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Product Data Sheet
DTC3®Absolute and Gauge Pressure Transmitter

The DTC3® is the latest analog pressure transmitter designed for non-safety nuclear applications and manufactured by Ultra Energy . The Ultra Model DTC3® Analog Gauge and Absolute Pressure Transmitters provide precision pressure measurements in non-safety nuclear applications requiring reliable performance and functional safety. The DTC3® transmitter contains only analog electronics utilizing a diaphragm isolated direct-coupled strain gauge pressure sensor capsule. The DTC3® transmitter has been designed to replace the Rosemount™ 1151 Analog Pressure which was discontinued in 2011. The 10-50 mA feature will be available in October 2020.

Features

- True analog design – no microprocessor or firmware/software
- True gauge GP transmitter
- Accuracy: ±0.2% Span (includes combined effects of linearity, hysteresis, deadband, settability, and repeatability)
- Drift: ±0.25% of Upper Range Limit (URL) for 6 months
- Advanced thin film metal strain gauge sensor technology
- Low-copper aluminum housing with polyurethane paint
- Loop powered, 2 wire, 4-20 mA, 10-50mA available October 2020
- ¼ inch NPT process connections with optional: welded fittings or process adapters
- Dustproof & waterproof construction; no humidity effect
- Can be mounted using the Rosemount™ 1151 Analog Pressure Transmitter mounting bracket
- ½" conduit entry with screw terminal electrical connections, standard
- Quick Disconnect Connector (QDC), optional
- Local test points for field adjustability
- No special tools are required for installation

Specifications

NAME	DESCRIPTION
Reference Accuracy	±0.2% Span (includes combined effects of linearity, hysteresis, deadband, settability, and repeatability)
Drift	±0.25% of URL for 6 months
Temperature Effects	± 0.5% URL + 0.5% of Span Temperature Effect per 100°F (56°C)
Overpressure Effects	±0.25% URL; Over Pressure Limit is 2X
Electromagnetic Compatibility	European EMC Directive 2014/30/EU by conforming to applicable EN and IEC Standards: Compliance testing to the EN 61000 Series standards, CE Marking, declaration of conformity.
Load Effect	Within limits set by the line voltage, the output current is independent of load resistance
Power Supply Effects	0.005% of Calibration Span/Volt
Power Supply and Load Limits (10-50 mA option available October 2020)	Operating Region: 4-20 mA: 12-45 VDC 10-50 mA: 30-85 VDC (See Documents Section: "RRNP-DTC3 Power Supply Load Limits")
Span & Zero	Continuously adjustable external to the electronics, no interaction.
Zero Elevation, Zero Suppression	Elevated zero and zero suppression must be factory set in order to achieve the specified temperature performance.
Direct or Reverse Acting	Factory Set
Range-down	6 to 1 (Min. span is 16.7% URL)

NAME	DESCRIPTION
Output (4-20 mA Standard):	Low Saturation <3.8 mA, High Saturation 21 mA;
Output (10-50 mA Option available October 2020):	Low Saturation <8 mA, High Saturation 52.5 mA
Temperature Limits	0°F to 185°F (-17.8 to 85°C). Storage Limits: -40°F to 212 °F (-40°C to 100°C)
Volumetric Displacement	Less than 0.01 cubic inches (0.16 cubic centimeters)
Enclosure Rating	NEMA 4X (IP 66)
Response Time	0.2 second sensor response time to 50% with a 100% of span step change
Humidity Limits	0 to 100% relative humidity (NEMA 4X)
Turn-On Time	5 seconds to 99%; 1 minute for rated accuracy
Over Pressure Limit	2 x URL
Diaphragm Sensor	15.5 SST
Drain Vent Valve	316 SST
Process Flange	316 SST
Process Seal	EPDM
Electronics Housing O-ring	BUNA-N
Fill Fluid	Silicone Oil: DC550 Standard, DC200 Optional; No fill fluid on the AP capsule
Sensor Module Housing	316 SST

NAME	DESCRIPTION
Flange Bolt	Medium Carbon Alloy Steel, SAE J429, Grade 8, Zinc Yellow-Chromate Plated Finish Per ASTM B633
Electronics Housing	Low-copper aluminum with polyurethane paint
Mounting Bracket	304 SST
Mounting Bolts	300 Series Stainless Steel, ASTM F593
Process Connections	¼-18 NPT standard; Optional: welded fittings or process adapters; IEC 61518 Compliant
Electrical Connections	½" NPT conduit with screw terminals, standard
Weight (transmitter only)	14.7 lbs (6.7 kg)

Documents

NAME	VIEW / DOWNLOAD
Power Supply and Load Limits	View / Download
AP/GP Ranges and Limits	View / Download
Dimensional Drawing	View / Download
Model Matrix	View / Download

Accessories

Cable	Quick Disconnect Connector Mating Cable