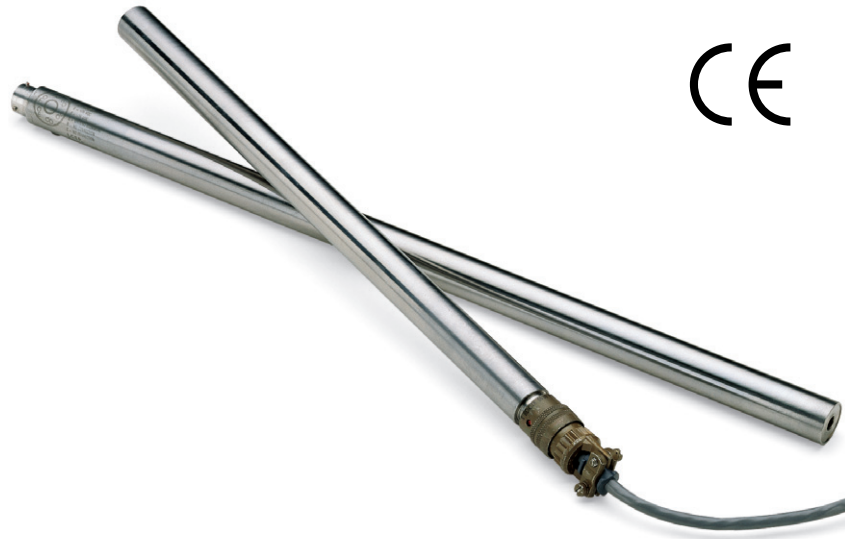


HCD Series

Hermetically Sealed

DESCRIPTION

The **HCD series** LVDTs are impervious to dirt, water, steam spray and most corrosives. Tungsten inert gas (TIG) welding provides hermetic sealing that is free from oxidation-producing faults that may cause leakage. They have been qualified at pressures up to 1000 psi (70 bars) and are suitable for numerous high-pressure applications. They are terminated with a glass-sealed, MS-type terminal connector. The connector prohibits the core from passing completely through the coil assembly. HCD units have double magnetic shielding that makes them insensitive to external magnetic influences.



FEATURES

- ◆ Hermetically Sealed By TIG
- ◆ CE Compliant
- ◆ Glass-Sealed MS-Type Connector
- ◆ Calibration Certificate Supplied With all Models

APPLICATIONS

- ◆ Harsh Industrial Environments
- ◆ Ideal for Pressure Installations Up to 1,000 psi
- ◆ Submersible with Appropriate Connector

OPTIONS

- ◆ Captive Core Option for Convenient Installation
- ◆ Metric Thread Core
- ◆ Guided Core
- ◆ Small Diameter, Low Mass Core

ordering information

Specify the HCD Model followed by the desired option number(s) added together.

Ordering Example:

Model Number 050 HCD-026 is an HCD Series LVDT with a ± 0.050 " range (050 HCD), with a Metric thread core (006) and a small diameter core (020).

specifications

| | |
|-------------------------|-------------------------------------|
| Input Voltage | ± 15 VDC (nominal), ± 25 ma |
| Operating Temperature | |
| Range | 32°F to 160°F (0°C to 70°C) |
| Survival Temperature | |
| Range | -65°F to 200°F (-55°C to 95°C) |
| Null Voltage | 0 VDC |
| Ripple | Less than 25 mV rms |
| Linearity | 0.25% full range |
| Stability | 0.125% full scale |
| Temperature—Coefficient | |
| of Scale Factor | 0.04%/°F (0.08%/°C) |
| Shock Survival | 250 g for 11 milliseconds half sine |
| Vibration Tolerance | 10 g up to 2 kHz |
| Coil Form Material | High density, glass-filled polymer |
| Housing Material | AISI 400 series stainless steel |
| Electrical Termination | 6-pin connector |
| Output Impedance | Less than 1 ohm |

HCD Model

050 HCD
125 HCD
250 HCD
500 HCD
1000 HCD
2000 HCD
3000 HCD
5000 HCD
10000 HCD

options

| Number | Description |
|--------|--|
| 006 | Metric Thread Core |
| 010 | Guided Core |
| 020 | Small Diameter, Low Mass Core ¹ |
| 200 | Captive Core ² |

¹ Consult factory for mass, dimensions and thread size.

² Available on 050 HCD through 3000 HCD models only.

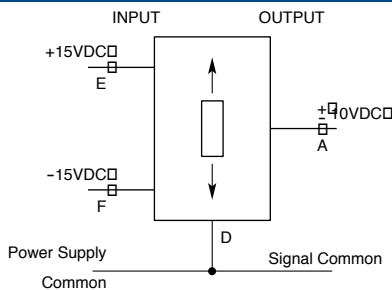
HCD Series

performance and electrical specifications¹

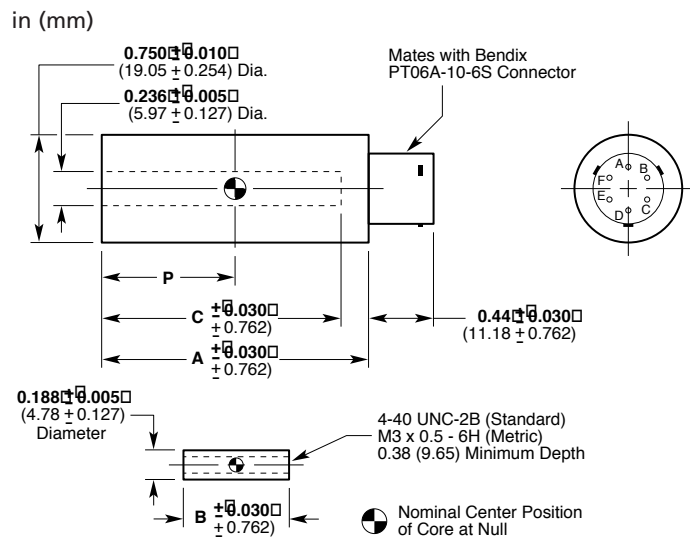
| HCD Series Model Number | Nominal Linear Range | | Scale Factor | | Response -3 dB |
|-------------------------|----------------------|-------|--------------|------|----------------|
| | inches | mm | V/inch | V/mm | Hz |
| 050 HCD | ±0.050 | ±1.25 | 200.0 | 8.00 | 500 |
| 125 HCD | ±0.125 | ±3.0 | 80.0 | 3.00 | 500 |
| 250 HCD | ±0.250 | ±6.0 | 40.0 | 1.60 | 500 |
| 500 HCD | ±0.500 | ±12.5 | 20.0 | 0.80 | 200 |
| 1000 HCD | ±1.000 | ±25 | 10.0 | 0.40 | 200 |
| 2000 HCD | ±2.000 | ±50 | 5.0 | 0.20 | 200 |
| 3000 HCD | ±3.000 | ±75 | 3.3 | 0.13 | 200 |
| 5000 HCD | ±5.000 | ±125 | 2.0 | 0.08 | 200 |
| 10000 HCD | ±10.000 | ±250 | 1.0 | 0.04 | 200 |

¹All calibration is performed at room ambient temperature.

wiring



dimensions



new captive core option!

design that greatly simplifies installation. The design utilizes a core rod and bearing assembly that is captured and guided within the LVDT providing low friction travel throughout the stroke length. The assembly incorporates two Delrin bearings on the core rod traveling through the stainless steel boreliner. A bronze bearing on the front end utilizes a self-aligning feature to accommodate lateral LVDT movement during operation. The core rod and bearing assembly are field replaceable.



mechanical specifications

| HCD Series Model Number | Body | | Weight | | Dimensions | | | | | | | |
|-------------------------|-------|-----|--------|----|------------|-------|----------|-------|-------|-------|-------|-------|
| | oz | gm | oz | gm | A (Body) | | B (Core) | | C | | P | |
| | | | | | in | mm | in | mm | in | mm | in | mm |
| 050 HCD | 1.41 | 40 | 0.07 | 2 | 2.40 | 61.0 | 0.75 | 19.1 | 1.90 | 48.3 | 0.55 | 14.0 |
| 125 HCD | 1.77 | 50 | 0.11 | 3 | 3.23 | 82.0 | 1.25 | 31.8 | 2.73 | 69.3 | 0.96 | 24.5 |
| 250 HCD | 2.19 | 62 | 0.18 | 5 | 4.10 | 104.1 | 2.00 | 50.8 | 3.60 | 91.4 | 1.39 | 35.3 |
| 500 HCD | 2.93 | 82 | 0.28 | 9 | 5.79 | 147.1 | 3.00 | 76.2 | 5.29 | 134.4 | 2.23 | 56.5 |
| 1000 HCD | 4.24 | 120 | 0.35 | 10 | 8.05 | 204.5 | 3.80 | 96.5 | 7.55 | 191.8 | 3.32 | 84.3 |
| 2000 HCD | 6.09 | 174 | 0.46 | 13 | 11.42 | 290.1 | 5.30 | 127.0 | 10.92 | 277.4 | 5.05 | 128.3 |
| 3000 HCD | 8.33 | 236 | 0.49 | 14 | 16.62 | 422.1 | 6.20 | 157.5 | 16.10 | 408.9 | 7.59 | 192.8 |
| 5000 HCD | 10.38 | 294 | 0.60 | 17 | 20.45 | 519.5 | 6.20 | 157.5 | 19.95 | 506.7 | 9.56 | 242.8 |
| 10000 HCD | 18.57 | 526 | 0.85 | 24 | 34.57 | 878.1 | 12.00 | 304.8 | 34.03 | 864.4 | 16.61 | 421.9 |