



HCD SERIES

Hermetically Sealed DC LVDT

SPECIFICATIONS

- ◆ Hermetically sealed, all welded
- ◆ Stainless steel housing
- ◆ High level ± 10 VDC output
- ◆ Stroke ranges from ± 0.05 to ± 10 inches
- ◆ Shock and vibration tolerant
- ◆ MS style connector
- ◆ IEC IP68 rating to 1,000 PSI [70 bars]
- ◆ Captive core option

The HCD Series hermetically sealed DC operated LVDTs are the perfect choice for high performance measurements in environments containing moisture, dirt, and fluid contaminants. Operating on a nominal ± 15 VDC supply, these heavy-duty LVDTs deliver an extremely linear, low noise, yet high frequency response ± 10 VDC output.

The integral electrical connector (welded, glass-sealed MS type) provides for easy installation and allows replacing a damaged cable without sacrificing the sensor.

The HCD is available in stroke ranges of ± 0.05 inch [± 1.27 mm] up to ± 10 inches [± 254 mm], and with a number of standard options including imperial or metric threaded core, guided core and captive core.

Like in most of our LVDTs, the HCD windings are vacuum impregnated with a specially formulated, high temperature, flexible resin, and the coil assembly is potted inside its housing with a two-component epoxy. This provides excellent protection against hostile environments such as high vibration and shock.

Captive core option: The HCD features an optional captive core design (available for most models) that greatly simplifies installation. The core rod and bearing assembly includes a Bronze bearing on the front end for self-alignment, while a PTFE sleeve allows low-friction travel through the stainless steel boreliner (spool tube).

FEATURES

- ◆ All-welded stainless steel construction
- ◆ Shock and vibration tolerant
- ◆ Low noise, ± 10 VDC output
- ◆ Double magnetic shielding
- ◆ MS type connector (MIL-C-5015)
- ◆ Calibration certificate supplied with each unit

APPLICATIONS

- ◆ Harsh industrial environments
- ◆ Pressurized installations up to 1,000 psi
- ◆ Paper processing mills
- ◆ Roller gap position feedback
- ◆ Automated test systems
- ◆ X-Y Positional Feedback

HCD SERIES

Hermetically Sealed DC LVDT

PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS									
Parameter	HCD 050	HCD 125	HCD 250	HCD 500	HCD 1000	HCD 2000	HCD 3000	HCD 5000	HCD 10000
Stroke range	±0.050 [±1.27]	±0.125 [±3.17]	±0.25 [±6.85]	±0.5 [±12.7]	±1 [±25.4]	±2 [±50.8]	±3 [±76.2]	±5 [±127]	±10 [±254]
Sensitivity, VDC/inch	200	80	40	20	10	5	3.3	2.0	1.0
Sensitivity, VDC/mm	7.87	3.15	1.575	0.787	0.394	0.197	0.130	0.079	0.0394
Frequency response Hertz @ -3db	500	500	500	200	200	200	200	200	200
Input voltage	+/-15VDC								
Input current	±25mA								
Output @ stroke ends	+/-10VDC (Output is positive when the core is displaced from null towards the connector)								
Non-linearity	±0.25% of FR, maximum								
Output ripple	25mVRMS, maximum								
Stability	0.125% of FSO								
Output impedance	1 Ohm								

ENVIRONMENTAL SPECIFICATIONS & MATERIALS	
Operating temperature	+32°F to +160°F [0°C to +70°C]
Survival temperature	-65°F to +200°F [-55°C to +95°C]
Shock survival	250 g (11 ms half-sine)
Vibration tolerance	10 g up to 2kHz
Housing material	AISI 400 Series stainless steel
Electrical connector	6-pin MS type connector (MIL-C-5015)
IEC 60529 rating	IP68 to 1,000 PSI [70 bars] with use of proper mating connector plug

Notes:

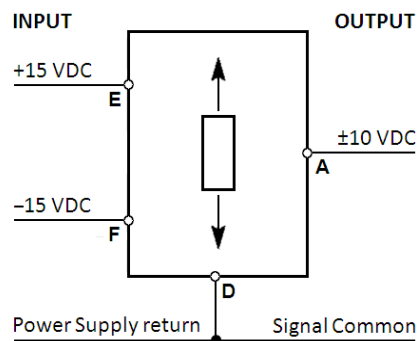
All values are nominal unless otherwise noted

Dimensions are in inch [mm] unless otherwise noted

FR: Full Range is the stroke range, end to end; FR=2xS for ±S stroke range

FSO (Full Scale Output): Largest absolute value of the outputs measured at the ends of the range

WIRING INFORMATION



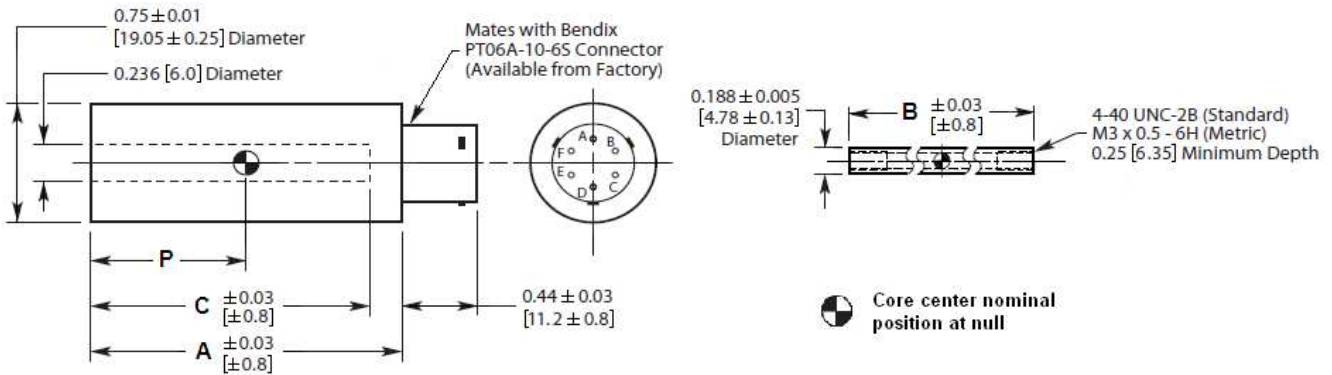
A through F: Connector pin assignments

HCD SERIES

Hermetically Sealed DC LVDT

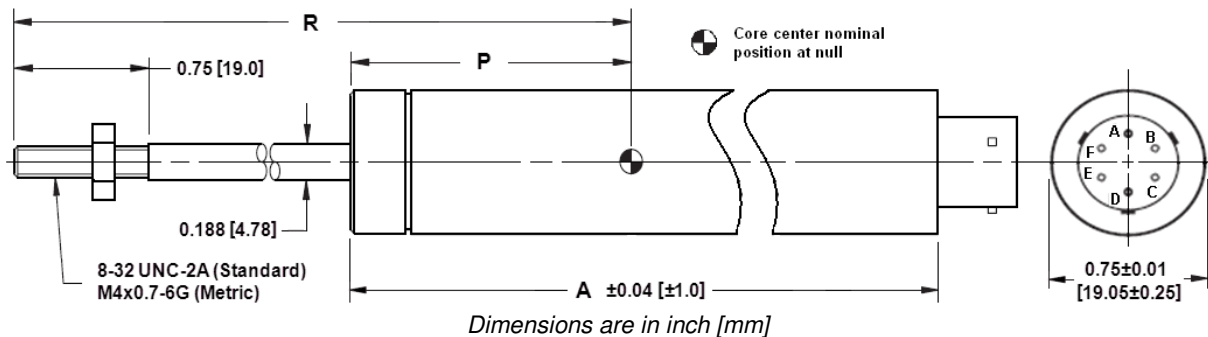
MECHANICAL SPECIFICATIONS – NON CAPTIVE CORE (STANDARD)

Parameter	HCD 050	HCD 125	HCD 250	HCD 500	HCD 1000	HCD 2000	HCD 3000	HCD 5000	HCD 10000
Main body length "A"	2.40 [61.0]	3.23 [82.0]	4.10 [104.1]	5.79 [147.1]	8.05 [204.5]	11.42 [290.1]	16.62 [422.1]	20.45 [519.4]	34.57 [878.1]
Core length "B"	0.75 [19.1]	1.25 [31.8]	2.0 [50.8]	3.0 [76.2]	3.8 [96.5]	5.3 [134.6]	6.2 [157.5]	6.2 [157.5]	12.0 [304.8]
Bore depth "C"	1.90 [48.3]	2.73 [69.3]	3.60 [91.4]	5.29 [134.4]	7.55 [191.8]	10.92 [277.4]	16.10 [408.9]	19.95 [506.7]	34.03 [864.4]
Core center @null "P"	0.55 [14.0]	0.96 [24.4]	1.39 [35.3]	2.23 [56.6]	3.18 [80.8]	4.91 [124.7]	7.59 [192.8]	9.56 [242.8]	16.61 [421.9]
Weight, body oz [gram]	1.41 [40]	1.77 [50]	2.19 [62]	2.93 [83]	4.24 [120]	6.14 [174]	8.33 [236]	10.38 [294]	18.57 [526]
Weight, core oz [gram]	0.07 [2]	0.11 [3]	0.18 [5]	0.28 [8]	0.35 [10]	0.53 [15]	0.64 [18]	0.64 [18]	0.85 [24]



MECHANICAL SPECIFICATIONS – CAPTIVE CORE OPTION

Parameter	HCD 050	HCD 125	HCD 250	HCD 500	HCD 1000	HCD 2000	HCD 3000
Main body length "A"	2.74 [69.6]	3.57 [90.7]	4.44 [112.8]	6.13 [155.7]	8.39 [213.1]	11.76 [298.7]	16.96 [430.8]
Core center at null "P"	0.89 [22.6]	1.30 [33.0]	1.73 [43.9]	2.57 [65.3]	3.52 [89.4]	5.25 [133.4]	7.93 [201.4]
Core rod position at null "R"	3.78 [96.0]	4.36 [110.7]	4.85 [123.2]	6.04 [153.4]	7.90 [200.7]	10.52 [267.2]	15.27 [387.9]
Weight, oz [gram]	2.19 [62]	2.65 [75]	3.14 [89]	4.06 [115]	5.61 [159]	7.87 [223]	10.63 [301]



HCD SERIES

Hermetically Sealed DC LVDT

ORDERING INFORMATION

Description	Model	Part Number	Description	Model	Part Number
±0.050 inch LVDT	HCD 050	02560440-000	±2 inch LVDT	HCD 2000	02560445-000
±0.125 inch LVDT	HCD 125	02560441-000	±3 inch LVDT	HCD 3000	02560446-000
±0.25 inch LVDT	HCD 250	02560442-000	±5 inch LVDT	HCD 5000	02560447-000
±0.5 inch LVDT	HCD 500	02560443-000	±10 inch LVDT	HCD 10000	02560448-000
±1 inch LVDT	HCD 1000	02560444-000			
OPTIONS					
Metric threaded core (Non-captive) or connecting rod (Captive core)	All				XXXXXXXX-006
Guided core	Available on				XXXXXXXX-010
Small-diameter/low-mass core (consult factory for mass & dimensions)	non-captive core models only				XXXXXXXX-020
Captive core	HCD 050 thru 3000 only				XXXXXXXX-200

Note: Add multiple option dash numbers together to determine proper ordering suffix

Example: HCD 1000, ±1 inch, with captive core and metric threaded connecting rod, P/N 02560444-206

ACCESSORIES		
Dual rail DC power supply (±15VDC)	Model PSD 40-15	02291339-000
Core connecting rod, 6 inches long, 4-40 threads		05282946-006
Core connecting rod, 12 inches long, 4-40 threads		05282946-012
Core connecting rod, 24 inches long, 4-40 threads		05282946-024
Core connecting rod, 36 inches long, 4-40 threads		05282946-036
Core connecting rod, 6 inches long, M3x0.5 metric threads		05282977-006
Core connecting rod, 12 inches long, M3x0.5 metric threads		05282977-012
Mounting block		04560950-000
Mating connector kit	PT06A-10-6S(SR)	62101011-000
Cable with wired mating connector	HCD to Stripped/Tinned	04290583-000

(1) Cables are shielded, 10 foot long, and rated 80°C [176°F] operating. Consult factory for other lengths.

s

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity company
Tel: 800-522-6752
Email: customercare.frm@te.com

EUROPE

Measurement Specialties (Europe), Ltd.,
a TE Connectivity Company
Tel: 800-440-5100
Email: customercare.bevx@te.com

ASIA

Measurement Specialties (China) Ltd.,
a TE Connectivity company
Tel: 0400-820-6015
Email: customercare.shzn@te.com

TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Measurement Specialties, TE Connectivity, TE Connectivity (logo) and EVERY CONNECTION COUNTS are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Linear Displacement Sensors](#) category:

Click to view products by [TE Connectivity](#) manufacturer:

Other Similar products are found below :

[9810405](#) [9810421](#) [Z4D-F04A](#) [05282945-012](#) [67010001-000](#) [ZG-RPD11](#) [9810907](#) [9810908](#) [04-0760-0006](#) [LCPL Wiper-01](#) [04-0882-0237](#)
[02560412-006](#) [04-0847-0023](#) [02560618-000](#) [RP12250L223BWB](#) [RP12300L223BWB](#) [02560390-000](#) [02350512-000](#) [02560394-000](#)
[HMC1512-TR](#) [E3FC-RN21](#) [E3FC-DP23](#) [E3FC-DP13 2M](#) [LCPL400-10K](#) [060-3613-02](#) [F38000100](#) [F38000105](#) [F38000205](#) [F38000206](#)
[SPS-L035-LATS](#) [SPS-L075-HALS](#) [SPS-L225-HALS](#) [SPS-L225-HDLS](#) [02560407-000](#) [02560409-000](#) [02560405-000](#) [02560406-000](#)
[02560542-000](#) [02560541-000](#) [02560545-000](#) [02560992-000](#) [05282946-006](#) [02560395-000](#) [02560389-000](#) [02560391-000](#) [05282947-012](#)
[02560398-000](#) [04560950-000](#) [62101011-000](#) [PT8420-0005-111-1112](#)