# CTE7000 / CTU7000 Series
## Miniature pressure transmitters

### FEATURES

- **0...10 mbar to 0...7 bar, 0...0.15 to 0...100 psi gage[1] or absolute[10]**
- **0...5 V, 0...10 V, 0.5...4.5 V or 4...20 mA output**
- **Single supply**
- **Field interchangeable**
- **Rugged stainless steel housing**

### MEDIA COMPATIBILITY

Pressure inlet:
Non-corrosive, non-ionic media such as air, dry gases and the like compatible with stainless steel 1.4404 (316), nylon, silicon, silicone-sealant and epoxy[9]

Housing:
Stainless steel, protection class IP 64 (according to DIN EN 60529) respectively NEMA 4[1]

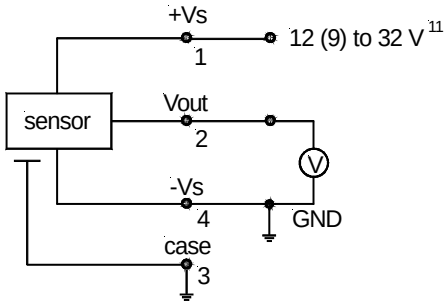
### SPECIFICATIONS[12,13]

**Maximum ratings**

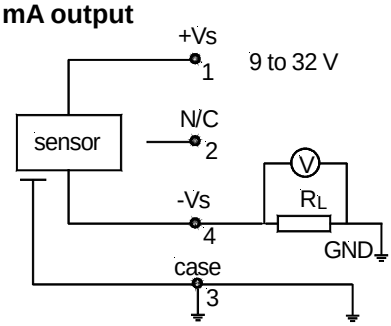
| | |
|---|---|
| Supply voltage (reverse polarity protection) | |
| CTE(M)/CTU7...0[11] | 12...32 V |
| CTE(M)/CTU7...6, ...7[11] | 9...32 V |
| CTE(M)/CTU7...4[2] | 9...32 V |
| Maximum load current (source) | |
| CTE(M)/CTU7...0, ...6, ...7 | 1 mA |
| Temperature limits | |
| Storage | -55...100°C |
| Operating | -40...85°C |
| Compensated | 0...50°C |
| Humidity limits | 0...98 %RH |
| Vibration (5 to 500 Hz) | 2 $g_{RMS}$ |
| Mechanical shock | 50 g |
| Proof pressure[3] | |
| CTE...010.../CTU...0x15... | 250 mbar / 3.6 psi |
| CTE...025.../CTU...0x3... | 350 mbar / 5 psi |
| CTE...070..., 350.../CTU...01..., 05... | 1 bar / 15 psi |
| CTE7007.../CTU7100... | 10 bar / 150 psi |
| all others | 2 x rated pressure |

### ELECTRICAL CONNECTION

**0...10 V, 0.5...4.5 V, 0...5 V output**




**4...20 mA output**



## COMMON PERFORMANCE CHARACTERISTICS

| Characteristics | | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Thermal effects (0 to 50°C)[4] | Offset | CTEM70010..., CTEM7N010.../ CTU700x15..., CTU7N0x15... | | | ±0.08 | %FSO/°C |
| | | CTEM70025..., CTEM7N025.../ CTU700x3..., CTU7N0x3... | | | ±0.08 | |
| | | all others | | | ±0.04 | |
| | Span | | | | ±0.04 | |
| Thermal effects (-20 to 0°C, 50 to 70°C) | Offset<br>Span | | | ±0.03<br>±0.03 | | |
| Non-linearity (BSL) and hysteresis[5] | | | | ±0.2 | ±0.50 | %FS |
| Repeatability | | | | ±0.1 | | |
| Long term stability[6] | | | | ±0.5 | | |
| Output noise (0 < f < 1 kHz) | | | | ±0.04 | | |
| Response time (10 to 90 %) | | | | 1.0 | | ms |
| Power supply rejection | Offset | CTE(M)/CTU7...0, ...6, ...7<br>CTE(M)/CTU7...4 | | ±0.002<br>±0.05 | | %FSO/V |
| | Span | CTE(M)/CTU7...0, ...6, ...7<br>CTE(M)/CTU7...4 | | ±0.002<br>±0.08 | | |

## INDIVIDUAL PERFORMANCE CHARACTERISTICS

### 0...10 V output ($V_S$ = 15 V, $R_L$ > 100 kΩ, $t_{amb}$ = 25°C)

| Characteristics | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Zero pressure offset | CT...7N...<br>all others | 4.9<br>-0.1 | 5<br>0 | 5.1<br>0.1 | V |
| Full scale span[7] | CT...7N...<br>all others | 4.9<br>9.9 | 5<br>10 | 5.1<br>10.1 | |
| Output impedance | | | | 25 | Ω |
| Current consumption (no load) | | | 4 | 9.5 | mA |

### 0.5...4.5 V output ($V_S$ = 15 V, $R_L$ > 100 kΩ, $t_{amb}$ = 25°C)

| Characteristics | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Zero pressure offset | CT...7N...<br>all others | 2.450<br>0.450 | 2.5<br>0.5 | 2.550<br>0.550 | V |
| Full scale span[7] | CT...7N...<br>all others | 1.950<br>3.950 | 2<br>4 | 2.050<br>4.050 | |
| Output impedance | | | | 25 | Ω |
| Current consumption (no load) | | | 4 | 8.5 | mA |