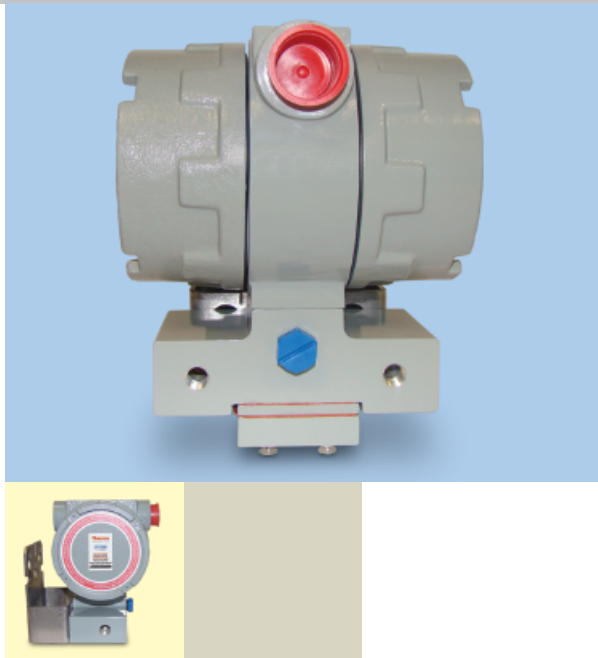


Engineered to produce highly accurate output pressure signals, the Thermo Scientific CPT7000 current-to-pressure (I/P) transducer is unaffected by shock, vibration or mounting position.

A patented, field-proven design and a dual compartment housing that is ideal for hazardous environments ensure measurement reliability and plant safety.

## Thermo Scientific CPT7000 Current-to-Pressure (I/P) Transducers



### Accurate, Durable & Safe

Immune to shock and vibration, the Thermo Scientific CPT7000 current-to-pressure (I/P) transducer is built for rugged, industrial environments. This highly accurate pneumatic signal conversion device features a dual compartment, epoxy-coated, cast aluminum housing to ensure safe operation. In addition, the easy-to-access terminal compartment enables calibration without exposing the electronics to the surrounding atmosphere to further ensure safety as well as expedite servicing and maintenance.

### Patented, Field-Proven Design

Thermo Scientific patented, field-proven 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 or 10-50 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 accuracy of  $\pm 0.15\%$  of span for superior process control.

### Compact & Versatile

The compact design of the CPT7000 simplifies installation by enabling direct line or valve mounting. In addition, the rugged device can be situated on the valve at an angle or upside down without affecting operability or functionality. The NEMA7/NEMA3R housing further ensures durability as well as plant safety.

### Features and Benefits

- Dual compartment housing
- Accuracy of  $\pm 0.15\%$  of span
- Patented E-Pi technology that is unaffected by vibration, shock or mounting position
- Minimum of 3 PSIG and maximum of 10 PSIG above the maximum calibrated amount
- Intrinsically safe or explosion-proof models available
- Operating temperature range of  $-40^{\circ}\text{C}$  to  $+66^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+150^{\circ}\text{F}$ )
- Rugged NEMA 7/NEMA 3R enclosure
- Field-selectable direct, reverse and/or split range modes

## Thermo Scientific CPT7000

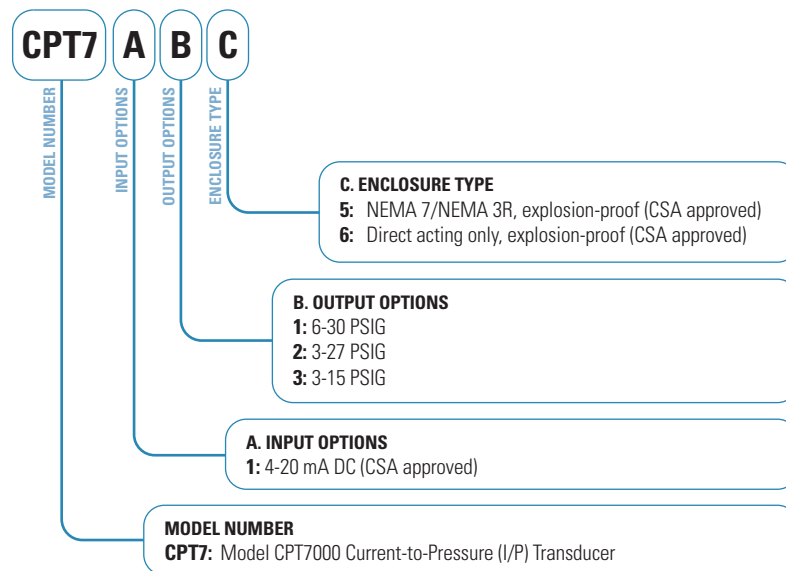
### Functional Specifications

Accuracy	3–15 PSIG, 0.2–1 BAR outputs: $\pm 0.15\%$ of span; 3–27 and 6–30 PSIG outputs: $\pm 0.25\%$ of span (includes linearity, hysteresis and repeatability per ISA 51.1)
Repeatability	0.05% of span
Deadband	0.02% of span
Stability	$\pm 0.2\%$ of span/6 months
Output Capacity	0.04 SCFM average (supply and exhaust characteristics balanced to within $\pm 10\%$ )
Air Consumption	0.04 SCFM steady state average (0.06 SCFM maximum)
Input	4–20 or 10–50 mA DC
Output	3–15 PSIG (0.2–1.0 BAR), 3–27 PSIG or 6–30 PSIG
Vibration Effect	1–200 Hz/1 g (0.1% worst plane)
Frequency Response	-3 db at 5 Hz (ISA S26 4.3.1 Configuration A)
Loop Load	3.8 VDC $\pm 5$ ohms (195-ohm load at 20 mA)
Operating Current	3.7 mA minimum, 200 mA maximum: continuous at +50°C (+120°F); half-cycle 70-A, 1/120 s at +20°C (+68°F)
Supply Pressure	Minimum of 3 PSIG and maximum of 10 PSIG above the maximum calibrated output
Supply Pressure Effect	Not measurable within the recommended supply pressure range
Operating Temperature	-40°C to +66°C (-40°F to +150°F)
Temperature Effect	$\pm 0.02\%$ per °F of span [range -20°C to +66°C (0°F to +150°F)] or $\pm 0.04\%$ per °F of span [range -40°C to +66°C (-40°F to +150°F)]
RFI-EMI Effect	Per SAMA PMC 33.1 Standard (b), (c) 20–1000 MHz, Class 3 effect on zero and span <1%
Operational Modes	Field-selectable direct, reverse, and/or split range
Failure Mode	Transducers always fail in the direct mode when power is lost regardless of mode selection

### Physical Specifications

Enclosure	NEMA 7/NEMA 3R; cast/machined aluminum with powder-coated epoxy
Connections	Supply Port: 1/4-in NPTF (2X) Pneumatic Output Port: 1/4-in NPTF (2X) Electrical: 3/4-in NPTF conduit (2X); Terminals 12-22 AWG wire Gauge Mount: 1/4-in NPTF (2X)
Weight	3.0 kg (6.5 lb) including mounting bracket
Certifications	Hazardous area approvals available (consult Thermo Fisher Scientific)

### Ordering Information



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