DESCRIPTION

The Model DCT is an extremely accurate, Digital Compensated Transducer designed for general industrial and commercial uses, over a wide range of applications. It incorporates stainless steel wetted parts with an isolated diaphragm, making it compatible with most media types. An economical, non-isolated brass transducer, used for clean, dry media, is also available.

Multiple mounting options and electrical output options are available, with both stainless steel or brass construction, and numerous pressure ranges. The DCT is fully digitally compensated for the effects of pressure and temperature change, and calibration to produce industry standard electrical outputs. It accepts both unregulated and regulated excitation voltages, and provides output signals such as 1 to 5 VDC, 1 to 6VDC, 0 to 5 VDC, and 4 to 20 mA.

SUPPLY

Input Supply Voltage: 9 to 30 VDC, 11 to 30 VDC

ACCURACY

Null Offset (at 25°C): ±2% span
Span (at 25°C): ±2% span
Reference Accuracy: ±0.2% full scale typical, ±0.3% full scale maximum (includes repeatability, hysteresis, non-linearity - BFSL)
One Year Stability: <0.25% full scale
Thermal Effect on Zero (Null): ±1% span (typical) over compensated temperature range
Thermal Effect on Span: ±1% span (typical) over compensated temperature range, 2% max

TEMPERATURE RANGE

Operating Temperature Range: -40 to 80°C
Compensated Temperature Range: -25 to 75°C
Process Temperature: -40 to 100°C

OUTPUT

<table>
<thead>
<tr>
<th>Output</th>
<th>1 to 5 VDC</th>
<th>1 to 6 VDC</th>
<th>0 to 5 VDC</th>
<th>4 to 20 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Supply Voltage</td>
<td>9 to 30 VDC</td>
<td>9 to 30 VDC</td>
<td>9 to 30 VDC</td>
<td>11 to 30 VDC</td>
</tr>
<tr>
<td>Load Limitation</td>
<td>50KΩ Minimum</td>
<td>50KΩ Minimum</td>
<td>50KΩ Minimum</td>
<td>900Ω Maximum</td>
</tr>
</tbody>
</table>

FEATURES

- Digitally Compensated — Low total accuracy errors for interchangeability and high precision measurements.
- Multiple Pressure Port Options — Ease of installation and attachment with no adapters.
- 0.2% Typical Accuracy — Offers superior accuracy to competitive models and can be used on critical applications.
- Factory Calibrated for Pressure and Temperature — No need for field calibration. Plug and play reliability.
- Rugged, Compact Design — Easy to package or install.
- Custom Designs Available — Adaptable to special needs.
- Numerous Weatherproof Electrical Connection Options — Quick hook-up and remote applications.
- Numerous Electrical Outputs — Can be used with standard process equipment, conventional receivers, and compatible with microprocessors.
- RFI/EMI Protection Option — For use in high noise environments.
- Reverse Polarity Protection — Installation safety and not damaged by reverse wiring.
**STANDARD CONNECTIONS**

All Model DCT Pressure Transducers are available with stainless steel or brass construction, with 1/8" or 1/4" NPT style threads.
The Model DCT Pressure Transducer is also offered in two flush diaphragm process connection versions: a 1-20 UNEF-2A straight thread with an o-ring seal, and a 1/2" NPT style thread. These models are ideal for higher viscosity media or media with solids (heavy oils, pulp, sealants, paints, coatings, etc.) that may clog a transducer with a traditional NPT cavity.

**FLUSH CONNECTIONS**

**Model DCT Digital Compensated Pressure Transducer**

- **DCT Flush Diaphragm 1-20 UNEF-2A Process Connection (Type 08)**
  - Dimension A: 0.50 (12.6)
  - Dimension B: 1-1/4 Hex
  - Part C: AS558A-021 O-ring
  - Part D: 1-20 UNEF-2A
  - Part E: 0.86 (21.8) Isolated Diaphragm

- **DCT Flush Diaphragm 1" NPT Process Connection (Type 09)**
  - Dimension A: 0.15 (3.7)
  - Dimension B: 1-3/8 Hex
  - Dimension C: 1" NPT
  - Part D: 0.86 (21.8) Isolated Diaphragm
**ENCLOSURE**

- **Shock:** 30 g; MIL-STD-202F, Method 213B, Condition A
- **Vibration:** 10 g, 55 to 2000 Hz; MIL-STD-202F, Method 204D, Part 1 and Part 2
- **Weight:** < 140 grams
- **Electrical Terminations:** Cable, DIN, or Packard (18" long, 20 AWG)
- **Wetted Parts:** Stainless steel (316/316L) stainless steel
  - All welded, with a permanently filled diaphragm seal.
  - Brass, 316/316L stainless steel, and Viton
  - Additional materials may be present. Contact factory for details.
- **Housing Material:** Aluminum or ULTEM (for Packard connector)
- **Process Connection:** 1/8 or 1/4 NPT, 1" NPT flush, and 1-20 UNEF
  - Other options available. Consult factory.

**BURST PRESSURE**

3x full scale for all ranges except 300 and 500 psi, which have a burst pressure of 750 psi

See the Model Numbering table below for a complete list of available ranges.

**MODEL NUMBERING**

<table>
<thead>
<tr>
<th>Model</th>
<th>Pressure Type</th>
<th>Pressure Range</th>
<th>Input/Output</th>
<th>Electrical Connection</th>
<th>Pressure Connection Type</th>
<th>Pressure Connection Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCT</td>
<td>Gauge Pressure</td>
<td>to 1 psi full scale</td>
<td>11 to 30 VDC/4-20 mA</td>
<td>18&quot; long, 24 AWG cable</td>
<td>1/8 NPT</td>
<td>316 Stainless Steel</td>
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<tr>
<td></td>
<td>Absolute Pressure</td>
<td>to 6 psi full scale</td>
<td>9 to 30 VDC/1-6 VDC</td>
<td>18&quot; long, 24 AWG cable, PE double-shielded EMI version</td>
<td>1/4 NPT</td>
<td>Brass (500 psi or less)</td>
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<tr>
<td></td>
<td>Static Pressure</td>
<td>S (1000, 2000, 3000 psi)</td>
<td>to 15 psi full scale</td>
<td>1-20 UNEF-2A flush (stainless steel only; BUNA N o-ring standard)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Compound</td>
<td>C (-14.7 psi to full scale)</td>
<td>to 50 psi full scale</td>
<td>1-20 UNEF-2A flush (stainless steel only)</td>
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<td></td>
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<td>to 100 psi full scale</td>
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<td>to 150 psi full scale</td>
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<td>to 200 psi full scale</td>
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<td>to 300 psi full scale</td>
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<td>to 500 psi full scale</td>
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<td>to 1000 psi full scale</td>
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<td>to 2000 psi full scale</td>
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<td>to 3000 psi full scale</td>
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<td></td>
<td>Custom ranges available</td>
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</tbody>
</table>

**SAMPLE PART NUMBERS**

- **DCTG0100BPT012**...100 psi gauge-pressure pressure transducer; input of 11 to 30 VDC and output of 4-20 mA; 18", 24 AWG cable; and 1/8 NPT, brass connector.
- **DCTA500CPK021**...500 psi absolute-pressure pressure transducer; input of 9 to 30 VDC and output of 1-6 VDC; Packard (4-pin #12162189) connection; and 1/4 NPT, 316 stainless steel connector.

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