

# BKK-A

## Surface-mounting Type Inclination Transducer



BKK-A

BKK-A-D

### Measures minute inclination of structures.

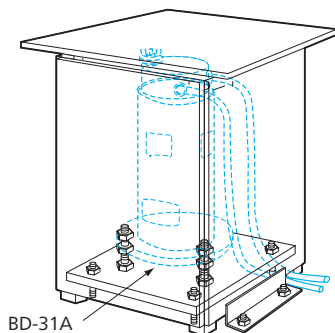
- External stopper provided
- Improved vibration resistance
- Biaxial type available (BKK-A-D)

The BKK-A series inclination transducers are mounted on the surface of structure. Available in two types, uniaxial and biaxial, are designed to measure minute inclination quantities on the site of adjacent construction. They are suitably used in combination with a structural settlement transducer for measurement of the disturbance resulting from nearby engineering works as well as for measurement of landslide-initiated inclination of the ground surface.

These transducers provide not only resolution twice as high as conventional systems but also outstandingly improved temperature characteristics (Temperature effect on zero  $\pm 0.36$  seconds/ $^{\circ}\text{C}$  with  $\pm 1^{\circ}$  rated capacity) and long-term stability ( $\pm 0.5\%$  RO). Furthermore, a stopper for detector protection is provided to ensure high handling efficiency in a total working flow from transportation to installation and measurement. Also, their structure, with highly viscous damping oil filled in, improves vibration resistance.

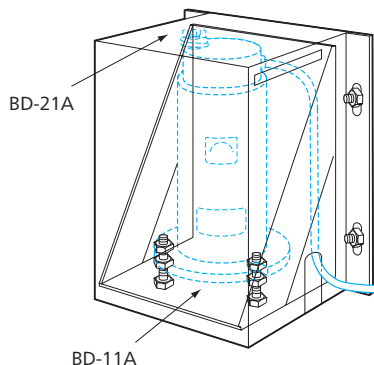
### Application Example

- Sunshade (Well-ventilated Wood) Manufactured on request.



BD-31A

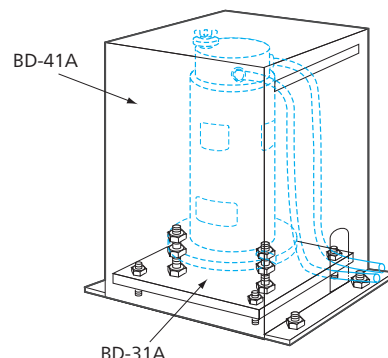
- Wall-mounting Fixture (BD-11A) Wall Protection Cover (BD-21A)



BD-21A

BD-11A

- Horizontal Surface-mounting Fixture (BD-31A) Horizontal Surface Protection Cover (BD-41A)



BD-41A

BD-31A

- Inclination measurement  $\pm 1^{\circ}, \pm 2^{\circ}$

### Specifications

#### Performance

Rated Capacity	See table below.
Nonlinearity	Within $\pm 0.5\%$ RO
Hysteresis	Within $\pm 0.5\%$ RO
Rated Output	See table below.

#### Environmental Characteristics

Safe Temperature	-20 to $70^{\circ}\text{C}$
Safe Temperature	-10 to $60^{\circ}\text{C}$
Temperature Effect on Zero	Within $\pm 0.005\%$ RO/ $^{\circ}\text{C}$
Temperature Effect on Output	Within $\pm 0.02\%$ / $^{\circ}\text{C}$
Long-term Stability	Within $\pm 0.5\%$ RO (For 6 months) (*)

#### Electrical Characteristics

Safe Excitation	10 V AC or DC
Recommended Excitation	1 to 2 V AC or DC
Input Resistance	$350 \Omega \pm 1\%$
Output Resistance	$350 \Omega \pm 1\%$
Cable	4-conductor (0.3 mm <sup>2</sup> ) chloroprene shielded cable, 7.6 mm diameter by 3 m long, bared at the tip (2 cables for biaxial models) (Shield wire is not connected to the case.)

#### Mechanical Properties

Measuring Direction	See table below.
Safe Overloads	120%
Interference	Within $\pm 1\%$ RO (BKK-A-D)
Material	Chromate-plated
Degree of Protection	IP56 (IEC 60529)
Weight	See table below.

\* This value is based on actual measurement and stated with dispersion taken into consideration. Stability slowly changes during a few months after installation, and then tends to become constant.

Standard Accessories Stopper fixing wing nut

#### Optional Accessories

- Wall-mounting Fixtures  
Designed to mount BKK-A transducers onto a wall surface; chromate-plated.  
BD-11A (For mounting 1 unit)  
BD-12A (For mounting 2 units)
- Horizontal Surface-mounting Fixtures  
Designed to mount BKK-A transducers onto a horizontal surface; chromate-plated.  
BD-31A (For mounting 1 unit)  
BD-32A (For mounting 2 units)
- Wall Protection Covers  
Designed to protect BKK-A transducers against external mechanical force; metal covers painted in grey.  
BD-21A (For BD-11A)  
BD-22A (For BD-12A)  
BD-41A (For BD-31A)  
BD-42A (For BD-32A)

Models	Measuring Directions	Rated Capacity	Rated Output	Weight (Approx.)
BKK-A-1	Uniaxial	$\pm 1^{\circ}$	2 mV/V ( $4000 \times 10^{-6}$ strain) or more	6 kg
BKK-A-1-D	Biaxial			6.8 kg
BKK-A-2	Uniaxial	$\pm 2^{\circ}$	3 mV/V ( $6000 \times 10^{-6}$ strain) or more	5.5 kg
BKK-A-2-D	Biaxial			6.3 kg

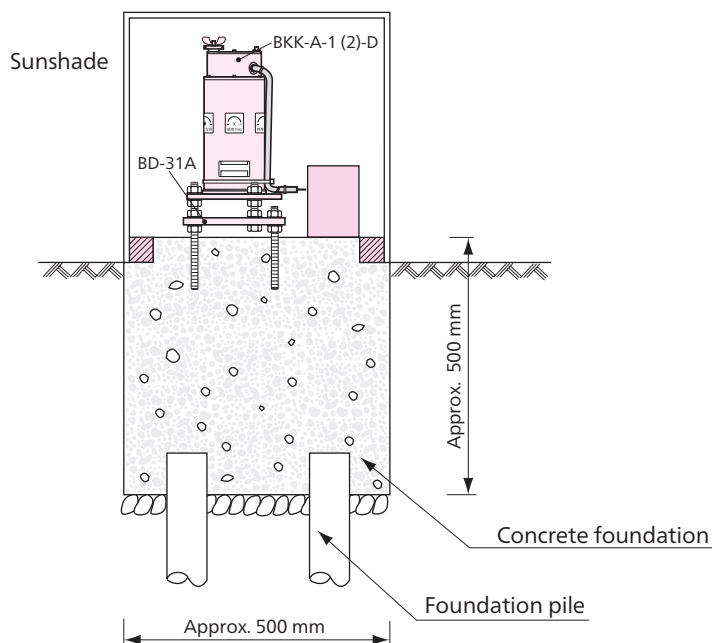
\*The rated output is for a range from minus rated capacity to plus rated capacity.

\*Models with a rated capacity of  $\pm 0.5^{\circ}$  or  $\pm 5^{\circ}$  can also be manufactured. Please contact us.

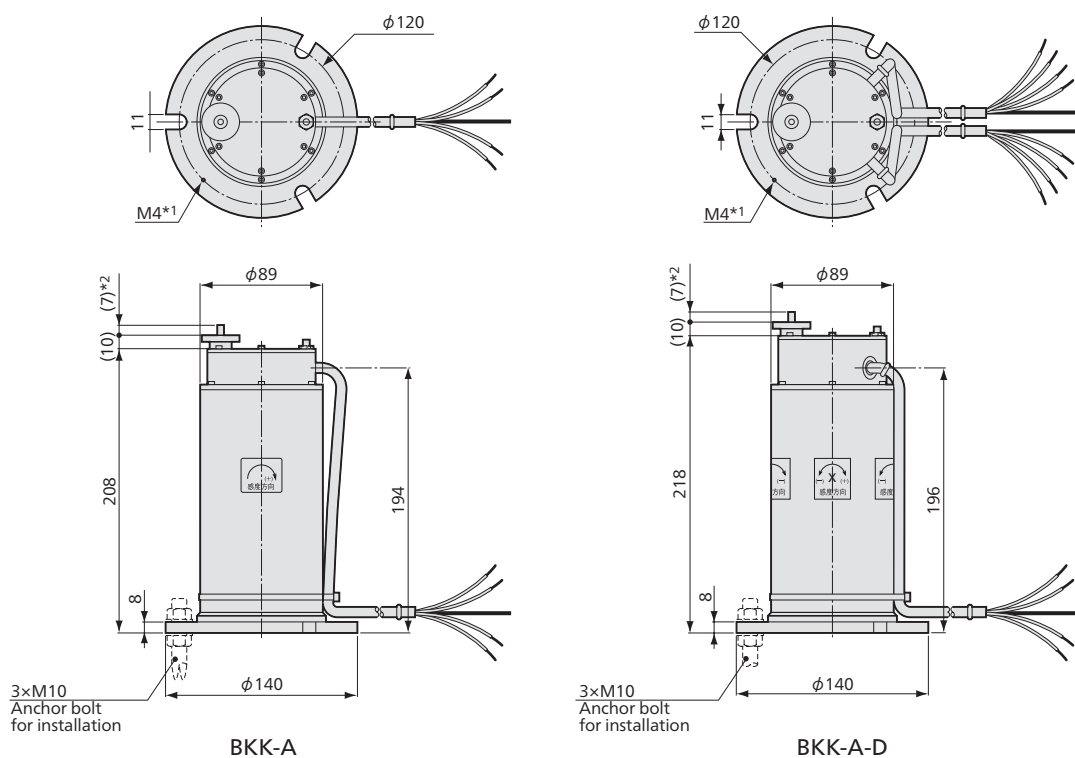
\*Models with temperature measuring function can also be manufactured. Please contact us.



## ■ Installation Schema



## ■ Dimensions



\*1. For grounding of lightning arrester kit.

\*2. In case of transportation, it is 0 mm.

The stopper is activated or deactivated by turning the knurling knob.

## To Ensure Safe Usage

Fix the protection cover and mounting anchor bolts fixtures individually.