PMT pressure SENSORS

Pressure Measurement Technology

AMETEK®
PMT PRODUCTS

Transmitter and Transducer Selection Guide

																	
Model	DCT	ACT	SPT	IND-100	742	89	831	88	375	575	SST	SDT	675	1535	IPS-200	HPT-100	Model 40
Product Line	OEM Transducers	OEM Transducers	OEM Transducers	OEM Transducers	Military Transducers	Military Transducers	Industrial Transmitters	Industrial Transmitters	Submersible Level	Submersible Level	Submersible Level	Submersible Level	Submersible Level	High Purity	High Purity	High Purity	Pneumatic Controller
Features	Excellent Stability, Temperature Measurement Option	Versatility, Accuracy, Customization	Amplified Output , 5X Burst Pressure	Sputtered Metal Sensor, Field Adjustable	Rugged Design for Navy Ships, Differential Pressure Option	Zero and Span Adjustments	All Stainless Steel, Explosion-proof Design	Field Terminal Block, Adjustable	Low-cost, Reliable Level Measurement	Reliable Level Measurement	0.69" Diameter for Small Bore Applications	OEM Level Transducer With Optional Temperature Output	Shark Cage Design With Large Diaphragm	Ultra High Purity With Less Than 10 Ra Finish	UHP Gauge/Switch Combination	Hastelloy Diaphragm, Outdoor Use	Pressure Controller for Process Variables
Ranges	0-1 thru 0-3000 psi	0-1 thru 0-3000 psi	VAC-5000 psi 0-2 thru 0-350 bar	100-3000 psi	VAC-10,000 psi, 0-600 psid	VAC-10,000 psi, 0-400 psid	0-6 thru 0-5000 psi, 0-500 psid	0-3 thru 0-5000 psi	0-6 psig thru 0-300 psig	0-6 psig thru 0-300 psig	0-6 psig thru 0-150 psig	0-1 thru 0-300 psig	0-6 psig thru 0-60 psig	VAC-4000 psi	VAC-4000 psi	VAC-3000 psi	VAC-3000 psi
Gauge	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Vacuum	X	X	X	X	X	X	X										X
Compound	X	X	X	X	X	X	X							X	X	X	
Absolute	X	X	X	X	X	X	X									X	
Sealed	X	X	X				X										
Differential					X	X	X										X
Process Connection	1/8", 1/4" NPT, 7/16"-20 SAE	1/8", 1/4" NPT, 7/16"-20 SAE	1/8" NPT	1/4" NPT, Block Mount optional	7/16-20 Thread for 1/4" Tube	7/16-20 Thread for 1/4" Tube	1/4" NPT Male, 1/2" NPT Female and Male	1/2" NPT Female, Flush	1/4" NPT Male Snub Nose	1/2" NPT Nylon Snub Nose	9/16-18 Delrin Snub Nose	1/4" NPT Male Snub Nose	3.5" Diaphragm Protected by a 4.75" Cage	Lower Mount or Center Back Mount, 1/4" NPT, MVCR, or MVCRF	Lower Mount or Center Back Mount, 1/4" NPT, FVCR, MVCR, or MVCRF	1/4, 3/8, 1/2 inch Tube Stub or Face Seal Fitting. High Flow Face Seal Available.	1/4" NPT Female
Wetted Parts	316L SS, Brass	316L SS, Brass	316L SS	316L SS and Hastelloy C22	316L SS	316L SS	316L SS or Hastelloy C	316L SS	316L SS, Polyurethane, Viton	316L SS, Polyurethane, Viton	316L SS	316L SS	316L SS Polyurethane, Viton	316L SS, 10 Ra Finish	316L SS, 10 Ra Finish	Hastelloy and 316L SS, 7-10 Ra Finish	316 SS, Bronze, Ni Span C
Input For mV Out		10 VDC															
Input For Volt Out	9-30 VDC, 4.75-5.25 VDC Rationmetric		8-15 VDC		28 VDC ±4.5 VDC		8-14 VDC					9-30 VDC			10 watts DC, 12 VA AC Max	12-30 VDC	
Input For mA Out	11-30 VDC			12-30 VDC	28 VDC ±4.5 VDC	28 VDC ±4.5 VDC	12-30 VDC	12-40 VDC	11-30 VDC	12-40 VDC	11-30 VDC	11-30 VDC	12-40 VDC			12-30 VDC	
Output Millivolts (mV)		0-100 mV DC															
Output Volts	1-5 VDC, 1-6 VDC, 0-5 VDC, 0.5-4.5 VDC Ratiometric		1-6 VDC		0-5 VDC		1-5 VDC, 0.8-3.2 VDC					1-6 VDC, 1-5 VDC, 0.5-4.5 VDC, and 0-5 VDC			28 V AC/DC Max	0-5 VDC	3/15 psi, 3/27 psi, 6/30 psi, 12/60 psi
Output Milliamps (mA)	4-20 mA			4-20 mA	4-20 mA	4-20 mA	4-20 mA	4-20 mA	4-20 mA	4-20 mA	4-20 mA	4-20 mA	4-20 mA			4-20 mA	
Housing	Aluminum or ULTEM®	Aluminum or ULTEM®		300 SS	316 SS, Aluminum	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS	316L SS	316L SS	300 SS	
Calibration	Fixed Range	Fixed Range	Fixed Range	Zero and Span Adjustment	Zero and Span Adjustment	Zero and Span Adjustment	Fixed Range	Field Adjustable 5:1 Turndown	Fixed Range	Bench Adjustable	Fixed Range	Fixed Range	Bench Adjustable	Bench Adjustable	Bench Adjustable	Zero and Span Adjustment	Field Adjustable
Accuracy	±0.2% Full Scale BFSL	±0.2% Full Scale BFSL	±0.25% Full Scale BFSL	±0.25% Full Scale BFSL	±1.0% Full Scale BFSL	±1.0% Full Scale BFSL	±0.30% Full Scale BFS	±0.25% Full Scale BFSL	±0.25% Full Scale BFSL	±0.25% Full Scale BFSL	±0.25% Full Scale BFSL	±0.20% Full Scale BFSL	±0.25% Full Scale BFSL	±1.0% of Span	±2.0% of Span	±0.25% Full Scale BFSL	±1.0% Middle Half of Scale
Electrical Connection	Cable, Din, Packard, Bendix, Conduit	Cable, Din, Packard, Bendix, Conduit	Packard Connector and 18" #20 AWG Wire	10" Shielded Cable Optional Bendix or Optional 1/2" NPT Conduit	Mil-Spec Connectors w/ SS Optional	Mil-Spec Connectors w/ SS Optional	3/4" NPT Female Conduit Standard	1/2" NPT Female Conduit	22 Gauge Polyurethane Shielded Cable up to 2500 Feet	20 Gauge Polyurethane Shielded Cable Up to 3000 Feet Optional 1/2" Conduit, Teflon Optional	22 Gauge Polyurethane Shielded Cable up to 5000 Feet	Polyurethane, Polyolefin, or Teflon Cable. EMI Protection and Conduit Adapter Optional	20 Gauge Polyurethane Shielded Cable Up to 3000 Feet Optional 1/2" Conduit, Teflon Optional		26 AWG Teflon Leads	Bendix, Pigtail, Outdoor	
Agency Approvals and Standards			IP-64, Mil-STD-202F	NEMA 4X, CE	MIL-T-24742, MIL-STD-901D, MIL-STD-461, MIL-STD-167	MIL-D-24304B, MIL-P-24212C (SH)	NACE	NACE						ANSI B.40.1	ANSI B.40.1	NEMA 4X, CE	
Intrinsically Safe				CSA/NTRL CL1 DIV 1				CSA CL 1 DIV 1		CSA CL 1 DIV 1			CSA CL 1 DIV 1			CSA CL1 DIV 1	
Explosion Proof							FM/CSA CL1 DIV 1	FM/CSA CL 1 DIV 1									

Transducers

Model DCT

PRESSURE TRANSDUCERS

Application

The Model DCT is designed for general industrial and commercial requirements offering excellent performance over a wide range of applications. This model provides high reliability, long-term stability, and low cost relative to competing technologies. AMETEK - PMT has been developing and manufacturing high performance pressure sensing products for over 40 years, and the DCT brings a new level of accuracy to the PMT product portfolio.

Solutions

- Multiple voltage, current (mA), and ratiometric outputs
- Pressure ranges from 1 to 3000 psi
- Available in brass (up to 500 psi only) or stainless steel
- Temperature measurement option
- 0.20% accuracy

Model ACT

PRESSURE TRANSDUCERS

Application

The ACT offers premium performance and versatility of use for many applications, both for general industrial and original equipment manufacturers (OEMs). This model is offered in pressure ranges from 1 psi up to and including 3000 psi. It combines precision along with the durability to operate under difficult environmental conditions.

Solutions

- 0-100 mV output
- 0.20% accuracy
- SST diaphragm or brass (up to 500 psi only) non-isolated
- Laser trimmed analog compensation
- PSIG, PSIA, PSIS, and compound
- Multiple pressure port and electrical connection options

Model SPT

AMPLIFIED OUTPUT PRESSURE TRANSDUCERS

Application

The Model SPT general purpose industrial pressure transducer is designed using all 316 stainless steel wetted parts to provide excellent media compatibility. This model transducer provides a high level voltage output from an unregulated supply. Each unit is shipped fully compensated for pressure and temperature and is completely interchangeable without the need for further calibration. Superb stability, low cost and proven reliability make it an ideal choice for OEM applications.

Solutions

- 5X burst pressure ratio
- 0.25% accuracy
- Excellent stability
- Temperature compensated
- 10 standard pressure ranges up to 5000 psig

Model IND-100

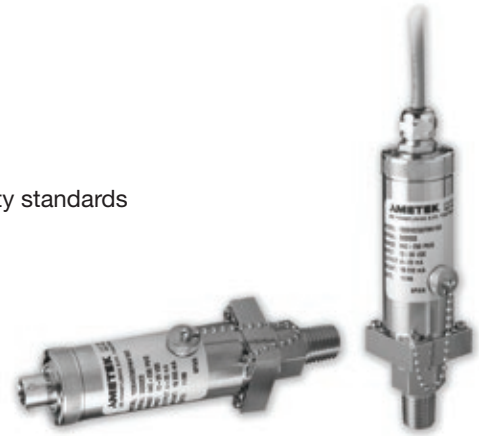
INDUSTRIAL PRESSURE TRANSMITTERS

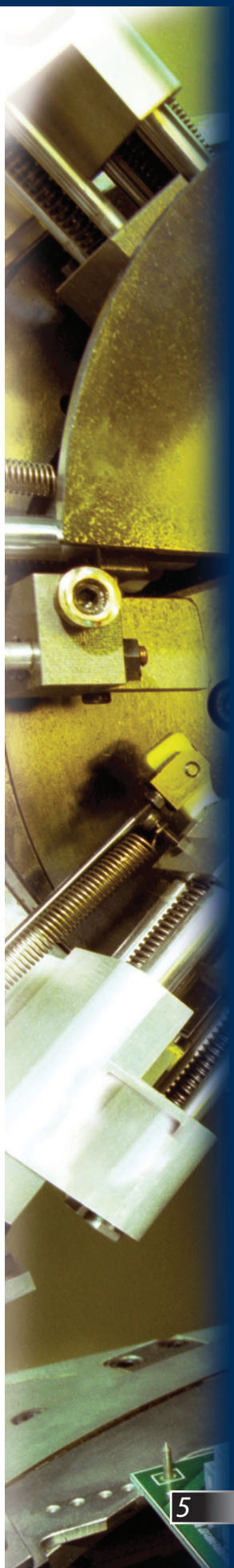
Application

The Model IND-100 transmitter is designed for use in industrial applications such as plant process and utility pressure measurements, compressor control, and hydraulic and pneumatic manufacturing systems. EMI/RFI resistance is provided on this transmitter as protection against noise-generating variable speed motors and radio equipment common on a factory floor. This model provides exceptional reliability in industrial, as well as, outdoor environments. PMT again provides a transmitter unequaled in performance. The IND-100 model is perfectly suited for the demanding price requirements of this market.

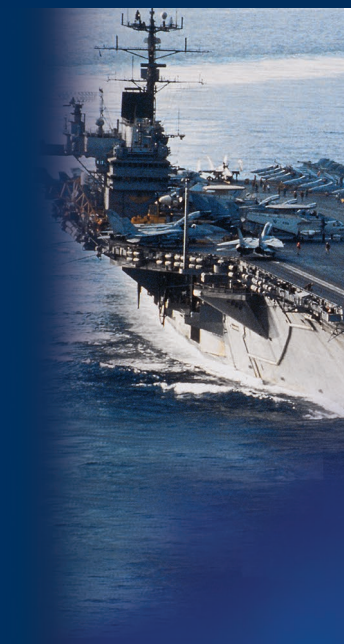
Solutions

- Compact size
- ±0.25% accuracy
- Indoor or outdoor installations
- NEMA 4X available
- Approved to meet Class I, Division 1 intrinsic safety standards
- CE marked per EMC directive: 89/336/EEC





Military Transducers



Model 742

MILITARY TRANSDUCERS

Application

The Model 742 Transducer accurately measures differential pressures, gauge, absolute, vacuum, and compound and transmits a fully adjustable 4-20 mA or 0-5 VDC output signal for remote display, recording, or control. The Model 742 Transducer is available in ranges up to 10,000 psig and 600 psi differential.

Solutions

- Designed to meet the specifications for marine and military applications
- Meets MIL-T-24742
- Grade A shock tested
- EMI per MIL-STD-461
- Vibration per MIL-STD-167
- Lightweight design
- Non-interacting zero and span adjustments for quick calibration
- Minimal maintenance

Model 89

MILITARY TRANSDUCERS

Application

The Model 89 Transducer is a United States Navy approved QPL item that directly interchangeable with existing pressure transducers designed to MIL-Standards. The mounting is designed to match the footprint of existing transducers for quick and easy installation. The standard Model 89 transducer is available in gauge, compound, vacuum and absolute ranges from 30” Hg vacuum to 0-6,000 psi. The Model 89 DP Transducer is available in differential ranges from 300 inches of water to 400 psi.

Solutions

- QPL approved for navy shipboard use
- Meets MIL-D-24304 and MIL-P-24212
- Non-interacting zero and span adjustments for quick calibration
- Pressure connections conform to MS16142

Industrial Transmitters

Model 831 Series

FIXED RANGE PRESSURE TRANSMITTERS

Application

The Model 831 Pressure Transmitter is an all stainless steel transmitter designed for years of stable performance in the toughest environments. This model has been designed to meet FM/CSA explosion-proof ratings and meets NACE standards for offshore applications.

Solutions

- Straight in-line construction for a slim profile
- ±0.30% accuracy
- Designed to meet FM/CSA explosion-proof approvals
- Low power and differential pressure models available
- Pressure ranges to 0-5000 psi
- All welded 316L SS construction

Model 88

INDUSTRIAL PRESSURE TRANSMITTERS

Application

The Model 88 Series are high quality, full-featured pressure transmitters designed using a compact size and weight to eliminate complicated mounting hardware and mechanical supports. The cover is retained by a stainless steel chain, eliminating losses due to misplaced parts. A 4-20 mA output is standard. Meets NACE standards for offshore applications.

Solutions

- Available in NPT (88C) or flushmount (88F)
- A high-quality, full featured transmitter
- ±0.25% accuracy
- 5:1 turndown capability
- FM and CSA explosion-proof and CSA intrinsically safe

High Purity Products

Model 1535

HIGH PURITY PRESSURE GAUGES

Application

Model 1535 pressure gauges are designed and manufactured for ultra-high purity gas distribution equipment commonly used in semiconductor manufacturing. The Model 1535 is an all stainless steel gauge that is clean room produced, nitrogen purged, and double bagged in 3 mil nylon and 6 mil poly bags. This gauge is compatible with many toxic and corrosive gases. A welded face seal connection provides a threadless pressure seal and virtually eliminates a typical contamination source. The Model 1535 is available in NPT, FVCR, MVCR, and MVCRF connections.

Features

- 316L SS seamless bourdon tube with welded joints for heavy duty service
- Assembled and packaged in class 100 clean room
- Wetted surfaces are electropolished
- Available with low mount or center back connections
- Exceeds ANSI B40.1 specifications
- Helium leak tested
- 10 Ra surface finish

Model HPT-100

HIGH PURITY PRESSURE TRANSMITTERS

Application

The HPT-100 is a series of pressure transmitters specifically designed to meet the ultra-high purity requirements of the semiconductor industry. Because these units are typically used in applications measuring highly reactive and/or toxic materials, our manufacturing tolerances and operating specifications are very stringent. The HPT-100 Series transmitters are small in size and eliminate the need for bulky mounting hardware. These ultra-high purity transmitters are packaged in a Class 100 clean room and are double-bagged in a clean, dry, nitrogen environment to maintain the UHP condition.

Features

- Available in a flow-through and single-ended models
- NEMA 4x rated
- Ideal for outdoor installations
- CE marked per EMC directive: 89/336/EEC
- Wetted surfaces are reduced sulphur 316L SS and Hastelloy C22
- 7-10 Ra surface finish

Model IPS-200

HIGH PURITY GAUGES/SWITCHES

Application

The AMETEK Model IPS-200 switch gauge was specially designed for use with gas handling equipment in the semiconductor manufacturing industry. Specific applications include coaxial monitoring, low cylinder pressure alarm or high delivery pressure due to regulator drift. Class 100 clean room assembled. Available in a single setpoint version.

Features

- Magnetic reed switch offers factory selectable switch action (High Alarm, Low Alarm)
- No switch input power required
- Various ranges from 30” Hg VAC to 4000 PSI, single or dual scale
- Available in low mount and center-back mount configuration
- Available with face seal fittings, tube stub or NPT connections
- Switch setpoint adjustments accessible from front of monitor
- Switch setting may be adjusted on or off-line
- Electropolished face seal, gland and socket with less than 10 Ra surface finish

Model 40 Series

PRESSURE CONTROLLERS

Application

Model 40 Pneumatic Controllers automatically position a valve or other final control element to maintain process pressure at the desired set point. As receiving controllers, they can control any process variable transmitted as a pneumatic signal. As a transmitter, it is designed to sense pressure and transmit an air signal which is precisely proportional to the measured variable. This output may be fed to any remotely located monitoring, recording or control instrument.

Controller Features

- Wide selection of process measuring elements for pressure, differential pressure, flow and level
- Easy field calibration
- Large, easy-to-read black and white dial for maximum resolution
- Case and door with epoxy powdered finish for environmental protection
- Indication of measured variable
- A non-bleed, high capacity relay with excellent stability and fast response
- Meets EPA NSPS OOOO (Quad O) for bleed rate less than 6.0 scfh

Go Green

Transmitter Features

- High accuracy and repeatability
- Stabilized pneumatic circuit
- A single transmitter can be used to actuate a number of receivers for indication, recording or control at a number of points throughout a plant.

Level Transmitters

Model 375

SUBMERSIBLE LEVEL TRANSMITTERS

Application

The Model 375 Series Level Transmitter is specially designed to provide the convenience of direct submergence in many types of liquid for quick, accurate and reliable level measurement. The simple design and rugged construction of this solid state instrument provide long-lasting service with virtually no maintenance. 4-20 mA output is standard.

Solutions

- 316 SS housing and a removable, non-clogging snubnose end protects sensing elements
- Vented to atmosphere through the surface end of the cable with in-line desiccant included
- Excellent accuracy, ±0.25% of full scale
- Reverse polarity and surge protected
- Cable support bracket for extra support at depths up to 2500 feet or in agitated liquid
- Customer connection end of cable and internal sensor potted to minimize moisture intrusion

Model 575

SUBMERSIBLE LEVEL TRANSMITTERS

Application

The Model 575 Series Level Transmitter is specially designed to provide the convenience of direct submergence in many types of liquid for quick, accurate and reliable level measurement. The simple design and rugged construction of this solid state instrument provide long-lasting service with virtually no maintenance. 4-20 mA output is standard.

Solutions

- A removable, non-clogging snubnose end protects sensing elements
- Vented to atmosphere through the surface end of the cable
- ±0.25% accuracy
- Reverse polarity and surge protected
- Intrinsically safe for Class 1 Division 1 Applications when used with approved safety barrier

Model SST

SUBMERSIBLE LEVEL TRANSMITTERS

Application

The Model SST is easy to install. Simply lower the transmitter into a vessel or well. It's that easy. All the electronics are mounted in a submersible 316 stainless steel housing. The transmitter is available calibrated for any span needed: from 0 to 6 psig or 0 to 0.4 Bar (0 to 14 ft. of water) to 0 to 150 psig or 10 bar (0 to 345 ft. of water)

Solutions

- 0.69 inch diameter to fit in small bore systems
- Solid state semiconductor sensor for accuracy and reliability
- Rugged 316 stainless steel diaphragm and housing with excellent environmental protection
- Removable, non-clogging snubnose end protects sensing elements
- Vented to the atmosphere through the surface end of the cable
- Reverse polarity, surge, and lightning protection
- Anti-snag feature for easy probe removal

Model 675

SUBMERSIBLE LEVEL TRANSMITTERS

Application

The Model 675 Shark Cage is specifically designed for slurry and highly viscous applications where clogging of the sensor area is common. The Model 675 uses a 3.5” Diaphragm protected by a 4.75” cage to prevent unwanted clogging of the sensing area. This submersible level device is made of 316L SS which offers outstanding environmental protection and is available in depths up to 110 feet.

Solutions

- Oversized 3.5” diaphragm to prevent clogging
- Extremely rugged 316L SS construction
- Reverse polarity and surge protected
- Ideal technology for slurries, lift stations, and pump control
- Intrinsically safe for Class 1 Division 1 Applications when used with approved safety barrier

Model SDT

SUBMERSIBLE LEVEL TRANSMITTERS

Application

The Model SDT Submersible Level Transmitter is specially designed to provide the convenience of direct submergence in many types of liquid for quick, accurate and reliable level measurement. The SDT provides a lower cost, lighter weight option for submersible level applications. The simple design and rugged construction of this solid state instrument provide long lasting service with virtually no maintenance. The transducer is available calibrated for any span needed, from 0 to 1 psig or 0 to 0.07 bar (0 to 2.31 feet or 0 to 0.7 meters of water) to 0 to 300 psig or 0 to 20 bar (0 to 690 feet or 0 to 211 meters of water).

Solutions

- Solid state semiconductor sensor for accuracy and reliability
- Lightweight and compact size
- Rugged 316L SS housing with excellent environmental protection
- Advanced digital compensation
- Optional temperature measurement capability
- Vented to the atmosphere through the surface end of the cable
- Reverse polarity and surge protected
- A two-wire 4 to 20 mA output is standard, 0.5 to 4.5 VDC, 1 to 5 VDC, 1 to 6 VDC, or 0 to 5 VDC output signals are optional

AMETEK®

U.S. GAUGE • PMT PRODUCTS
820 PENNSYLVANIA BOULEVARD., FEASTERVILLE, PENNSYLVANIA 19053 U.S.A.
TEL: +1 215-355-6900 • FAX: +1 215-354-1801 • www.ametekusg.com

ISO 9001:2000 CERTIFIED

1M114PC (110078)

PMT pressure SENSORS