

# DTH-A

## Displacement Transducers

● Large Output · Small Measuring Force ● 5 to 100 mm

(Formerly, DT-5, 50, 100H)



DTH-A-5



DTH-A-50



DTH-A-100

DTH-A series displacement transducers adopt a strain gage for the sensing element to ensure long-term stable measurement. They can widely be used for measurement of structural relative displacement or absolute displacement from a steady point.

### Features

- Highly accurate with nonlinearity  $\pm 0.1\%$  RO
- Compact and lightweight
- Large output of 5 mV/V (10000  $\mu\text{m}/\text{m}$ )
- Small measuring force of approx. 1.5 to 4 N (150 to 400 gf)
- Excellent temperature characteristics

### Specifications

#### Performance

**Rated Capacity:** See table below.  
**Nonlinearity:** Within  $\pm 0.1\%$  RO  
**Hysteresis:** Within  $\pm 0.1\%$  RO  
**Repeatability:** 0.1% RO or less  
**Rated Output:** 5 mV/V (10000  $\mu\text{m}/\text{m}$ )  $\pm 0.1\%$

#### Environmental Characteristics

**Safe Temperature Range:**  $-10$  to  $70^\circ\text{C}$  (noncondensing)  
**Compensated Temperature Range:**  $0$  to  $60^\circ\text{C}$  (noncondensing)  
**Temperature Effect on Zero Balance:** Within  $\pm 0.01\%$  RO/ $^\circ\text{C}$   
**Temperature Effect on Output:** Within  $\pm 0.01\%$ / $^\circ\text{C}$

#### Electrical Characteristics

**Safe Excitation Voltage:** 6 VAC or DC  
**Recommended Excitation Voltage:** 1 to 4 VAC or DC  
**Input Resistance:**  $350 \Omega \pm 1\%$   
**Output Resistance:**  $350 \Omega \pm 1\%$   
**Cable:** 4-conductor (0.065 mm<sup>2</sup>) vinyl shielded cable, 4 mm diameter by 2 m long, terminated with NDIS connector plug (Shield wire is not connected to mainframe.)

#### Mechanical Properties

**Frequency Response Range:** DC to approx. 2 Hz  
**Measuring Force:** See table below.  
**Weight:** See table below.

### Standard Accessories

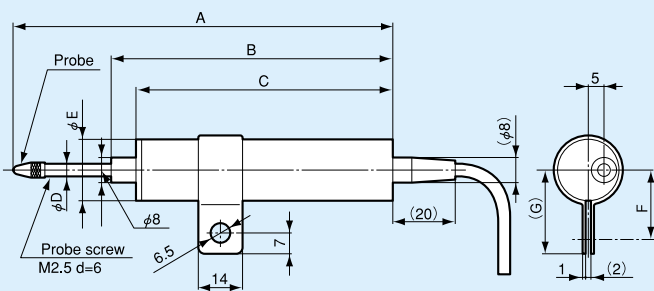
**Mounting band:**  
 1 for DTH-A-5 to 30  
 2 for DTH-A-50 and 100

### Optional Accessories (For details, refer to P. 2-129.)

Extension rods EB-50/100/200  
 Replacement probes X/XS/SH  
 Magnet base MB-B

Note: Initial unbalance with the rod fully extended is approximately  $-5000$  to  $-6000 \mu\text{m}/\text{m}$ .

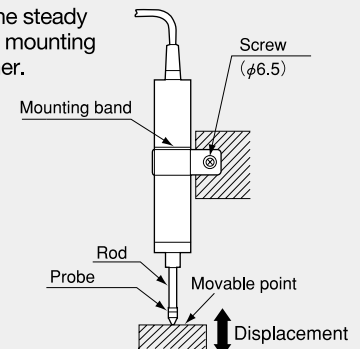
### Dimensions



Two mounting bands are provided standard for DTH-A-50 and 100.

### To Ensure Safe Usage

Fix the transducer to the steady point, using accessory mounting band, screw and washer.



Model	Rated Capacity	Measuring Force (Reference Value) (Approx.)	A	B	C	$\phi D$	$\phi E$	F	(G)	Weight (Approx.)
DTH-A-5	5 mm	1.5 N (150 gf)	Max. 84.4 Min. 78.4	68	60	4	20	21	28	30 g
DTH-A-10	10 mm	2.2 N (220 gf)	Max. 96.4 Min. 85.4	75	67					35 g
DTH-A-20	20 mm	2.2 N (220 gf)	Max. 122.4 Min. 101.4	91	83					
DTH-A-30	30 mm	2.2 N (220 gf)	Max. 149.4 Min. 118.4	108	100					
DTH-A-50	50 mm	3 N (300 gf)	Max. 209.5 Min. 158.5	148	140	4	25	23	30	75 g
DTH-A-100	100 mm	4 N (400 gf)	Max. 359.5 Min. 258.5	248	240	5	35	28	35	200 g