



DI Digital Indicator



HT Series Homogenizer Transmitter



PT Series



PTD Differential Transmitter



PTF Flush Mount



PTP Premium Series Transmitter /Transducer



PTS Series Submersible Pressure Transmitter



PTX Series Explosion Proof Transmitter



SST Severe Service Transmitter Downhole



STC Pressure Transmitter (Clean in Place)



STP Sanitary Tri-Clamp Pressure Transmitter



1953

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DI Series



NEMA 4 FACE

Premium Series Digital Indicator



Quality / Economy Series Digital Indicator

Description

Premium DI Series (Tri-Colour Display)

Winters DI Premium combines a digital panel and fully functional controller in one high quality versatile instrument. It's programmable colour changing display allows for easier trouble shooting capabilities; green is warm up, amber is normal operation and red indicates an alarm situation. The DI Premium universal signal inputs are efficient in reading process current, voltage, RTDs and thermocouples. The DI Premium measures process current of 0-20 mA, process voltage of 0-100 millivolt, 0-1 volt and 0-10 volt. The unit is CE approved and is available with an optional face that has a NEMA 4 rating.

Premium Specifications

Inputs:	Universal; 0-20mA, 0-100 mV, 0-1V, 0-10 Vdc, Thermocouple (J,K,T,E,R,S,B,C,N,J DIN), RTD (100, 500,1000) 385, 392 curves
Display:	4 digit, 9 – Segment LED, 0.83" 3 colours (Red, Amber, Green)
Voltage:	0 to 100mV, 0-1 V, 0-10Vdc
Current:	0-20mA (4 to 20mA)
Accuracy:	± 0.03% process typical, ± 0.5°C temp

How to order:

Winters Product Code: PDI



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DI Series

Description

Quality DI Series

Winters DI Quality can receive signals from any instrument or controller that has 4-20mA, 1-5Vdc or 0-10 Vdc. The extensive zero and span adjustment has capabilities for direct readout in engineering units for process, flow temperature or level. The LED interface display is easy to read has display hold and is simply scaled into engineering units. The DI Quality is CE approved.

Quality Specifications	
Inputs:	4-20mA (13 ohms), 1 – 5Vdc, 0 – 10 Vdc
Display:	3½" digit, 7 – Segment Red or Green LED, 0.56"
Voltage:	0 to 5Vdc, 0-10Vdc, 0-200 mVdc
Current:	4 to 20 mA (13 ohms)
Accuracy:	± 0.05% R, ± 1 lsd

How to order:

Winters Product Code: QDI

Description

Economy DI Series

Winters DI Economy is a two-wire current loop powered indicator. The DI Economy does not need external power connections, it is powered directly by a 1-5 mA, 4-20 mA or 10-50 mA process signal. The two wire electrical hook up has an easy plug-in screw clamp connector. The unit provides for a zero and span adjustment capability for direct readout in percent or engineering units. The DI Economy is easily configured and calibrated. The easy to read LCD interface has zero and span and can be fine-tuned with precision 15 turn potentiometer accessible behind the lens.

Economy Specifications	
Inputs:	1-5mA (13 ohms), 4-20mA, 10-50mA (125 ohms @ 20mA) (625 ohms @ 4mA)
Display:	3½" digit, 7 – Segment LCD, 0.5"
Current:	1 to 5mA, 4 to 20mA, 10 to 50mA
Accuracy:	± 0.1% R, ± 1 lsd

How to order:

Winters Product Code: EDI



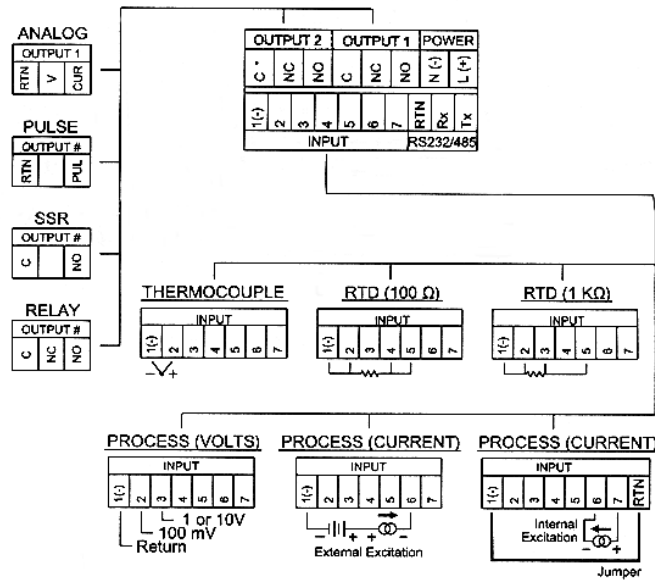
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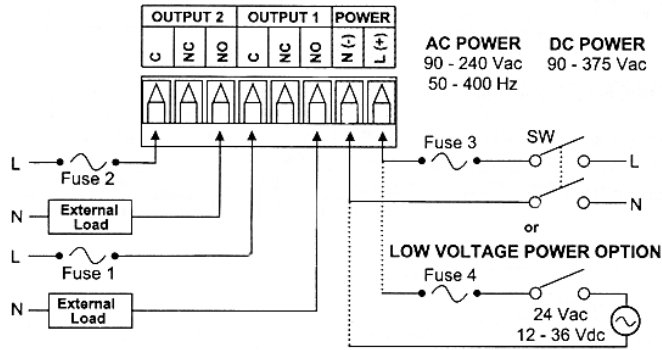
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DI Series

Wiring Guide



Connect the main power connections as shown in the figure below.



FUSE	Connector	Output Type	For 115Vac	For 230Vac	DC
FUSE 1	Output 1	Relay	3 A(T)	3 A(T)	-
FUSE 2	Output 2	Relay	3 A(T)	3 A(T)	-
FUSE 3	Power	N/A	100 mA(T)	63 mA(T)	63 mA(T)
FUSE 4	Power	N/A	N/A	N/A	400 mA(T)



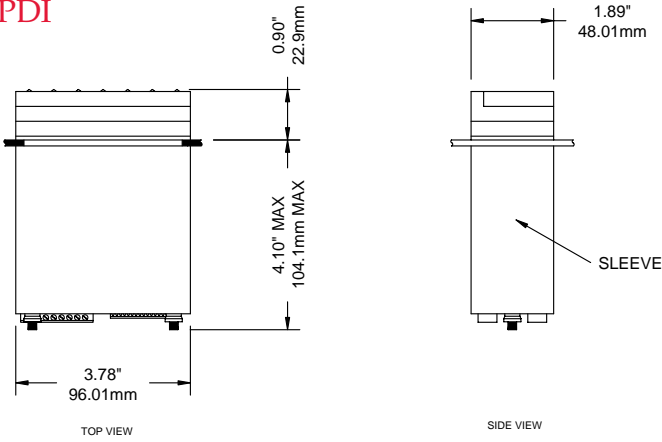
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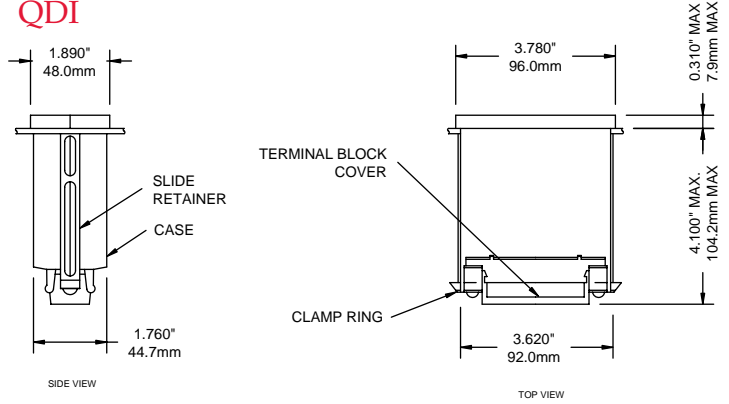
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DI Series

PDI



QDI



PANEL THICKNESS
0.250" (6.4mm) MAX
0.030" (0.8mm) MIN

$3.622" + 0.032"/-0.000"$
92.0mm + 0.8mm/-0.0mm

PANEL CUT-OUT

$1.772" + 0.024"/-0.000"$
45.0mm + 0.61mm/-0.0mm

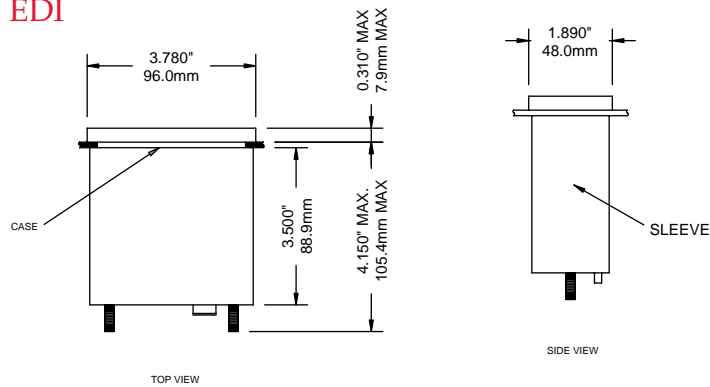
PANEL THICKNESS
0.250" (6.4mm) MAX
0.030" (0.8mm) MIN

$3.622" + 0.032"/-0.000"$
92.0mm + 0.8mm/-0.0mm

PANEL CUT-OUT

$1.772" + 0.024"/-0.000"$
45.0mm + 0.61mm/-0.0mm

EDI



PANEL THICKNESS
0.250" (6.4mm) MAX
0.030" (0.8mm) MIN

$3.622" + 0.032"/-0.000"$
92.0mm + 0.8mm/-0.0mm

PANEL CUT-OUT

$1.772" + 0.024"/-0.000"$
45.0mm + 0.61mm/-0.0mm



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HT Series

HOMOGENIZER TRANSMITTER



Optional Block

Description

Winters HT Homogenizer Transmitter is an extremely rugged device that is best utilized in applications that requires an accurate reading in highly viscous environments (i.e. food, pharmaceutical, etc.) Its 316 grade stainless steel construction makes it very durable and compatible with all systems. The HT is very accurate with a level of $\pm 0.5\%$. The HT has a NEMA 4X rating and has a pressure range up to 0-15000 psi.

How to order: Specify product code PRODUCT CODES

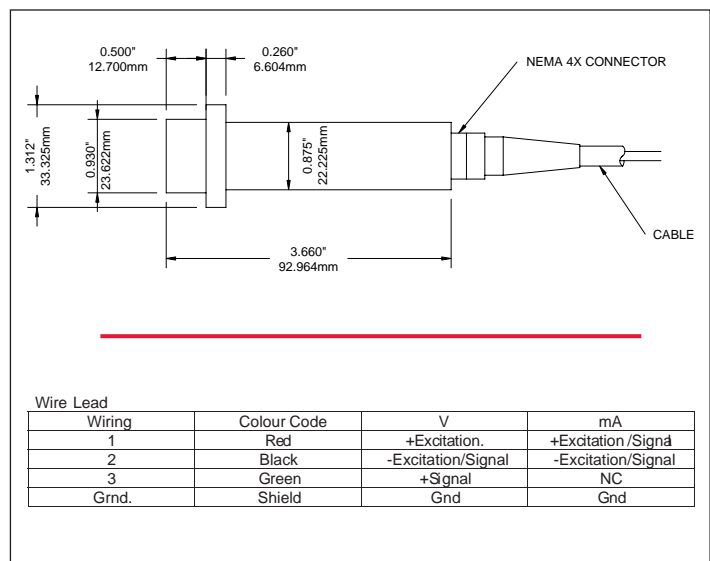
Range*	Code	Range*	Code
0-100 psi	HT100	0-1500 psi	HT1500
0-150 psi	HT150	0-2000 psi	HT2000
0-200 psi	HT200	0-3000 psi	HT3000
0-300 psi	HT300	0-5000 psi	HT5000
0-500 psi	HT500	0-7500 psi	HT7500
0-750 psi	HT750	0-10000 psi	HT10000
0-1000 psi	HT1000	0-15000 psi	HT15000

Specifications	
Electrical Output:	4-20mA, 2 wire standard 0.5-4.5 Vdc, 0.5-5.5 Vdc, 1-6 Vdc available 3 wire (other outputs available)
Electrical Connector:	10 ft (3m)/6 conductor cable
Excitation Voltage:	8-38 Vdc
Protection:	IP65
Wetted Parts/Connection:	15-5 PH 316L stainless steel, two bolt homogenizer yoke-type block
Housing:	316L stainless steel
Proof Pressure:	2X full scale (max. 22,500 psi)
Burst Pressure:	5X full scale (max. 23,000 psi)
Normal Operating Temp. Range:	-40°F-170°F (-40°C-76°C)
Compensated Temperature Range:	-40°F-170°F (-40°C-76°C)
Temperature Effect on Zero:	Less than $\pm 1.5\%$ FSO per 100°F (37.7°C)
Temperature Effect on Span:	Less than $\pm 1.5\%$ FSO per 100°F (37.7°C)
Response Time:	Less than 5mS
Accuracy:	$\pm 0.5\%$ full scale
Long Term. Stability:	Less than $\pm 0.25\%$ FSO per annum
Weight:	4 oz. (113g)

* Calibrated in psi. Other ranges (e.g. kPa, bar, etc) available upon request.

If block (yoke) connector is required - Add the suffix "BL" to the above codes (e.g. HT5000BL with block)

Other outputs & options available



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PT Series Pressure Transmitter



Applications

Winters PT Pressure Transmitter is a versatile instrument used in various industrial applications such as, industrial machinery, hydraulics and pneumatics, compressor control, HVAC/R equipment, marine and offshore, laboratory and test equipment, medical (measuring helium), emergency vehicles (fire trucks) and industrial OEM applications.

Options

- Other outputs and options available
- Other ranges (e.g. bar, etc.) available upon request

Specifications	
Electrical Output Signal:	4-20mA, 2 wire
Electrical Connection:	Mini DIN 43650 style (4pin) connection includes mate (other options available)
Excitation Voltage:	8-36 Vdc
Housing:	316 stainless steel
Wetted Parts/Connection:	316 stainless steel, 1/4" NPT male
Proof Pressure:	1.75X full scale
Burst Pressure:	2.5X* full scale
Normal Operating Temperature:	32°F to 185°F (0°C to 85°C)
Compensated Operating Temperature:	32°F to 185°F (0°C to 85°C)
Ambient Temp. Effect on Zero:	Less than +/- 1.5% FSO per 100°F (32°C)
Response Time:	240 mS (composite of the time for the pressure to reach 140 psi (or 10 bar) and the electronics response time)
Accuracy:	+/- 0.25% FSO (+/-0.1% available)
Long Term Stability:	Less than +/- 0.4 FS per annum
Weight:	5.4 oz (153g)

Product Codes			
Range	Code	Range	Code
0-10 psi	PT10	0-750 psi	PT750
0-15 psi	PT15	0-1000 psi	PT1000
0-25 psi	PT25	0-1500 psi	PT1500
0-50 psi	PT50	0-2000 psi	PT2000
0-100 psi	PT100	0-2500 psi	PT2500
0-150 psi	PT150	0-3000 psi	PT3000
0-200 psi	PT200	0-5000 psi	PT5000
0-300 psi	PT300	0-7500 psi	PT7500
0-500 psi	PT500	0-10000 psi	PT10000

* Pressure ranges over 1500 psi - burst pressure is approx. 1.75X

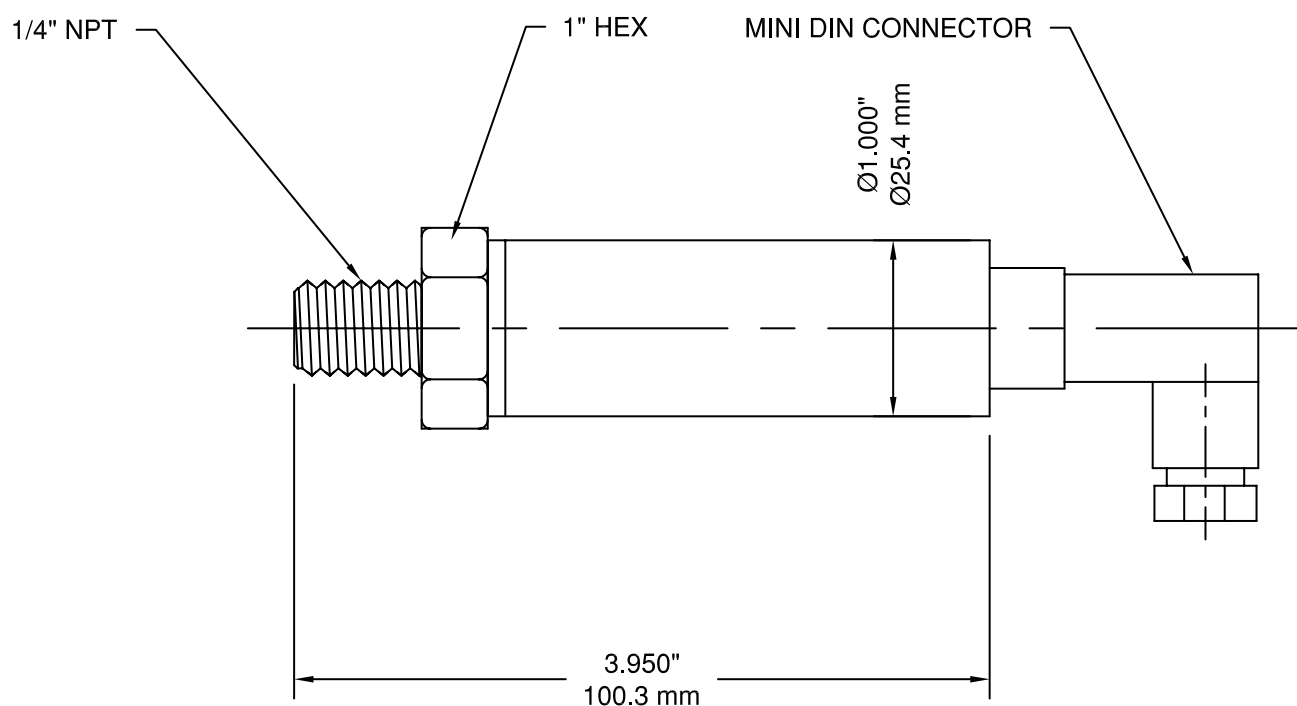


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PT Series Pressure Transmitter



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PTD Series

DIFFERENTIAL PRESSURE TRANSMITTER



Low Range

CE
NEMA 4



High Range

CE

Description

Winters PTD Series is designed to measure the wet to wet differential pressures of liquids and gases. This compact, efficient design is available in Low or High psi ranges that facilitates installation in tight spaces. The PTD Low Range housing is constructed of stainless steel and aluminum. The PTD High Range housing is made from a 316-grade stainless steel ideally suited for an industrial environment. The PTD's fast response sensor and signal conditioned electronic circuitry provides quick and accurate readings. A unique isolation system responds to pressure changes approximately 20 times faster than conventional transmitters with ranges below 100 psi (Low Range Model). CE approval is standard on all models. NEMA 4 approval is standard on The Low Range Model.

Differential transmitters are commonly utilized to measure drops across filters. Other applications include; pumps and compressors, flow measurements of gases and liquids, liquid level measurement of pressurized vessels.



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PTD Series

DIFFERENTIAL PRESSURE TRANSMITTER

High Range Specifications

Electrical Output:	4-20mA, 2 wire (other options available)
Electrical Connection:	DIN 43650 w/mate.
Excitation Voltage:	8-38 Vdc
Wetted parts/Connection:	316L stainless steel 1/4" NPT female 300 series stainless steel and 17-4PH stainless steel with Viton O-ring
Housing:	316L stainless steel
Proof Pressure:	3X full scale (max. 10000 psi) (20X full scale optional).
Burst Pressure:	5X full scale (max. 10000 psi)
Normal Operating Temperature Range:	-40°F to 170°F (-40°C-76°C)
Compensated Temp. Performance:	-40°F to 170°F (-40°C-76°C)
Ambient Temp. Effect on Zero/Span:	Less than +/- 1.5% FSO per 100°F (37.7°C).
Response Time:	50 mS.
Accuracy:	± 0.5% (FSO)
Long Term Stability:	± 0.25% FSO per annum.
Protection:	IP65
Weight:	13 oz. (368g)

Low Range Specifications

Electrical Output:	4-20mA, 2 wire 0-5Vdc or 0-10 Vdc
Electrical Connection:	Barrier trip terminal block with conduit enclosure & .875 DIA conduit opening
Excitation Voltage:	9-30 Vdc
Wetted parts/Connection:	17-4PH stainless steel with Viton O-ring , 1/4"- 18 NPT internal
Housing:	Stainless steel/cast aluminum
Proof Pressure:	Refer to pressure range chart on next page.
Burst Pressure:	Refer to pressure range chart on next page.
Normal Operating Temperature Range:	0-175°F (-17°C to 82°C)
Compensated Temp. Range	30-150°F(0-65°C)
Ambient Temp. Effect on Zero/Span:	2% of full scale/100°F (37.7°C)
Response Time:	30-50 milliseconds
Accuracy:	+/- 0.25% (FSO)
Long Term Stability:	0.5% full scale per annum
Weight:	14.4 oz. (408g)



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PTD Series

DIFFERENTIAL PRESSURE TRANSMITTER

How to order: Specify product code

PTD Series High Range Wet/Wet	
Range *	Code
0-150 psi	PTD150
0-200 psi	PTD200
0-300 psi	PTD300
0-500 psi	PTD500
0-1000 psi	PTD1000
0-3000 psi	PTD3000
0-5000 psi	PTD5000
Other	PTD - OR (Range)

PTD High Pressure Range		
Gauge psig	Proof Pressure psig	Burst Pressure psig
0-50	100	750
0-100	200	1000
0-200	500	2000
0-500	1000	3000
0-1000	2000	5000
0-3000	4500	7500
0-5000	7500	10000
0-10000	12500	20000

PTD Series Low Range Wet/Wet			
Unidirectional		Bidirectional	
Range*	Code	Range	Code
0-1 (27.7in/H ₂ O)	PTDU1	0-0.5 (±) (13in/H ₂ O)	PTDB0.5
0-2 (55.4in/H ₂ O)	PTDU2	0-1(±) (27.7in/H ₂ O)	PTDB1
0-5 (138.4in/H ₂ O)	PTDU5	0-2.5 (±) (69in/H ₂ O)	PTDB2.5
0-10 (276.8in/H ₂ O)	PTDU10	0-5 (±) (138.4in/H ₂ O)	PTDB5
0-25 psi	PTDU25	0-10 (±) (276.8in/H ₂ O)	PTDB10
0-50 psi	PTDU50	0-25 (±) (psi)	PTDB25
0-100 psi	PTDU100	0-50 (±) (psi)	PTDB50

* Calibrated in psi. Other ranges (e.g. bar, etc.) available upon request.
Other outputs & options available

PTD Low Pressure Range					
Gauge psig	Proof Pressure psig	Burst Pressure psig	Gauge psig	Proof Pressure psig	Burst Pressure psig
Unidirectional			Bidirectional		
0-1	2.5	20	0 to +/- 0.5	1.25	20
0-2	5	40	0 to +/- 1	2.5	40
0-5	12.5	100	0 to +/- 2.5	6.25	100
0-10	25	100	0 to +/- 5	12.5	100
0-25	62.5	250	0 to +/- 10	25	200
0-50	125	250	0 to +/- 25	62.5	250
0-100	250	250	0 to +/- 50	12.5	250



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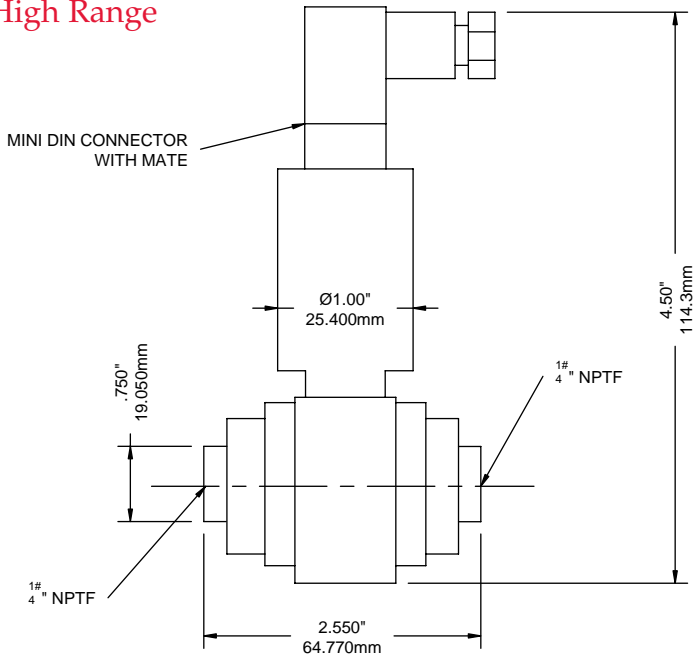
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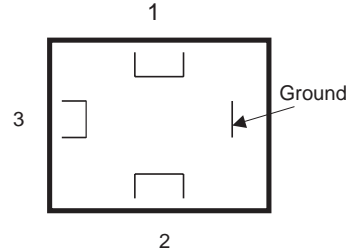
PTD Series

DIFFERENTIAL PRESSURE TRANSMITTER

High Range



Hirshman Mini-DIN Pin Out:



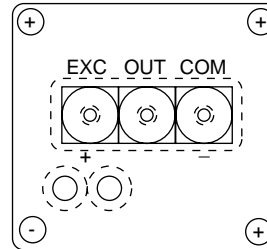
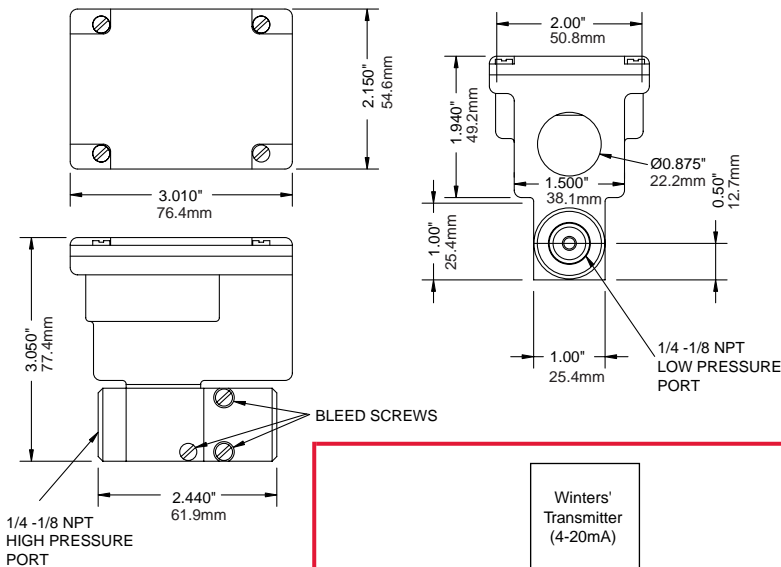
1.0 Connection type:

4-20mA output Supply Power: 8-38 Vdc

Mini-DIN Pin	Colour Code	V	mA
1	N/A	+Excitation	+Excitation/Signal
2	N/A	-Excitation/Signal	-Excitation/Signal
3	N/A	+Signal	NC
Grnd.	N/A	Gnd	Gnd

Wire Lead	Colour Code	V	mA
1	Red	+Excitation.	+Excitation/Signal
2	Black	-Excitation/Signal	-Excitation/Signal
3	Green	+Signal	NC
Grnd.	Shield	Gnd	Gnd

Low Range

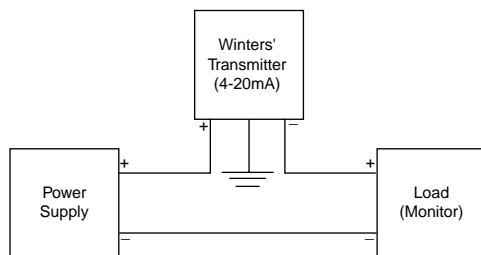


For voltage output, use COM, OUT and EXC terminals.

For current (4-20 mA) output, use + and - terminals.

Current Output Units

Winters PTD Low Range (current output) transducers are true 2-wire, 4-20 mA current output devices and deliver rated current into any external load of 0-1000 ohms. The 4-20 mA current output units are designed to have current flow in one direction only. PLEASE OBSERVE POLARITY. We suggest that an electrical cable shield be connected to the system's loop circuit ground to improve electrical noise rejection.



MIN Supply Voltage: $9 + .02 \times (\text{Resistance of receiver plus line})$
 MAX Supply Voltage: $30 + .004 \times (\text{Resistance of receiver plus line})$



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PTF Series

FLUSH MOUNT TRANSMITTER



Description

Winters PTF Flush Mount Transmitter's small compact design is best utilized in a viscous environment (i.e. paint or coating applications) that requires a flush connection to the source being measured. (The unique flush design eliminates any cavity that could form a build up.) The 316-grade stainless steel design has superior resistance to abrasion and is easily removed for cleaning. The Flush Mount Transmitter utilizes a thick diaphragm seal that provides a higher overpressure and spike protection. The accuracy rating is $\pm 0.5\%$ and is, also, available at $\pm 0.25\%$. The PTF is available up to ranges of 0-10000 psi and can be customized to other ranges, if required. The PTF Series is CE approved.

Specifications

Electrical Output Signal:	4-20mA, 2 wire (0.5-4.5Vdc, 0.5-5.5Vdc, 1-6Vdc available (3 wire))
Electrical Connection:	Mini DIN 43650 style (4 in) (other types available)
Excitation Voltage:	8-38 Vdc
Connection/wetted Parts:	Flush diaphragm, 3/4-16 UNF connection, 316 & 15-5 stainless steel (Other sizes available)
Housing:	316L stainless steel
Proof Pressure:	2X full scale
Burst Pressure:	5X full scale (maximum 15000 psi)
Normal Operating Temp. Range:	-40F to 170F (-40 to 76C)
Compensated Temp. Range:	-40F to 170F (-40 to 76C)
Thermal Shock Effect:	Less than +/- 1.5% FSO per 100°F (37.7°C)
Ambient Temp. Effect on Zero/Span:	Less than +/- 1.5% FSO per 100°F (37.7°C)
Response Time:	Less than 5mS
Accuracy:	± 0.25 FSO
Long Term Stability:	Less than +/- 0.25% FS per annum
Protection:	IP65



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PTF Series

FLUSH MOUNT TRANSMITTER

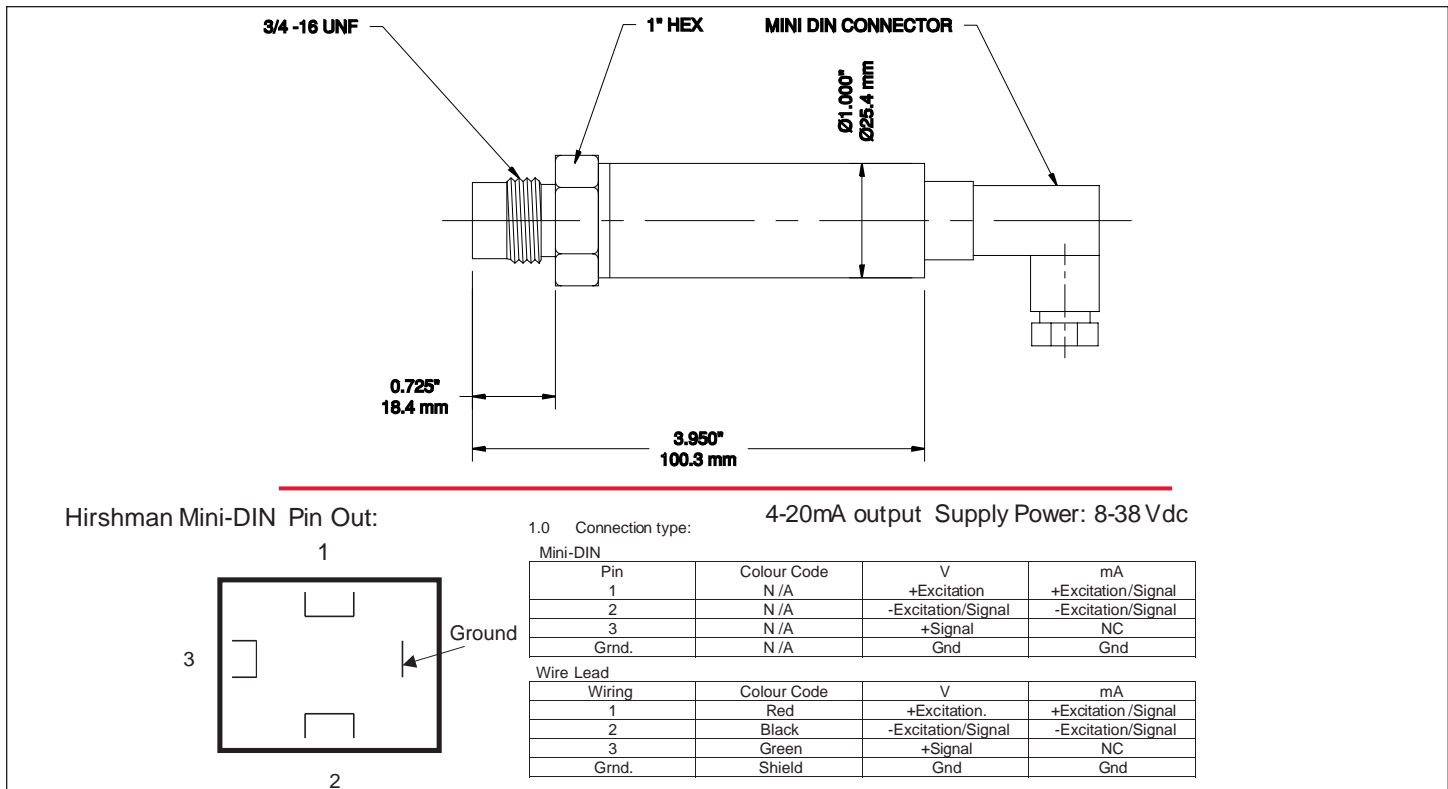
How to order: Specify product code
PRODUCT CODES

Flush Mount	
Range *	Code
0-100 psi	PTF100
0-150 psi	PTF150
0-200 psi	PTF200
0-300 psi	PTF300
0-500 psi	PTF500
0-1000 psi	PTF1000
0-1500 psi	PTF1500
0-2000 psi	PTF2000
0-3000 psi	PTF3000
0-5000 psi	PTF5000
0-10000 psi	PTF10000
Other Range	PTF-OR

Other outputs & options available

* Calibrated in psi other ranges (e.g. bar, etc) available upon request

(Available with Hastelloy C 276 & Inconel Diaphragm Seals)



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PTP Series

PREMIUM PRESSURE SERIES TRANSMITTER



CE
NEMA 4



Description

Winters PTP Series Pressure Transmitter (with all stainless steel construction) is suitable for harsh industrial environments delivering excellent repeatability and reliability. Winters PTP Transmitters use Chemical Vapour Deposition (CVD) technology to manufacture inherently stable sensing elements. The sensing elements are laser welded to a stainless steel force summing diaphragm, which is vacuum brazed to a pressure port to ensure mechanical integrity. A state-of-art ASIC (Application Specific Integrated Circuit) chip in each transmitter provides better linear thermal coefficients than traditional analog resistive compensation. The PTP has virtually no drift and has an accuracy rating of ± 0.15 full scale (typical). The PTP Series is available in standard ranges and can be modified to suit your industrial application.

Common applications include: tank measurement, pump controls, hydraulic power, boilers, chillers.

Specifications

Electrical Output Signal:	4-20mA, 2 wire Vdc
Electrical Connection:	Mini-DIN 43650 (4 pin) (other options available)
Excitation Voltage:	7-35 Vdc
Protection:	IP65
Wetted Parts / Connection:	17-4 PH Stainless Steel, 1/4" NPT male
Housing:	316 stainless steel
Proof Pressure:	2X full scale (1.5X full scale on ranges greater than 5000 psi)
Burst Pressure:	20X full scale up to 1000 psi, 5X full scale \leq 6000 psi
Ambient / Process Temperature:	-40F to 260F (-40C to 125C)
Compensated Temp. Performance:	$\pm 1.5\%$ full scale output -4F to 176F (-20°C-80°C) for zero and span
Accuracy:	+/- 0.15% full scale output (typical)
Long Term Stability:	Less than +/- 0.2% per annum
Weight:	8 oz. (227g)



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PTP Series

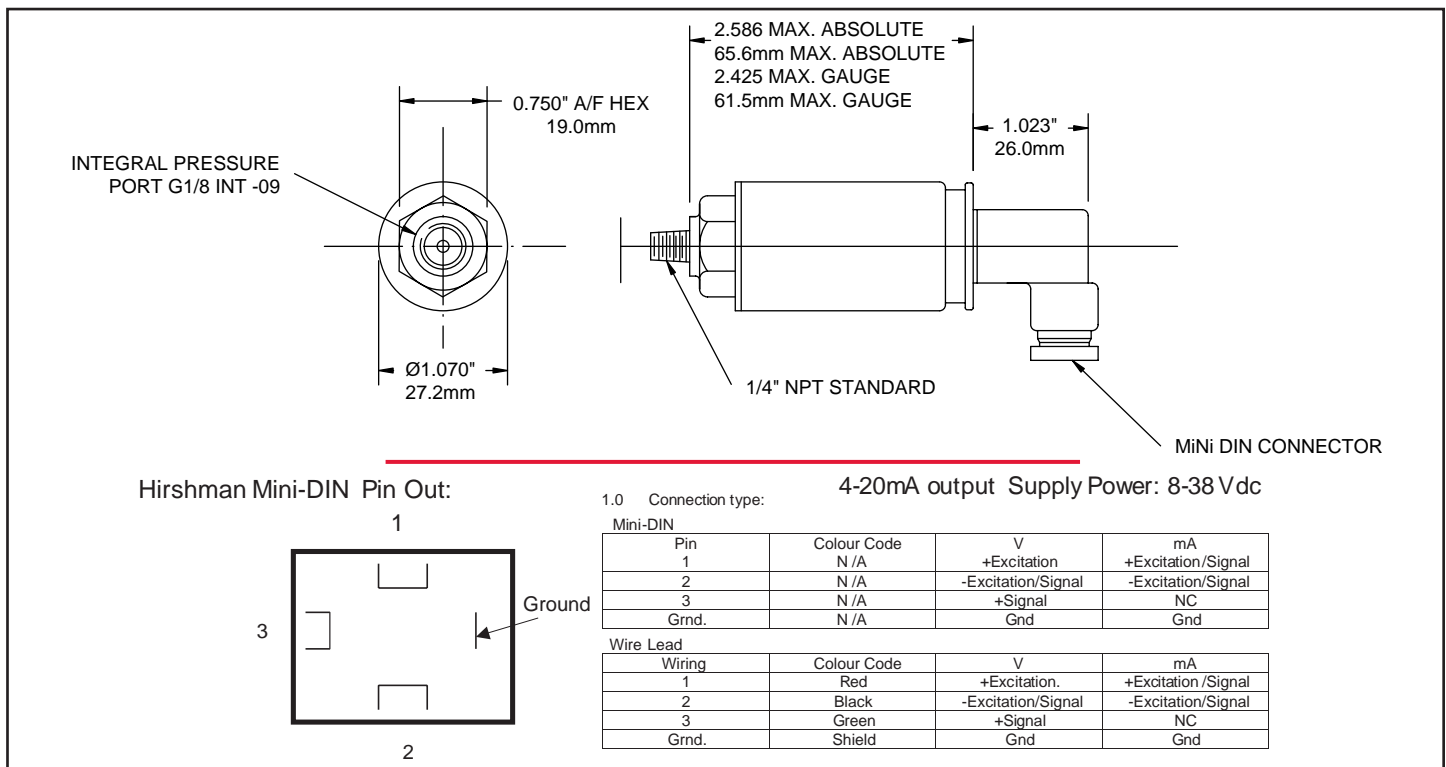
PREMIUM PRESSURE SERIES TRANSMITTER

How to Order: Specify product code
PRODUCT CODES

Range *	Code
0-15 psi	PTP15
0-30 psi	PTP30
0-60 psi	PTP60
0-100 psi	PTP100
0-150 psi	PTP150
0-200 psi	PTP200
0-300 psi	PTP300
0-500 psi	PTP500
0-1000 psi	PTP1000
0-1500 psi	PTP1500
0-2000 psi	PTP2000
0-3000 psi	PTP3000
0-5000 psi	PTP5000
0-6000 psi	PTP6000
Other Range	PTP-OR

* Calibrated in psi only.
 Other ranges (e.g. bar, etc.) available upon request

1	+ Excit/Sig.
2	- Excit/Sig.
3	(open)



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12/02

PTS Series

SUBMERSIBLE PRESSURE TRANSMITTER



Description

Winters PTS Submersible Pressure Transmitter is designed to withstand the harshest of industrial environments. This fully submersible transmitter is a reliable and economical method of obtaining readings with an accuracy level of 0.25%. The PTS features a moisture free, maintenance free vent filter that protects the vent from moisture and foreign object intrusion. Also, the surge protection circuit provides an additional level of protection from electrical surges caused by electrostatic discharge and lightening to help ensure that your systems keep running. Winters can calibrate the PTS to have an accuracy reading of 0.1% on customized orders. The PTS is available in ranges up to 0-500 psi and can be fit to accommodate a specific application. Various cable lengths are, also, available. The PTS Series is CE approved.

Submersible transmitters are commonly utilized in water and depth measurements, waste water treatment, irrigation systems, mining and environmental monitoring.



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PTS Series

SUBMERSIBLE PRESSURE TRANSMITTER

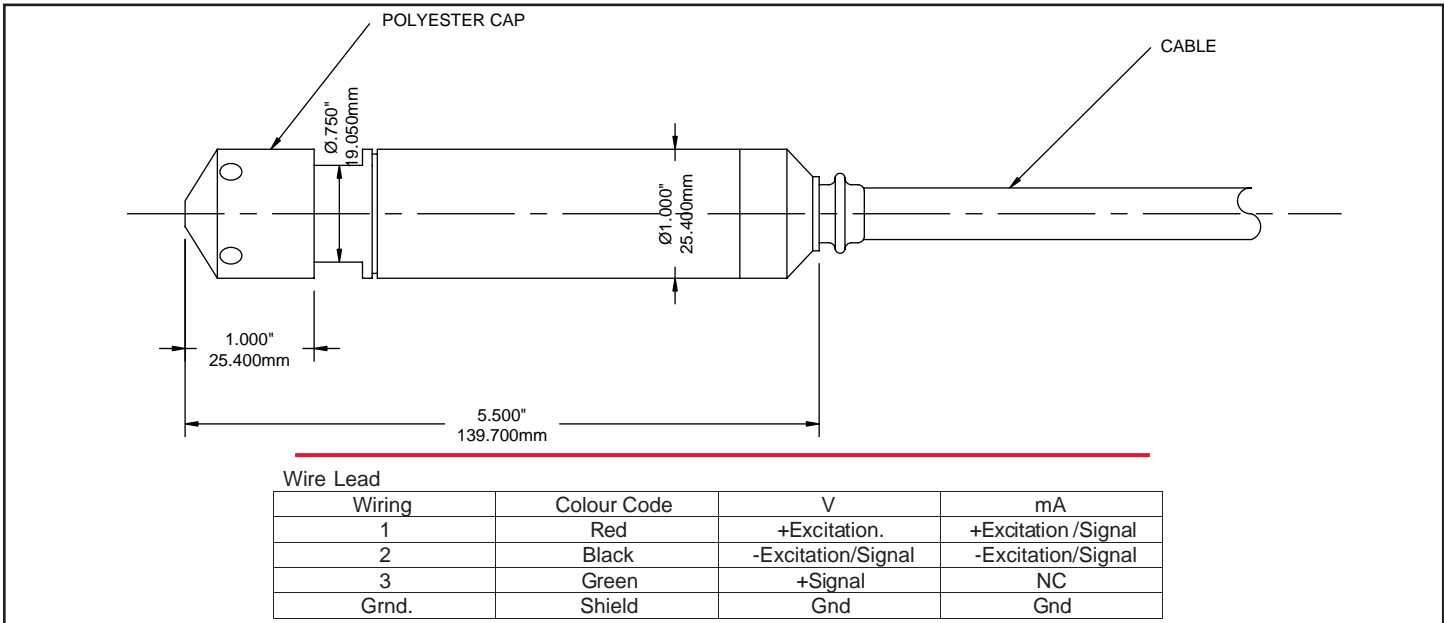
How to Order: Specify product code
PRODUCT CODES

Submersible Transmitter	
Range	Code
0-3 psi (83.1 in/H ₂ O)	PTS3
0-5 psi (138.4 in/H ₂ O)	PTS5
0-10 psi (276.8 in/H ₂ O)	PTS10
0-15 psi	PTS15
0-30 psi	PTS30
0-50 psi	PTS50
0-100 psi	PTS100
0-150 psi	PTS150
0-200 psi	PTS200
0-300 psi	PTS300
0-500 psi	PTS500
Other	PTS-OR

* Calibrated in psi only.
Other ranges (e.g. ft of H₂O) available upon request

Other outputs & options available

Specifications	
Electrical Output Signal:	4-20 mA, 2 wire
Electrical Connector:	10 ft (3 meters) submersible cable standard, up to 1000 ft (303m) lengths available, (7/16 diameter cable)
Excitation Voltage:	8-38 Vdc
Protection:	Submersible (IP68)
Wetted Parts / Connection:	316L stainless steel, with 7/16-20 UNF (M) 316L stainless steel with polyester cap (sludge-nose optional)
Housing:	316L stainless steel
Proof Pressure:	2X full scale
Burst Pressure:	5X full scale
Accuracy:	0.25% full scale (0.1% available)
Normal Operating Temp. Range:	-40°F to 170°F (-40°C to 76°C)
Compensated Temp. Range:	-40°F to 170°F (-40°C to 76°C)
Thermal Shock Effect:	Less than ± 1.5% FSO per 100°F (37.7°C)
Ambient Temp. Effect on Zero/Span:	Less than ± 1.5% FSO per 100°F (37.7°C)
Response Time:	Less than or equal to 50ms
Long Term Stability:	Less than ± 0.25%
Zero/Span:	Optional
Weight:	12 oz. (340g)



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12/02

PTX Series

EXPLOSION PROOF TRANSMITTER



Description

Winters PTX Series Explosion Proof Transmitter is factory installed and calibrated inside a copper free aluminum enclosure. It is specifically designed to keep any electrical malfunctions contained inside the device. The PTX has an 1/2" NPT process connection with a stainless steel adapter inside to mount the transmitter. Two 1/2" NPT conduit connections are provided for electrical termination and tapped holes are provided on a flat surface for mounting the unit. The PTX measures gauge, absolute and vacuum pressures with $\pm 0.11\%$ accuracy full scale (typical). The PTX is a Factory Mutual Approved Explosion Proof Transmitter that can be utilized in hazardous applications including oil, gas and chemical processing.



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PTX Series

EXPLOSION PROOF TRANSMITTER

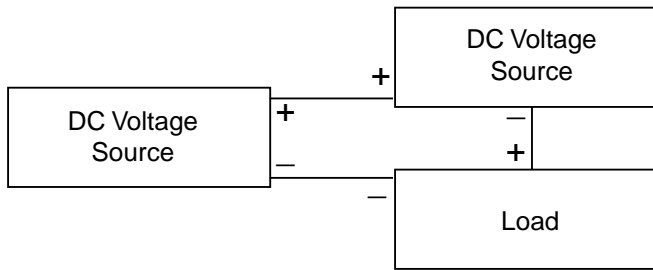
How to order: Specify product code
PRODUCT CODES

Range **	Code	Range **	Code
0-15psi	PTX15	0-500psi	PTX500
0-25psi	PTX25	0-1000psi	PTX1000
0-50psi	PTX50	0-3000psi	PTX3000
0-100psi	PTX100	0-5000psi	PTX5000
0-250psi	PTX250	0-10000psi	PTX10000

** Calibrated in psi. Other ranges (e.g. bar, etc) available upon request.

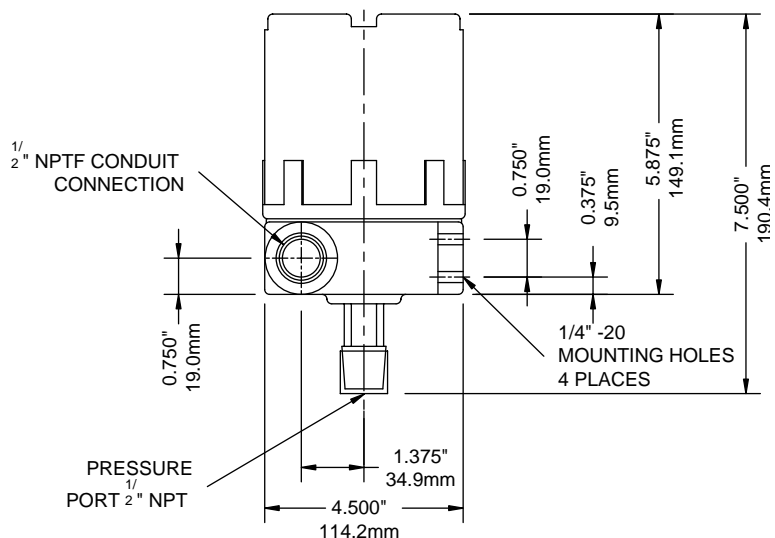
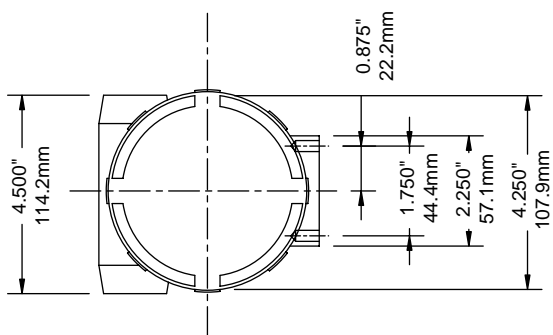
4-20 mA Output

The circuit is designed to operate as a true 2-wire 4 to 20 milliampere pressure transmitter and will deliver rated current into any external load between zero and 800 ohms.



Specifications

Electrical Output:	4-20mA, 2 wire or 0-5 Vdc (other options available)
Electrical Connection:	Two 1/2" NPT internal conduit
Excitation Voltage:	15-32 Vdc
Product Approvals:	FM **
EMI / RFI Protection:	Meets or exceeds CE requirements
Pressure Port Connection:	1/2" NPT male
Wetted Parts / Connections:	17-4 PH stainless steel, 1/2" NPT male
Housing:	Copper-free aluminum
Proof Pressure:	Varies between 1X-2X (Sensor only)
Burst Pressure:	Varies between 1X-6X (Sensor only)
Normal Operating Temp. Range:	0°F to 175°F (-18°C to 80°C)
Compensated Temp. Performance:	+/- 0.75% to 2% FSO / 100°F (37.7°C) for zero and span respectively
Ambient Temp. Effect on Zero:	0.75% typical, 2% of FS / 100°F (37.7°C) max.
Response Time:	Less than 5 milliseconds
Accuracy:	± .11% of full scale (typical)
Non-Repeatability:	+/- .02% FSO
Hysteresis:	+/- .05% FSO
Long Term Stability:	0.5% FSO
Weight:	3 1/4 lbs (1.47kg)



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12/02

SST Series

DOWNHOLE APPLICATION



CE

Description

Winters Instruments offers a Downhole Transducer for severe service applications. This transducer offers durability and exceptional performance under the most demanding conditions.

The Downhole Transducer has a sputtered metallic thin film sensor diaphragm that allows the unit to withstand high external operating temperatures of up to 365°F (185°C), while allowing a range of up to 0-20000 psi. It has an accuracy rating of 0.15% of full scale. The Downhole unit is available with a built-in RTD to measure process temperature and is CE approved.

Winters SST Series Transducer is used in down hole probes, oil exploration, high temperature testing and research applications.



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SST Series

DOWNHOLE APPLICATION

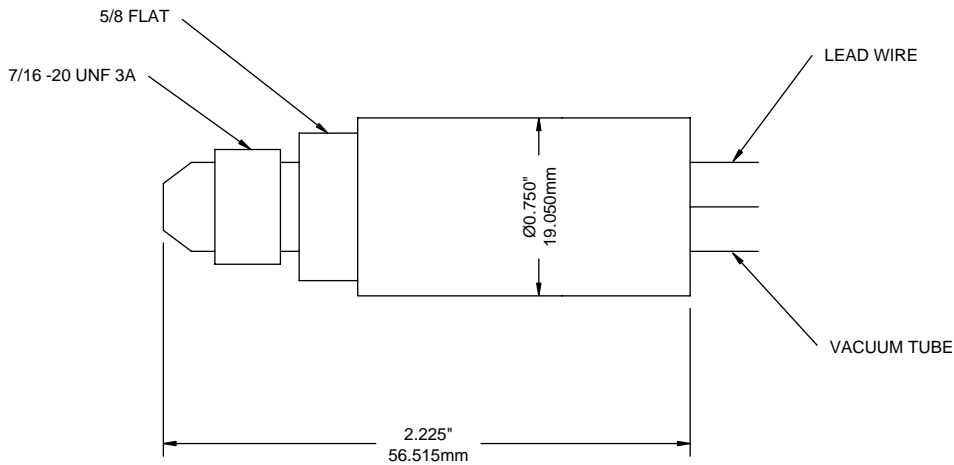
How to order: Specify product code
PRODUCT CODES

Range *	Code	Range *	Code
0-2000 psi	SST2000	0-10000 psi	SST10000
0-3000 psi	SST3000	0-15000 psi	SST15000
0-5000 psi	SST5000	0-20000 psi	SST20000
0-7500 psi	SST7500		

* Calibrated in psi. Other ranges (e.g. bar, etc) available upon request

Standard Wiring	SST
A/1	+ Excitation
B/2	- Excitation
C/3	+ Signal
D/4	- Signal
E/5	+ RTD (Optional)
F/6	- RTD (Optional)

Specifications	
Electrical Output:	1.5 mV/V standard, 4-wire
Electrical Connection:	Soldier Pins
Excitation Voltage:	1-20 Vdc (10 Vdc Standard)
Wetted Parts / Connections:	7/16-20 UNF (M), 316L stainless steel & 15-5 stainless steel
Housing:	316L stainless steel
Proof Pressure:	1.5X full scale
Burst Pressure:	2X full scale (maximum 30000 psi)
Accuracy:	0.15% of full scale
Normal Operating Temp. Range:	-40F to 350F (-40C to 175C)
Compensated Temp. Range:	40F to 350F (-40C to 175C)
Thermal Shock Effect:	Less than +/- 1.5% FSO per 100°F (37.7°C)
Ambient Temp. Effect on Zero/Span:	Less than +/- 1.5% FSO per 100°F (37.7°C)
Response Time:	Less than or equal to 1mS
Long Term Stability:	Less than or equal to 0.2% FSO per annum
Weight:	2.5oz (71g)



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12/02

STC Series

PREMIUM PRESSURE TRANSMITTER



Description

Winters STC Premium Pressure Transmitter is ideal for use in an environment where sanitary requirements are of high priority (i.e. dairy, food, pharmaceutical, etc.). This 3A approved 316-grade stainless steel constructed transmitter is easily cleaned (or steamed) in place with minimal zero shift. The STC is insensitive to thermal shock and has a fast reading rate of less than 10m per second. **It contains no fill oils and is available with a 1½" or 2" Tri-Clamp.** Pressure ranges vary from 0-15 in/H₂O to 0-1000 psi. The STC standard operating temperature is -40°F to 260°F (-40°C to 128°C) and has an accuracy rating of ± 0.2%.

Common applications would include: Dairy and Pharmaceutical applications requiring 3A approval, Food and Beverage Processing Sanitary pipelines and Liquid Level Control (e.g. tanks).

Specifications

Electrical Output:	4-20mA, 2 wire (other options available)
Electrical Connector:	15' shielded cable
Zero/Span Control:	Standard
Product Approvals:	3A (37-01), CE
Connections / Wetted Parts:	(1½" & 2" Tri Clamp [®]) 316 stainless steel
Housing:	316 stainless steel
Environmental Protection Rating:	NEMA 4X (IP65)
Proof Pressure:	Varies with range
Burst Pressure:	Varies with range
Normal Operating Temp. Range:	-40°F to 260°F (-40°C to 128°C)
Compensated Temp. Performance:	± 2.0% full scale output/100°F (37.7C) for zero and span respectively from 20-180°F (-7 to 80°C)
Ambient Temp. Effect on Zero:	2% FS/100°F (37.7°C)
Thermal Shock:	0-257°F (125°C) negligible effect (CIP/SIP)
Response Time:	10mS
Accuracy:	± 0.20% FSO
Non-Repeatability:	± 0.25% FSO
Hysteresis:	± 0.10 FSO
Long Term Stability:	0.5% FSO per annum
EMI/RFI Protection:	Yes
Weight:	8 oz (227g)



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STC Series

PREMIUM PRESSURE TRANSMITTER

How to order: Specify product code
PRODUCT CODES

Pressure Range *	1 1/2" Tri-Clamp (40mm)	2" Tri-Clamp (50mm)
0-1 psi (27.7 in/H ₂ O)	-	STC201
0-2 psi (55.4 in/H ₂ O)	-	STC202
0-5 psi (138.4 in/H ₂ O)	-	STC205
0-10 psi (276.8 in/H ₂ O)	-	STC210
0-15 psi (415.2 in/H ₂ O)	-	STC215
0-30 psi	STC1530	STC230
0-60 psi	STC1560	STC260
0-100 psi	STC15100	STC2100
0-150 psi	STC15150	STC2150
0-300 psi	STC15300	-
0-500 psi	STC15500	-
0-1000 psi	STC151000	-

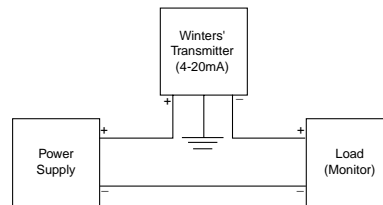
Other outputs and options available

® Tri-Clamp is a registered trademark of Tri-Clover

Current Output Units

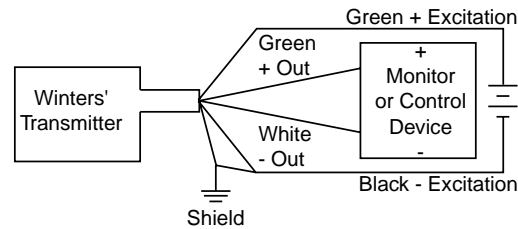
The STC transmitter is a true 2-wire, 4-20 mA current output device and delivers rated current into any external load of 0-800 ohms. The STC has a 2-wire cable where red is positive and black is negative.

The 4-20 mA current output units are designed to have current flow in one direction only - PLEASE OBSERVE POLARITY. We suggest that the electrical cable shield be connected to the system's loop circuit ground to improve electrical noise rejection.



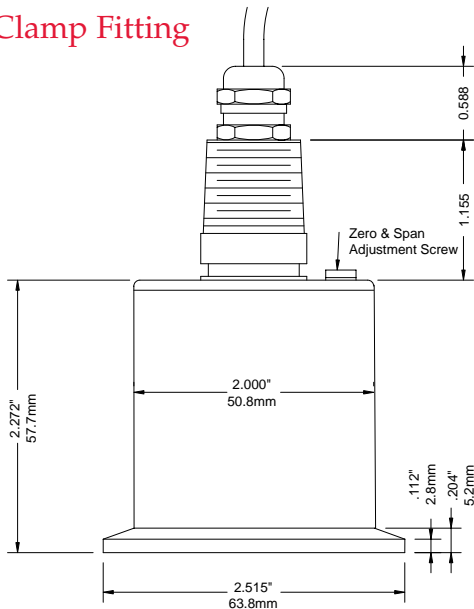
Voltage Output Units

The STC voltage output is a 3-wire circuit. If the PT is supplied with 2 feet of cable, the electrical connection is as follows:

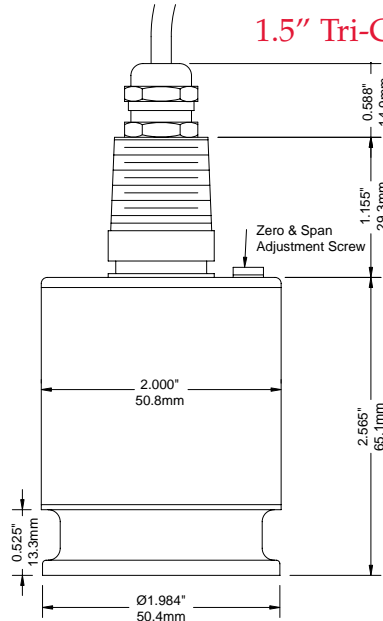


- Red = +Excitation; connect to appropriate power supply.
- Green = +Output; connect to controls or monitor.
- Black = Common; connect to return of power supply.
- White = -Output; connect to controls or monitor
- Shielding = Connect to system or earth ground.

2" Tri-Clamp Fitting



1.5" Tri-Clamp Fitting



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STP Series

SANITARY TRI-CLAMP PRESSURE TRANSMITTER



Description

Winters STP Sanitary Tri-Clamp® Pressure Transmitter is ideal for applications where sanitary conditions are of high priority (i.e. dairy, food processing, pharmaceutical, etc). This 3A approved transmitter is constructed of 316-grade welded stainless steel and is NEMA 4X rated. The STP has an excellent accuracy rating of $\pm 0.5\%$ full scale output. The STP is available with a 1½", 1" or 2" Tri-clamp® and has pressure ranges up to 2000" H O or standard ranges to 0-1000 psi.



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STP Series

SANITARY TRI-CLAMP PRESSURE TRANSMITTER

How to order: Specify product code
PRODUCT CODES

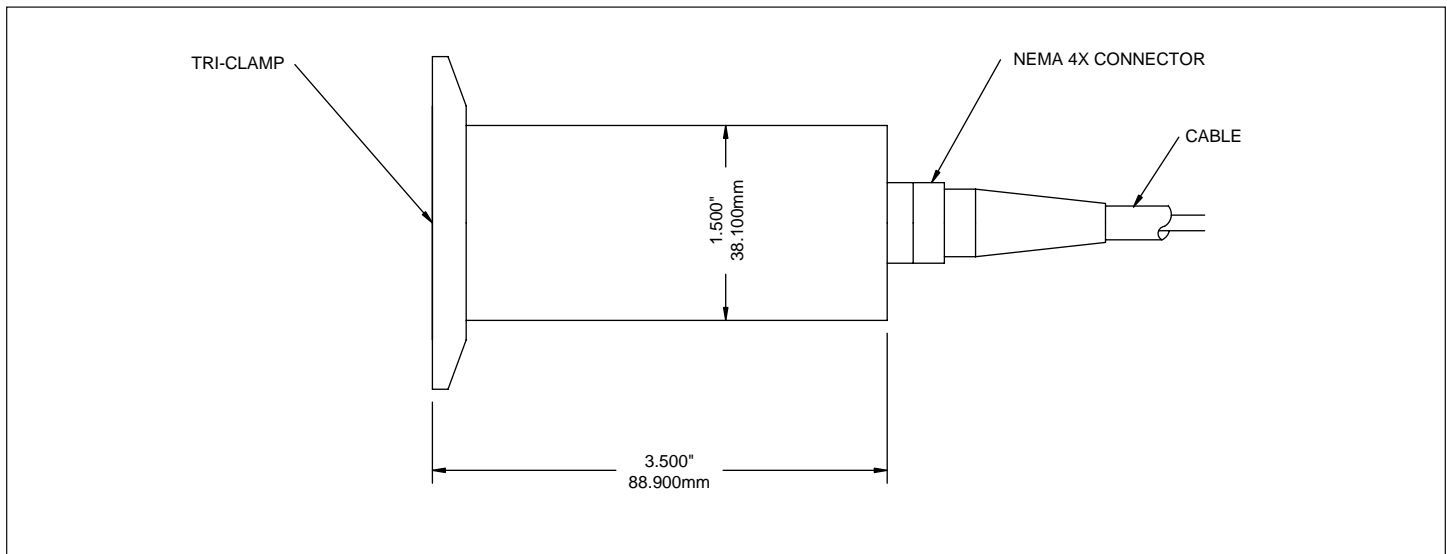
Range*	Code:	
	1 1/2" Tri-Clamp®	2" Tri-Clamp®
75"H2O	STLP1575	STLP2075
100"H2O	STLP15100	STLP20100
150"H2O	STLP15150	STLP20150
200"H2O	STLP15200	STLP20200
300"H2O	STLP15300	STLP20300
500"H2O	STLP15500	STLP20500
1000" H2O	STLP151000	STLP201000
1500" H2O	STLP151500	STLP201500
2000" H2O	STLP152000	STLP202000
0-3 psi	ST153	ST203
0-5 psi	ST155	ST205
0-7.5 psi	ST157	ST207
0-10 psi	ST1510	ST2010
0-15 psi	ST1515	ST2015
0-20 psi	ST1520	ST2020
0-30 psi	ST1530	ST2030
0-50 psi	ST1550	ST2050
0-75 psi	ST1575	ST2075
0-100psi	ST15100	ST20100
0-150 psi	ST15150	ST20150
0-200 psi	ST15200	ST20200
0-300 psi	ST15300	ST20300
0-500 psi	ST15500	ST20500
0-750 psi	ST15750	ST20750
0-1000 psi	ST151000	ST201000

* Calibrated in psi. Other ranges (e.g. kPa, bar, etc) available upon request
Other ranges are available upon request
Other outputs & options available

Specifications	
Electrical Output Signal:	4-20mA, 2 wire, 0-5Vdc (Other outputs available)
Electrical Connector:	10 ft (3m) Belden 9536 flying wire
Excitation Voltage:	8-38 Vdc
Accuracy:	0.25% full scale
EMI/RFI Protection:	Meets/exceeds CE standards
Zero/Span:	Optional
Wetted Parts/Connection:	316L stainless steel, 1 1/2" & 2" Tri-clamp (other connections available)
Housing:	316L stainless steel
Protection:	NEMA 4X (IP65)
Proof Pressure:	2X full scale
Burst Pressure:	5X full scale (max.3000 psi)
Normal Operating / Compensated Temperature Range:	40°F to 170°F (-40°C to -76°C)
Temperature Effect Range Zero/Span:	Less than +/-1.5% FSO per (37.7°C)
Long Term Stability:	Less than 0.25% per annum
Weight:	4oz (113g)

Wire Lead

Wiring	Colour Code	V	mA
1	Red	+Excitation.	+Excitation/Signal
2	Black	-Excitation/Signal	-Excitation/Signal
3	Green	+Signal	NC
Grnd.	Shield	Gnd	Gnd



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