

MHR Series

Miniature LVDT

The MHR series of LVDTs is ideal for applications where excessive core weight could influence the motion of sensitive mechanisms. The lightweight core also helps minimize stresses and preserves the structural integrity of the core actuation assembly. High sensitivity results from close electrical coupling between coil and core. A magnetic stainless steel housing provides electromagnetic and electrostatic shielding.

Features

- ❑ **For applications where installation space or weight is limited**
- ❑ **Lightweight core**
- ❑ **Calibration certificate supplied with all models**
- ❑ **Compatible with all Schaevitz® signal conditioners**
- ❑ **High temperature (220° C) and high pressure (vented case) available – consult factory**

Applications

- ❑ **Sensitive, lightweight devices**

Options

- ❑ **Alternative 5.0 and 10.0 kHz excitation frequency testing***
- ❑ **Metric thread core**

* Performance and electrical specifications for alternative frequencies will differ from the standard specifications listed below which are based on a 10 kHz excitation frequency. Consult factory for further information.



Specifications

Input Voltage	3 V rms (nominal)
Frequency Range	2 kHz to 20 kHz
Operating Temperature Range	-65°F to 300°F (-55°C to 150°C)
Null Voltage	<0.5% full scale output
Shock Survival	1,000 g for 11 msec
Vibration Tolerance	20 g up to 2 kHz
Coil Form Material	High density, glass-filled polymer
Housing Material	AISI 400 series stainless steel
Lead Wires	32 AWG, stranded copper, Teflon-insulated, 12 inches (300 mm) long (nominal)

Performance and Electrical Specifications @ 10 kHz¹ (recommended)

MHR Series Model Number	Nominal Linear Range		Linearity (±% full range)				Sensitivity mV out/V in Per		Impedance Ohms		Phase Shift
	inches	mm	50	100	125	150	0.001 in	mm	Pri	Sec	Degrees
005 MHR	±0.005	±0.13	0.20	0.25	0.30	0.40	8.70	342	84	302	+38
010 MHR	±0.010	±0.25	0.10	0.25	0.35	0.35	6.05	238	165	300	+20
025 MHR	±0.025	±0.64	0.15	0.25	0.25	0.30	8.10	319	238	485	+15
050 MHR	±0.050	±1.27	0.15	0.25	0.35	0.50	3.15	124	419	154	+8
100 MHR	±0.100	±2.54	0.15	0.25	0.25	0.30	2.80	110	400	200	+5
250 MHR	±0.250	±6.35	0.15	0.25	0.35	0.50	2.07	86	345	420	+7
500 MHR	±0.500	±12.70	0.15	0.25	0.30	0.75	1.96	77	264	810	+4
1000 MHR	±1.000	±25.40	0.20	0.25	0.50	—	0.77	30	155	450	-1

Performance and Electrical Specifications @ 2.5 kHz¹

MHR Series Model Number	Nominal Linear Range		Linearity (±% full range)				Sensitivity mV out/V in Per		Impedance Ohms		Phase Shift
	inches	mm	50	100	125	150	0.001 in	mm	Pri	Sec	Degrees
005 MHR	±0.005	±0.13	0.20	0.25	0.30	0.40	3.14	124	59	260	+73
010 MHR	±0.010	±0.25	0.10	0.25	0.35	0.35	3.29	129	78	192	+39
025 MHR	±0.025	±0.64	0.15	0.25	0.25	0.30	4.36	172	116	286	+38
050 MHR	±0.050	±1.27	0.15	0.25	0.35	0.50	2.55	100	141	90	+36
100 MHR	±0.100	±2.54	0.15	0.25	0.25	0.30	2.40	94	135	125	+30
250 MHR	±0.250	±6.35	0.15	0.25	0.35	0.50	1.73	68	147	268	+29
500 MHR	±0.500	±12.70	0.15	0.25	0.30	0.75	1.60	67	145	445	+19
1000 MHR	±1.000	±25.40	0.20	0.25	0.50	—	0.70	27	100	370	+6

¹All calibration is performed at room ambient temperature.

How to Order

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

Ordering Example:

Model Number 050 MHR-009 is an MHR Series LVDT with a ± 0.05 " range (050 MHR), with the 10 kHz testing option (003), Metric thread core (006).

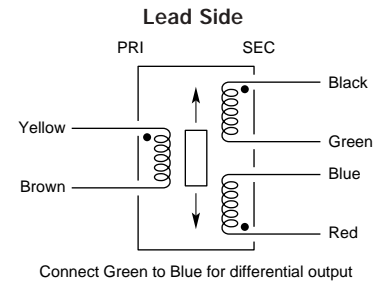
MHR Model

005 MHR
010 MHR
025 MHR
050 MHR
100 MHR
250 MHR
500 MHR
1000 MHR

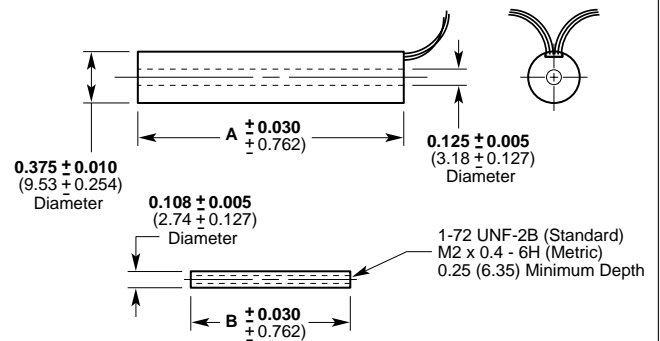
Options

Number	Description
002	5.0 kHz Linearity Test
003	10 kHz Linearity Test
006	Metric Thread Core

Wiring



Dimensions in (mm)



Mechanical Specifications

MHR Series Model Number	Weight		Dimensions					
	Body		Core		A (Body)		B (Core)	
	oz	gm	oz	gm	in	mm	in	mm
005 MHR	0.07	2	0.004	0.1	0.38	9.7	0.18	4.6
010 MHR	0.11	3	0.007	0.2	0.54	13.7	0.23	5.8
025 MHR	0.18	5	0.016	0.4	0.66	16.8	0.40	10.2
050 MHR	0.21	6	0.016	0.4	0.80	20.3	0.50	12.7
100 MHR	0.21	6	0.025	0.5	1.00	25.4	0.62	15.7
250 MHR	0.32	9	0.032	0.9	1.85	47.0	1.12	28.4
500 MHR	0.60	17	0.056	1.6	3.30	83.8	2.00	50.8
1000 MHR	0.92	26	0.088	2.5	5.60	142.2	3.00	76.2