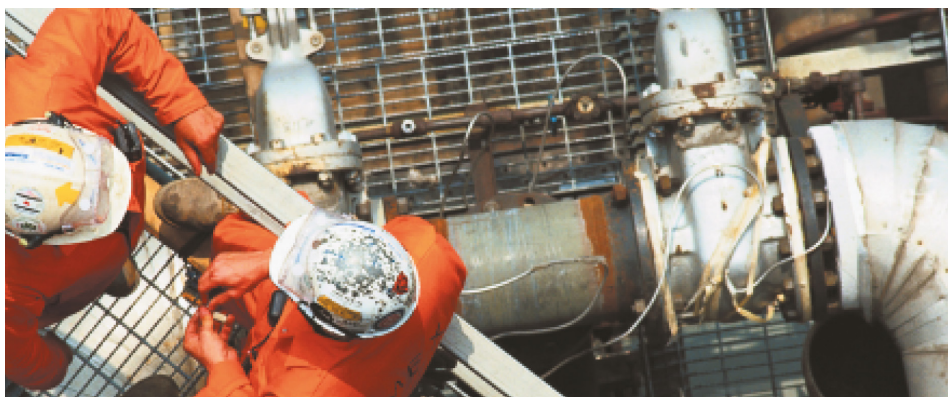


Thermo Scientific STD5000 & STD6000

Current-to-Pressure (I/P) Transducers

Based on superior E-Pi technology, Thermo Scientific™ STD5000 and STD6000 current-to-pressure (I/P) transducers set the standard in the industry for reliable electronic input signal conversion. An innovative, field-proven design and superior technology ensure accuracy, reliability and ease-of-use to facilitate operations and increase productivity.



Features

- Accuracies of $\pm 0.15\%$ to $\pm 0.25\%$ of span
- Advanced E-Pi technology that is unaffected by vibration, shock or mounting position
- High supply pressure ranges of 35 PSIG to 100 PSIG available with select output ranges
- Intrinsically safe or explosion-proof models available
- Operating temperature range of -40°C to $+66^{\circ}\text{C}$ (-40°F to $+150^{\circ}\text{F}$)
- Rugged NEMA 4X and IP65 enclosure
- Field-selectable direct and reverse modes

Accurate and reliable

The rugged, compact Thermo Scientific STD5000 and STD6000 current-to-pressure (I/P) transducers provide reliable electronic input signal conversion in the most demanding industrial environments. Backed by our field-proven E-Pi technology, these transducers ensure accurate, repeatable performance that is unaffected by shock, vibration or mounting

position, minimizing maintenance and increasing process optimization.

Field-proven and stable

Field-proven Thermo Scientific E-Pi transducer technology is recognized as a revolutionary breakthrough that provided the industry with its first “solid state” I/P transducer.

This advanced E-Pi technology uses a minimal amount of electrical energy and air consumption to convert a 4-20 mA input signal to a proportional pneumatic output signal (3-15 PSIG, 0.2-1 BAR, etc.). This pneumatic (backpressure) output is precisely modulated by a virtually weightless, low mass membrane that is held in a continuously balanced position.

The output of the E-Pi is fed into an integral volume booster to deliver a pneumatic output signal with an output capacity of 4.0 SCFM. Overall performance, accuracy and repeatability are further enhanced via an internal feedback network that allows the transducer to quickly respond to input changes. These balanced supply and exhaust dynamics enhance stability while delivering accuracies of $\pm 0.15\%$ to $\pm 0.25\%$ of span for superior process control.

Easy to install and maintain

When the installation area is limited, the compact size of the transducer enables it to be situated on the valve as needed, including at an angle or upside down, with no effect on functionality. In addition, the rugged NEMA 4X housing ensures durability and long life for maximum return on investment.



Thermo Scientific™ STD5000 and STD6000

Thermo Scientific STD5000 & STD6000 Current-to-pressure (I/P) Transducers

Functional specifications	
Accuracy	±0.15% of span (3-15 and 1-17 PSIG output); ±0.25% of span (3-27 and 6-30 PSIG output)
Repeatability	0.05% of span
Deadband	0.02% of span
Stability/reproducibility	T0.5% of span/6 months
Output capacity	Standard: 4.0 SCFM (supply and exhaust characteristics are balanced to within ±10%) High Pressure: 4-8 SCFM possible (dependent on air supply and tubing size)
Air consumption	0.04 SCFM steady state average (0.06 SCFM maximum)
Position effect	Not measurable
Vibration effect	<0.25% from 1-200 Hz/1g
Frequency response	-3 db at 5 Hz (per ISA-S26.4.3.1 Configuration A)
Loop load	3.8 VDC + 5 ohm (195 ohm load at 20 mA)
Operating current	T3.7 mA min; 200 mA max; continuous at 120°F half cycle 70 amp 1/120 second at 68°F
Supply pressure	Standard: minimum of 3 PSIG and maximum of 10 PSIG above the maximum calibrated output High Pressure: for outputs of 3-15 PSIG and 0.2 to 1.0 BAR, supply range is 35 to 100 PSIG or 2.4 to 6.9 BAR; Pressures below 35 may affect the output of the unit; Other
Air supply	Clean, dry and oil-free instrument air
Operating temperature	-40°C to +66°C (-40°F to +150°F)
Temperature effect	Range of +18°C to +66°C (0°F to +150°F): ±0.02% / °F of span; Range -40°C to +66°C (-40°F to +150°F): ±0.04% / °F of span
RFI-EMI effect	Less than ±1% effect on zero/span (26-1000 mHz @ 30V/m) when installed per product installation guidelines
Operational modes	Range of +18°C to +66°C (0°F to +150°F): ±0.02% / °F of span; Range -40°C to +66°C (-40°F to +150°F): ±0.04% / °F of span
Failure mode	Mechanically direct (i.e., if the input current drops below 3.7 mA DC, the output will drop to 1 to 2 PSIG regardless of direct or reverse mode selection)
CSA/US	STD5000: intrinsically safe, 4-20 mA models only; Class I, Div 2, Groups A, B, C & D; Class I, Div 1, Groups A & B; Class II, Div 1, Groups E, F & G; Class III, Div 1 when connected to CSA certified barriers rated 31.5V max, 463 ohms min, T3C; Class I, Div 1, Groups C & D; Class II, Div 1, Groups E, F & G; Class III, Div 1 when connected to CSA certified barriers rated 28V max, 120 ohms min, T3C; STD6000: Class I, Div 2, Groups A, B, C & D; Class I, Div 1, Groups B, C & D; Class II, Div 1, Groups E, F & G; Class III, Div 1
Physical specifications	
Enclosure	Internally purged NEMA 4X/IP65; cast/machined aluminum with powder-coated epoxy
Connections	Supply port: 1/4-in NPTF (1X) Pneumatic Output Port: 1/4-in NPTF (2X) Electrical: 1/2-in NPTF conduit (2X); terminals 12-22 AWG wire
Weight	1.13 kg (2.5 lbs)
Certifications	
ATEX	STD5000: intrinsically safe, 4-20 mA models only; II 1G Ga Ex ia IIC T4 [Tamb -20°C to +60°C (-4°F to +140°F)]; II 1D Da Ex iaD 20 T+62°C (+144°F) STD6000: flameproof; II 2 G Ex d IIC T5 [Tamb -20°C to +50°C (-4°F to +122°F)]; II 2 D Ex tD A21 IP6X T+100°C (+212°F)
CSA/US	STD5000: intrinsically safe, 4-20 mA models only; Class I, Div 2, Groups A, B, C & D; Class I, Div 1, Groups A & B; Class II, Div 1, Groups E, F & G; Class III, Div 1 when connected to CSA certified barriers rated 31.5V max, 463 ohms min, T3C; Class I, Div 1, Groups C & D; Class II, Div 1, Groups E, F & G; Class III, Div 1 when connected to CSA certified barriers rated 28V max, 120 ohms min, T3C; STD6000: Class I, Div 2, Groups A, B, C & D; Class I, Div 1, Groups B, C & D; Class II, Div 1, Groups E, F & G; Class III, Div 1
CE	Compliant

Ordering information

Model number

STD5: STD5000 I/P (current-to-pressure), NEMA 4X

STD6: STD6000 I/P (current-to-pressure), explosion proof, dust ignition proof, NEMA 4X

Input

1 = 4-20 mA, intrinsically safe

Output

1 = 6-30 PSIG; split range not available

2 = 3-27 PSIG; split range not available

3 = 3-15 PSIG (standard or high supply pressure)

4 = 1-17 PSIG

6 = 0.2-1.0 BAR (standard or high supply pressure)

Options

1 = Pipe mount; includes mounting bracket and U bolt for 2.5-inch pipe

2 = Jack plug for I/P (not ATEX approved)

3 = Direct only; reverse mode has been disabled

5 = Valve mount kit; includes bolts and washers

Supply pressure

1 = Standard supply pressure (20 PSIG for 3-15 PSIG & 0.2-1.0 BAR outputs; 35 PSIG for 1-17, 6-30 & 3-27 PSIG outputs)

H = High supply pressure (35-100 PSIG for 3-15 PSIG / 0.2-1.0 BAR outputs only)

Your Order Code: STD5 or STD6

STD	_				-	
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Thermo Scientific instruments are recognized for outstanding performance and reliability. To ensure maximum uptime, we offer comprehensive service and support programs worldwide on all products via a network of factory-trained and highly qualified scientists and engineers. Our experts will keep your analyzer working to specification.

USA

27 Forge Parkway
Franklin, MA 02038
Ph: (866) 282-0430
Fax: (508) 520-2800
orders.aqi@thermofisher.com

India

C/327, TTC Industrial Area
MIDC Pawane
New Mumbai 400 705, India
Ph: +91 22 4157 8800
india@thermofisher.com

China

8/F Bldg C of Global Trade Ctr,
No.36, North 3rd Ring Road,
Dong Cheng District
Beijing, China 100013
Ph: +86 10 84193588
info.eid.china@thermofisher.com

Europe

Ion Path, Road Three,
Winsford, Cheshire CW73GA
UK Ph: +44 1606 548700
Fax: +44 1606 548711
sales.epm.uk@thermofisher.com

Find out more at thermofisher.com

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