 VCR Male connector, SS316L Vim Var
6	TPT-SMV-6HSCSX	Blank	0 ~ 250 psi, 1/4 VCR Male connector, SS316L Vim Var
7	TPT-SMV-IHSCSX	Blank	-14.7 ~ 3000 psi, 1/4 VCR Male connector, SS316L Vim Var
8	TPT-SMV-9HSCSX	Blank	0 ~ 3000 psi, 1/4 VCR Male connector, SS316L Vim Var

[1]Continuing development some configuration of pressure range, pressure reference, pressure port, electrical terminal and transfer function, please consult with Honeywell representative.

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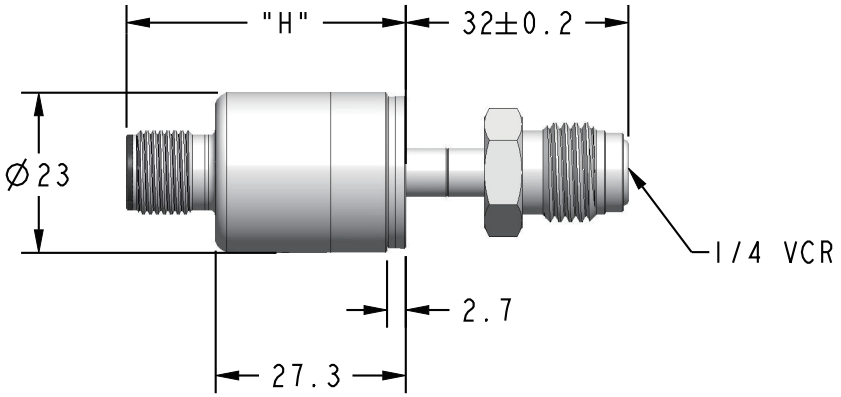
HP SERIES

Mounting Dimensions Shows by Connectors (Reference Only: mm [in])



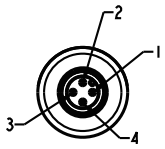
S=Metal Micro M12x1 IEC61072-2

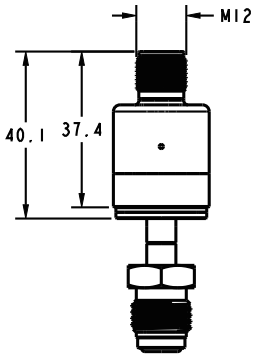
Mating Connector:
4 POS Type D Female

IP Rating: IP 67

PIN NO	Current Output
1	U+
2	-
3	U-
4	-

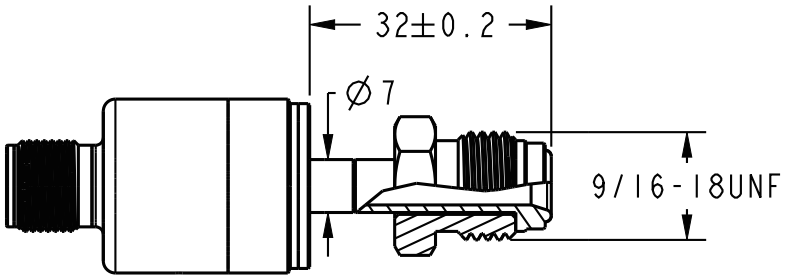
Standard





Mounting Dimensions Shows by Ports (Reference Only: mm [in])

¼" PRESSURE SCREW, ROTATABLE



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Caution

PRODUCT DAMAGE

- Ensure torque specifications are determined for the specific application.
- When using mating parts made of stainless steel, use a thread sealant with anti-seize properties to prevent thread galling. Ensure the sealant is rated for the application.
- Use appropriate tools (such as an open ended wrench or deep well socket) to install transducers.
- Always hand-start transducers into the hole to prevent cross threading and damage.
- Ensure that torque is not applied to the electrical connector.
- Ensure that the proper mating electrical connector with a seal is used to connect the transducer. Improper or damaged seals can compromise ingress protection leading to short circuits.

Failure to comply with these instructions may result in product damage.

WARNING

MISUSE OF DOCUMENTATION

- The information presented in this datasheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

Honeywell Sensing Solutions
No. 555 Huanke Road, Pudong, Shanghai
Website: automation.honeywell.com
Tel: 400 639 6841
Mail: andy.song@honeywell.com

THE FUTURE IS WHAT WE MAKE IT

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