



MHR-T SERIES

Miniature High-Temperature AC LVDT

SPECIFICATIONS

- ◆ Operating temperature 392°F [200°C]
- ◆ Small size and low mass core
- ◆ High output signal
- ◆ Stroke ranges from ± 0.025 to ± 1 inch
- ◆ AC operation from 2kHz to 20kHz
- ◆ Stainless steel housing
- ◆ Imperial or metric threaded core

The **MHR-T** Series LVDTs are a variant of the legendary MHR Series. The MHR-T Series provide precision measurements in space restrictive applications at temperatures up to 392°F [200°C] continuous.

With a diameter of just 3/8 inch [9.5mm], and an extremely lightweight core, the MHR-T Series is ideal for applications where excessive core weight could influence the motion; with less inertia, accurate measurements at higher displacement speeds are easier to achieve. The lightweight core also reduces mechanical stresses and helps preserve the structural integrity of the core actuation assembly.

The high output sensitivity resulting from the close electrical coupling between the coil and core provides ample signal for interfacing with practically all signal conditioners and conditioning circuits. The magnetic stainless steel housing provides electromagnetic and electrostatic shielding.

Available in a variety of stroke ranges from ± 0.025 to ± 1 inch, the MHR-T is compatible with the full line of Measurement Specialties LVDT signal conditioners.

Like in most of our LVDTs, the MHR-T 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 humidity, vibration and shock.

FEATURES

- ◆ Compact size
- ◆ 392°F [200°C] continuous operation
- ◆ Lightweight core
- ◆ Shock and vibration tolerant
- ◆ Calibration certificate supplied with each unit

APPLICATIONS

- ◆ High temperature applications
- ◆ Cylinder position feedback
- ◆ Materials testing machines
- ◆ Space restricted installations

PERFORMANCE SPECIFICATIONS

| ELECTRICAL SPECIFICATIONS (common) | | | | | | |
|--|-------------------|---------------|---------------|---------------|--------------|-------------|
| Input voltage | 3 VRMS sine wave | | | | | |
| Input frequency | 2kHz to 20kHz | | | | | |
| Test frequency | 2.5kHz (standard) | | | | | |
| ELECTRICAL SPECIFICATIONS @ 10kHz (recommended operation) | | | | | | |
| Parameter | MHR-T 025 | MHR-T 050 | MHR-T 100 | MHR-T 250 | MHR-T 500 | MHR-T 1000 |
| Stroke range | ±0.025 [±0.64] | ±0.05 [±1.27] | ±0.10 [±2.54] | ±0.25 [±6.35] | ±0.5 [±12.7] | ±1 [±25.4] |
| Sensitivity, V/V/inch [mV/V/mm] | 8.10 [319] | 3.15 [124] | 2.80 [110] | 2.07 [81.5] | 1.96 [77.2] | 0.77 [30.3] |
| Output at stroke ends, mV/V (*) | 202.5 | 157.5 | 280 | 517.5 | 980 | 770 |
| Phase shift | +21° | +8° | +5° | +7° | +7° | -1° |
| Input impedance (PRIMARY) | 238Ω | 419Ω | 400Ω | 345Ω | 264Ω | 155Ω |
| Output impedance (SECONDARY) | 485Ω | 154Ω | 200Ω | 420Ω | 810Ω | 450Ω |
| Non-linearity | ±% of FR | | | | | |
| @ 50% stroke | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.20 |
| @100% stroke (maximum) | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| @125% stroke | 0.25 | 0.35 | 0.25 | 0.35 | 0.30 (**) | 0.50 |
| @150% stroke | 0.30 | 0.50 | 0.30 | 0.50 (**) | 0.75 (**) | / |
| Null voltage (max.) | 0.5% of FSO | | | | | |

| ELECTRICAL SPECIFICATIONS @ 2.5kHz (standard calibration) | | | | | | |
|--|----------------|---------------|---------------|---------------|--------------|-------------|
| Parameter | MHR-T 025 | MHR-T 050 | MHR-T 100 | MHR-T 250 | MHR-T 500 | MHR-T 1000 |
| Stroke range | ±0.025 [±0.64] | ±0.05 [±1.27] | ±0.10 [±2.54] | ±0.25 [±6.35] | ±0.5 [±12.7] | ±1 [±25.4] |
| Sensitivity, V/V/in [mV/V/mm] | 4.36 [172] | 2.55 [100] | 2.40 [94] | 1.73 [68] | 1.60 [63] | 0.70 [27] |
| Output at 100% stroke, mV/V (*) | 109 | 127.5 | 240 | 432.5 | 800 | 700 |
| Phase shift | +58° | +36° | +30° | +33° | +23° | +6° |
| Input impedance (PRIMARY) | 116Ω | 141Ω | 135Ω | 147Ω | 145Ω | 100Ω |
| Output impedance (SECONDARY) | 286Ω | 90Ω | 125Ω | 268Ω | 445Ω | 370Ω |
| Non-linearity | ±% of FR | | | | | |
| @ 50% stroke | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.20 |
| @100% stroke (maximum) | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| @125% stroke | 0.25 | 0.35 | 0.25 | 0.35 | 0.30 (**) | 0.50 |
| @150% stroke | 0.30 | 0.50 | 0.30 | 0.50 (**) | 0.75 (**) | / |
| Null voltage (max) | 0.5% of FSO | | | | | |

| ENVIRONMENTAL SPECIFICATIONS & MATERIALS | |
|---|--|
| Operating temperature | -4°F to +392°F [-20°C to +200°C] |
| Shock survival | 1,000 g (11ms half-sine) |
| Vibration tolerance | 20 g up to 2KHz |
| Housing material | AISI 400 Series stainless steel |
| Electrical connection | Six lead-wires, 32 AWG stranded plated Copper, PTFE insulated, 3 foot [1 meter] long |
| IEC 60529 rating | IP61 |

Notes:

All values are nominal unless otherwise noted

Electrical specifications are for the test frequency indicated in the table

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

(*) Unit for output at stroke ends is millivolt per volt of excitation (input voltage)

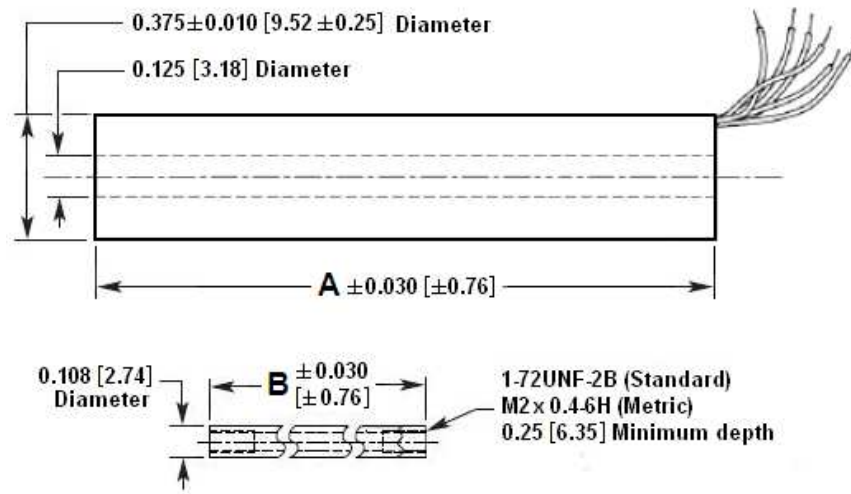
(**) Requires special reduced core length

MHR-T SERIES

Miniature High-Temperature AC LVDT

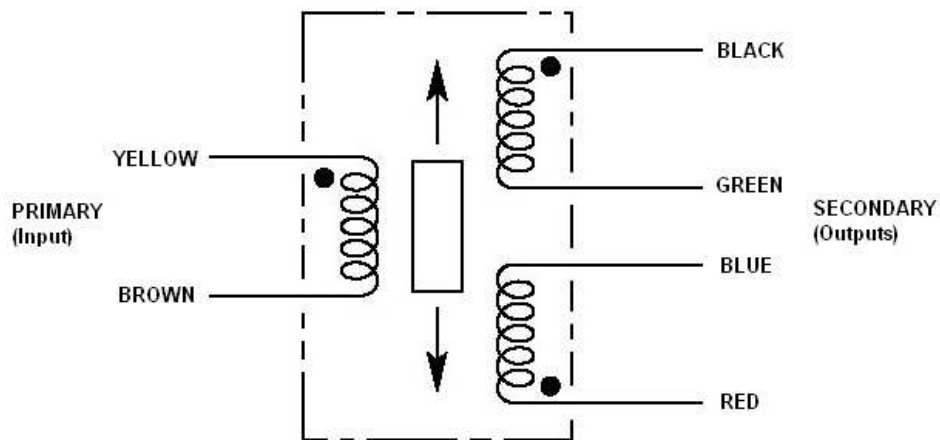
MECHANICAL SPECIFICATIONS

| Parameter | MHR-T 025 | MHR-T 050 | MHR-T 100 | MHR-T 250 | MHR-T 500 | MHR-T 1000 |
|---------------------|--------------|--------------|--------------|--------------|---------------|---------------|
| Body length "A" | 0.660 [16.8] | 0.815 [20.7] | 0.990 [25.1] | 1.850 [47.0] | 3.300 [83.82] | 5.600 [142.2] |
| Core length "B" | 0.400 [10.2] | 0.500 [12.7] | 0.625 [15.9] | 1.125 [28.6] | 2.000 [50.8] | 3.000 [76.2] |
| Body weight, oz [g] | 0.18 [5] | 0.21 [6] | 0.21 [6] | 0.32 [9] | 0.60 [17] | 0.92 [26] |
| Core weight, oz [g] | 0.016 [0.5] | 0.016 [0.5] | 0.025 [0.7] | 0.032 [0.9] | 0.056 [1.6] | 0.088 [2.5] |



Dimensions are in inch [mm]

WIRING INFORMATION



Connect Blue to Green for differential output

MHR-T SERIES

Miniature High-Temperature AC LVDT

ORDERING INFORMATION

| Description | Model | Part Number |
|------------------|-----------|--------------|
| ±0.025 inch LVDT | MHR-T 025 | 02562407-000 |
| ±0.05 inch LVDT | MHR-T 050 | 02562408-000 |
| ±0.10 inch LVDT | MHR-T 100 | 02562409-000 |

| Description | Model | Part Number |
|-----------------|------------|--------------|
| ±0.25 inch LVDT | MHR-T 250 | 02562410-000 |
| ±0.5 inch LVDT | MHR-T 500 | 02562411-000 |
| ±1 inch LVDT | MHR-T 1000 | 02562412-000 |

| OPTIONS AND ACCESSORIES | |
|--|--------------|
| Metric threaded core option (use base part numbers from above) | XXXXXXXX-006 |
| Core connecting rod, 6 inches long, 1-72 threads | 05282945-006 |
| Core connecting rod, 12 inches long, 1-72 threads | 05282945-012 |
| Core connecting rod, 24 inches long, 1-72 threads | 05282945-024 |
| Core connecting rod, 36 inches long, 1-72 threads | 05282945-036 |
| Core connecting rod, 6 inches long, M2x0.4 metric threads | 05282976-006 |
| Core connecting rod, 12 inches long, M2x0.4 metric threads | 05282976-012 |

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.

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9