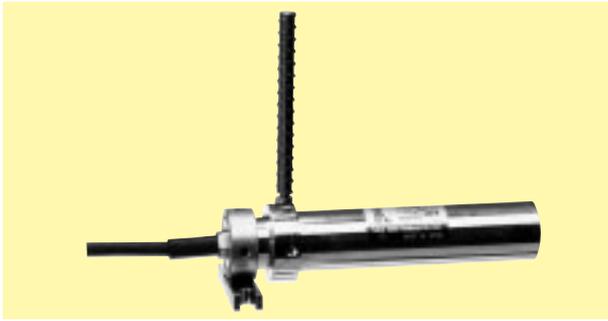
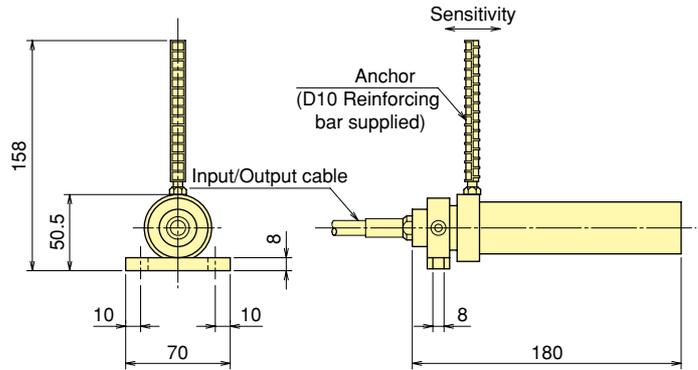


KU-A Shear Displacement Transducer



The KU-A shear displacement transducer is used to measure the shear displacement of a joint between tunnel bedrock and concrete lining or the shear displacement between two concrete layers of a concrete structure (concrete placed first and that placed next). This transducer is installed on the anchor bolt driven into tunnel bedrock or first-placed concrete, then concrete lining or another layer of concrete is laid to sandwich the transducer for shear displacement measurement.

Protection ratings : IP 68 equivalent



Specifications

Type	KU-5A
Capacity	±2.5mm
Rated output	2.5mV/V (5000×10 ⁻⁶ strain) ±0.3%
Non-linearity	0.3%RO
Temperature range	0~+70°C
Input/output resistance	350Ω
Recommended exciting voltage	Less than 2V
Allowable exciting voltage	10V
Weight	1.3kg

Input/output cable : φ9mm 0.5mm² 4-core shielded chloroprene cable 2m

Accessory

Anchor Bolt KGF-11

This is used to mount the KU-A transducer.
Thread M6

KH-A Micro-Creep Meter



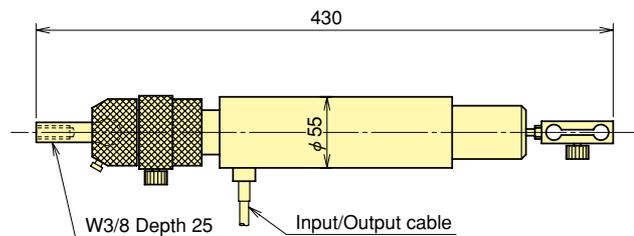
The KH-A micro-creep meter is used to measure the displacement in underground concrete tanks or tunnels. Specifically, it measures microscopic displacements by measuring the distance between two points set at an interval of 1 m to 10 m. The micro-creep meter is set at one point and an super-invar wire mounting hook is set at the other point, each secured using anchor bolts. An Invar wire is then set up between these two points to measure the distance. This meter is mainly used to control the conditions of work execution.

Protection ratings : IP 42 equivalent

Specifications

Type	KH-5A
Capacity	5mm (±2.5mm)
Rated Output	Approx. 3.8mV/V (7600×10 ⁻⁶ strain)
Sensitivity	Approx. 1500×10 ⁻⁶ strain/mm with 1m of super-invar wire
Non-linearity	0.3%RO
Spring force	30N (3kgf)
Temperature range	-10~+60°C (no icing)
Input/output resistance	350Ω
Recommended exciting voltage	Less than 2V
Allowable exciting voltage	10V
Weight	1.2kg

Supplied cable : CT9-4N30/WJ-STB (φ9mm 0.5mm² 4-core shielded chloroprene cable 30m)



Accessory

Super-Invar wire KHF-11

This wire transmits displacement to the Microcreep meter.
Outer diameter : 0.8mm

Super Invar wire Fixing Bracket KHF-12

This is used to mount the KHF-11 Super Invar wire to a wall surface.

Anchor Bolt KHF-13

This is used to mount the KH-A Microcreep meter and KHF-12 Fixing bracket to a wall surface.

Wire Lock KHF-14

This is used to lock the end of the KHF-11 Super Invar wire to the KHF-12 Fixing bracket.

Crimping Pliers KHF-15

These are used to crimp the KHF-14 Wire Lock.

Supplied cable

CT9-4N30/WJ-STB : 9mm-dia. 0.5mm-sq. 4-core shielded chloroprene cable 30-meter.