

# Weldable Strain Gage

For Static/Dynamic Strain Measurement at up to 750°C



# KHCR

## Typical Applications

Grasping of physical properties of:

- High-temperature gas turbine blades
- Aircraft jet engine turbines
- Incinerators & heat treat furnaces
- Petrochemical reactors
- Heat-resistant alloys, etc.

- ◆ Encapsulated design enables easy installation by spot-welding.
- ◆ Immediate measurement upon installation is possible; no curing or coating required.
- ◆ Gage length is 5 mm.
- ◆ Gage resistance is 120  $\Omega$ .
- ◆ Gage factor of approximately 1.2 or higher is ensured even at 750°C.
- ◆ Half-bridge structure ensures temperature compensation.
- ◆ Bridge adapter enables easy and error-free connection to an amplifier.
- ◆ Compression fitting option enables easy wiring into a vessel, etc.

## Specifications

### Model: KHCR-5-120-G16

**Gage Type:** Uniaxial half-bridge temperature-compensation type

**Resistive Element:** Heat-resistant special alloy

**Gage Length:** 5 mm

**Flange and Sheath Tube:** NCF 600

**Gage Resistance:** Approx. 120 Ω

**Leadwire Cable**

MI Cable: 3-conductor (Ni) cable, 1.0 mm diameter by 2 m long (std.), NCF 600 sheath

Soft Cable: 3-conductor ETFE-coated shielded cable, 1.7 mm diameter by 0.5 m long (std.)

**Operating Temperature Range:** 25° to 750°C

**Applicable Linear Expansion Coefficient:** 11, 13, 16  $\times 10^{-6}/^{\circ}\text{C}$

**Gage Factor (Sensing Part):**

Approx. 1.5 at 25°C

Approx. 1.2 at 750°C

**Thermally-induced Apparent Strain:** Estimated curve is shown in the Test Data Sheet.

**Compensated Temperature Range:** 25° to 750°C

**Drift:** Within  $\pm 20 \times 10^{-6}/\text{h}$  (750°C)

**Strain Limit:** 10000  $\mu\text{m}/\text{m}$  (750°C)

**Fatigue Life:** 1  $\times 10^6$  times (750°C)

**Maximum Allowable Current:** 50 mA

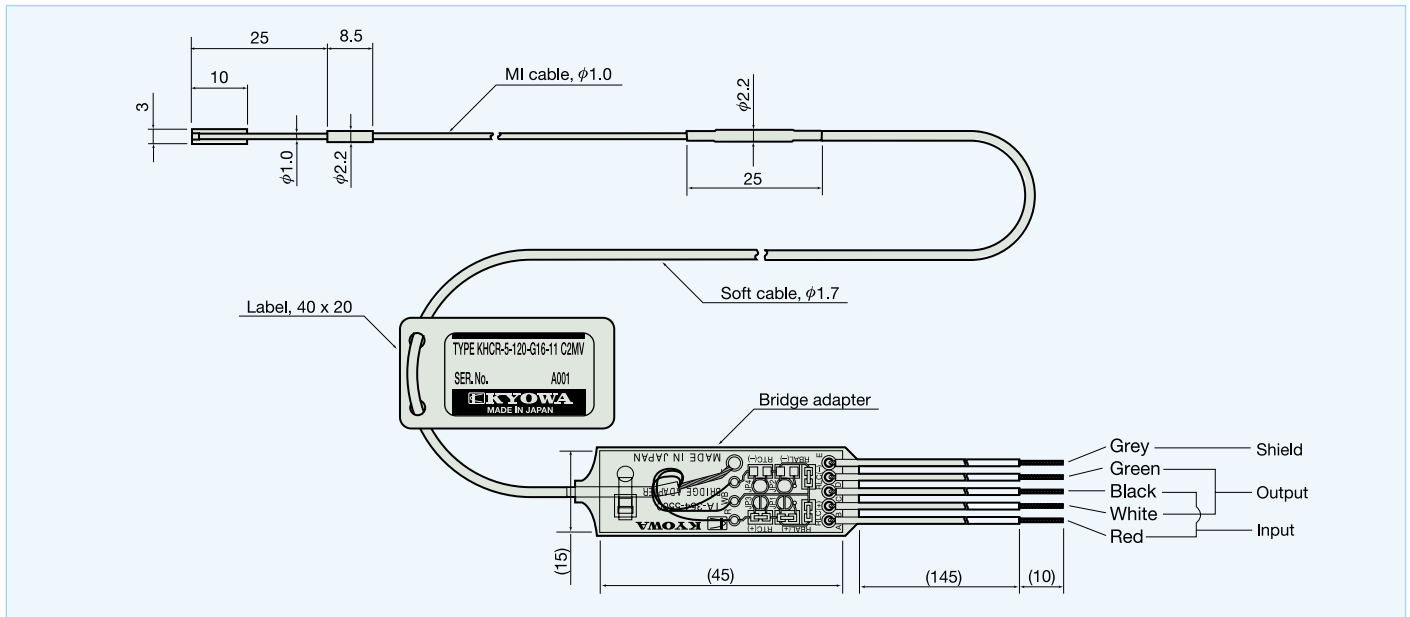
**Insulation Resistance:** 1000 MΩ or more (25°C)

**Minimum Mountable Curvature Radius:** 15 mm

**Mounting Method:** Spot welding

**Options:** Bridge adapter, Compression fitting

## Dimensions



JQA-0821  
JQA-EM4824

Specifications are subject to change without notice for improvement.



### Safety precautions

Be sure to observe the safety precautions given in the instruction manual, in order to ensure correct and safe operation.

Reliability through integration

**KYOWA**

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