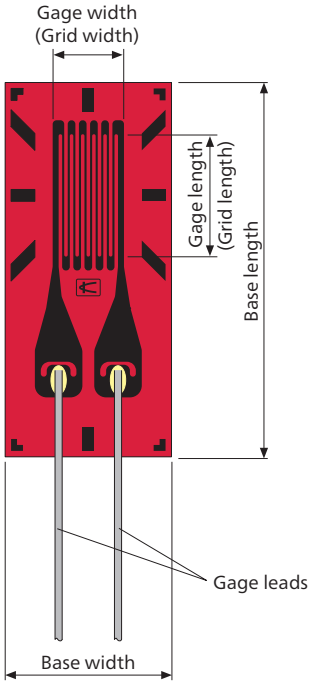
# General-purpose Foil Strain Gages (KFGS)

## ●KFGS General-purpose Foil Strain Gages RoHS*




The KFGS series gages use polyimide resin for the base that is approx. 14 µm thick. It ensures excellent flexibility. The outstanding moisture proof enables the KFGS gages to operate effectively both indoors and outdoors. Unless directly exposed to water droplets, no coating treatment is required.

### Applicable Adhesives

| | Operating Temperature after Curing the Adhesive |
|---|---|
| CC-33A | –196 to 120°C |
| CC-35 | –30 to 120°C |
| CC-36 | –30 to 100°C |
| EP-340 | –55 to 150°C |
| PC-600 | –196 to 150°C |

* For vinyl-coated cables, the operating temperature is -10 to 80ºC.

Notes on pre-attached lead-wire cables

- ●Standard color of the 2-wire cable pre-attached to uniaxial gages is red (R). If desired, allows a white, green, yellow or black cable to be pre-attached.
- ●Standard stripe of the 3-wire cable pre-attached to uniaxial gages is a red stripe. If desired, allows a blue or yellow stripe to be pre-attached.
- ●In the case of a biaxial gage and triaxial gage, 2-wire cables are color-coded with red, white and green stripes for 0°, 90° and 45°, respectively and 3-wire cables, with red, yellow and blue stripes for 0°, 90° and 45°, respectively. The letter code is S in common.

### ■Types, lengths and codes of lead-wire cables pre-attached to KFGS series gages

For other lead-wire cable lengths, contact us.

| Type / Length | 2 polyester-coated copper wires | 3 polyester-coated copper wires | Vinyl-coated flat 2-wire cables | | Vinyl-coated flat 3-wire cables | | Mid-temperature 2-wire cables | Mid-temperature 3-wire cables |
|---|---|---|---|---|---|---|---|---|
| | C1,C2,C3,C15, C16,D1,D2,D3, D4,D6,D9,D16, D17,D19,D28, D31,D39 | C1,C2,C3, C15,C16, D1,D4,D9, D16,D17,D19, D28,D39 | C1,C2,C3, C15,C16, D9,D19 | D1,D4, D16,D17, D28, D39 | C1,C2,C3, C15,C16, D2,D9,D19, D31 | D1,D4, D16,D17, D28, D39 | C1,C2,C3, C15,C16, D1,D4,D9, D16,D17,D19, D28,D39 | C1,C2,C3, C15,C16, D1,D2,D4,D9, D16,D17,D19, D28,D31,D39 |
| 15 cm | N15C2 | N15C3 | L15C2R | L15C2S | L15C3R | L15C3S | R15C2 | R15C3 |
| 30 cm | N30C2 | N30C3 | L30C2R | L30C2S | L30C3R | L30C3S | R30C2 | R30C3 |
| 1 m | N1M2 | N1M3 | L1M2R | L1M2S | L1M3R | L1M3S | R1M2 | R1M3 |
| 3 m | —— | —— | L3M2R | L3M2S | L3M3R | L3M3S | R3M2 | R3M3 |
| 5 m | —— | —— | L5M2R | L5M2S | L5M3R | L5M3S | R5M2 | R5M3 |
| Operating temp. | –196 to 150°C | | -10 to 80°C | | | | -100 to 150°C | |
| Remarks | Twisted for ≥50 cm (There are exceptions.) | | L-6 L-9 for ≥6 m | | L-7 L-10 for ≥6 m | | L-11* | L-12* |

*For the lead-wire gages with R type glass-cloth tape, see page 1-15.

When ordering, specify the model of the strain gage and the code of the lead-wire cable with a space in between.

E.g.

| | | | |
|---|---|---|---|
| KFGS-5-120-C1-11 | With 2 polyester-coated copper wires 15 cm long | → | KFGS-5-120-C1-11 N15C2 |
| KFGS-5-120-C1-11 | With a vinyl-coated flat 2-wire cable 5 m long | → | KFGS-5-120-C1-11 L5M2R |
| KFGS-5-120-D17-11 | With a vinyl-coated flat 3-wire cable 5 m long | → | KFGS-5-120-D17-11 L5M3S |
| KFGS-5-120-C1-11 | With a mid-temperature 3-wire cable 5 m long | → | KFGS-5-120-C1-11 R5M3 |
| KFGS-5-120-D17-11 | With a mid-temperature 2-wire cable 5 m long | → | KFGS-5-120-D17-11 R5M2 |

If no lead-wire cable code is suffixed, the gage is delivered with gage leads only. (Silver-covered copper wires 25 mm long)

For the types of lead-wire cables, see pages 1-15 and 1-16.

*Some products will be sold together with non-RoHS compliant products.
If you have a request for RoHS compliant products, please contact us.

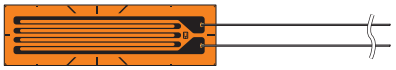
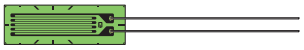
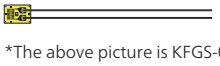
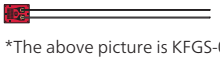
# General-purpose Foil Strain Gages (KFGS)

## Uniaxial

Resistance: 120 Ω
Gage factor: Approx. 2.1

- Common steel
- Stainless steel
- Aluminum alloy
- Magnesium alloy

(Base color stands for different linear expansion.)

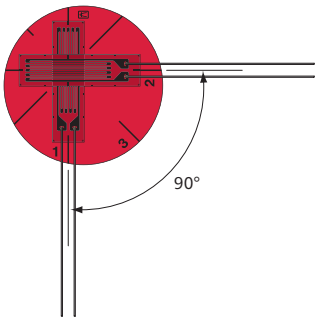
| Patterns Gage Resistance, Gage Factors | Models | Base Color | Dimensions (mm) Gage (Grid) Length | Gage (Grid) Width | Base Length | Base Width | Remarks |
|---|---|---|---|---|---|---|---|
| KFGS-30-120-C1  *The above picture is KFGS-30-120-C1-11. | KFGS-30-120-C1-11 | ● | 30 | 3.3 | 37 | 5.2 | |
| | KFGS-30-120-C1-16 | ● | | | | | |
| | KFGS-30-120-C1-23 | ● | | | | | |
| | KFGS-30-120-C1-27 | ● | | | | | |
| KFGS-20-120-C1  *The above picture is KFGS-20-120-C1-16. | KFGS-20-120-C1-11 | ● | 20 | 5 | 28 | 8 | |
| | KFGS-20-120-C1-16 | ● | | | | | |
| | KFGS-20-120-C1-23 | ● | | | | | |
| | KFGS-20-120-C1-27 | ● | | | | | |
| KFGS-10-120-C1  *The above picture is KFGS-10-120-C1-23. | KFGS-10-120-C1-11 | ● | 10 | 3 | 16 | 5.2 | |
| | KFGS-10-120-C1-16 | ● | | | | | |
| | KFGS-10-120-C1-23 | ● | | | | | |
| | KFGS-10-120-C1-27 | ● | | | | | |
| KFGS-6-120-C1  *The above picture is KFGS-6-120-C1-27. | KFGS-6-120-C1-11 | ● | 6 | 1.7 | 10 | 3.4 | |
| | KFGS-6-120-C1-16 | ● | | | | | |
| | KFGS-6-120-C1-23 | ● | | | | | |
| | KFGS-6-120-C1-27 | ● | | | | | |
| KFGS-5-120-C1  *The above picture is KFGS-5-120-C1-11. | KFGS-5-120-C1-5 | ● | 5 | 1.4 | 9.4 | 2.8 | For wood |
| | KFGS-5-120-C1-11 | ● | | | | | |
| | KFGS-5-120-C1-16 | ● | | | | | |
| | KFGS-5-120-C1-23 | ● | | | | | |
| | KFGS-5-120-C1-27 | ● | | | | | |
| KFGS-4N-120-C1  *The above picture is KFGS-4N-120-C1-16. | KFGS-4N-120-C1-11 | ● | 4 | 0.7 | 8 | 1.4 | |
| | KFGS-4N-120-C1-16 | ● | | | | | |
| | KFGS-4N-120-C1-23 | ● | | | | | |
| | KFGS-4N-120-C1-27 | ● | | | | | |
| KFGS-3-120-C1  *The above picture is KFGS-3-120-C1-23. | KFGS-3-120-C1-11 | ● | 3 | 1.3 | 7.4 | 2.8 | |
| | KFGS-3-120-C1-16 | ● | | | | | |
| | KFGS-3-120-C1-23 | ● | | | | | |
| | KFGS-3-120-C1-27 | ● | | | | | |
| KFGS-2-120-C1  *The above picture is KFGS-2-120-C1-27. | KFGS-2-120-C1-5 | ● | 2 | 1.2 | 6.3 | 2.8 | For wood |
| | KFGS-2-120-C1-11 | ● | | | | | |
| | KFGS-2-120-C1-16 | ● | | | | | |
| | KFGS-2-120-C1-23 | ● | | | | | |
| | KFGS-2-120-C1-27 | ● | | | | | |
| KFGS-2N-120-C1  *The above picture is KFGS-2N-120-C1-11. | KFGS-2N-120-C1-11 | ● | 2 | 0.84 | 5.3 | 1.4 | |
| | KFGS-2N-120-C1-16 | ● | | | | | |
| | KFGS-2N-120-C1-23 | ● | | | | | |
| | KFGS-2N-120-C1-27 | ● | | | | | |
| KFGS-1-120-C1  *The above picture is KFGS-1-120-C1-16. | KFGS-1-120-C1-11 | ● | 1 | 1.1 | 4.8 | 2.4 | |
| | KFGS-1-120-C1-16 | ● | | | | | |
| | KFGS-1-120-C1-23 | ● | | | | | |
| | KFGS-1-120-C1-27 | ● | | | | | |
| KFGS-1N-120-C1  *The above picture is KFGS-1N-120-C1-23. | KFGS-1N-120-C1-11 | ● | 1 | 0.65 | 4.2 | 1.4 | |
| | KFGS-1N-120-C1-16 | ● | | | | | |
| | KFGS-1N-120-C1-23 | ● | | | | | |
| | KFGS-1N-120-C1-27 | ● | | | | | |
| KFGS-03-120-C1  *The above picture is KFGS-03-120-C1-27. | KFGS-03-120-C1-11 | ● | 0.3 | 1.4 | 3.5 | 2.4 | |
| | KFGS-03-120-C1-16 | ● | | | | | |
| | KFGS-03-120-C1-23 | ● | | | | | |
| | KFGS-03-120-C1-27 | ● | | | | | |
| KFGS-02-120-C1  *The above picture is KFGS-02-120-C1-11. | KFGS-02-120-C1-11 | ● | 0.2 | 1.4 | 3.3 | 2.4 | |
| | KFGS-02-120-C1-16 | ● | | | | | |
| | KFGS-02-120-C1-23 | ● | | | | | |
| | KFGS-02-120-C1-27 | ● | | | | | |

10 gages/pkg

# General-purpose Foil Strain Gages (KFGS)

## Biaxial, 0°/90° stacked rosette

Resistance: 120 Ω
Gage factor: Approx. 2.1

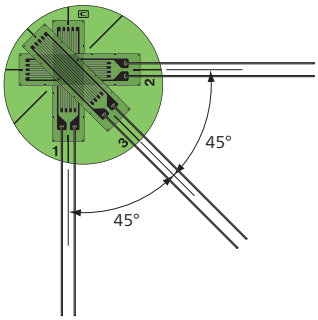



*The above picture is KFGS-10-120-D16-11.

| Models | Base Color | Gage (Grid) Length | Gage (Grid) Width | Base | Remarks |
|---|---|---|---|---|---|
| KFGS-10-120-D16-11 | ● | 10 | 3 | ϕ21 | |
| KFGS-10-120-D16-16 | ● | | | | |
| KFGS-10-120-D16-23 | ● | | | | |
| KFGS-10-120-D16-27 | ● | | | | |
| KFGS-5-120-D16-11 | ● | 5 | 1.4 | ϕ11 | |
| KFGS-5-120-D16-16 | ● | | | | |
| KFGS-5-120-D16-23 | ● | | | | |
| KFGS-5-120-D16-27 | ● | | | | |
| KFGS-3-120-D16-11 | ● | 3 | 1.3 | ϕ10 | |
| KFGS-3-120-D16-16 | ● | | | | |
| KFGS-3-120-D16-23 | ● | | | | |
| KFGS-3-120-D16-27 | ● | | | | |
| KFGS-2-120-D16-11 | ● | 2 | 1.2 | ϕ8 | |
| KFGS-2-120-D16-16 | ● | | | | |
| KFGS-2-120-D16-23 | ● | | | | |
| KFGS-2-120-D16-27 | ● | | | | |
| KFGS-1-120-D16-11 | ● | 1 | 1.1 | ϕ5 | |
| KFGS-1-120-D16-16 | ● | | | | |
| KFGS-1-120-D16-23 | ● | | | | |
| KFGS-1-120-D16-27 | ● | | | | |

## Triaxial, 0°/90°/45° stacked rosette (For stress analysis)

Resistance: 120 Ω
Gage factor: Approx. 2.1

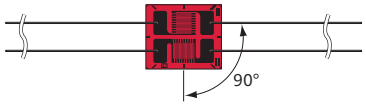



*The above picture is KFGS-10-120-D17-23.

| Models | Base Color | Gage (Grid) Length | Gage (Grid) Width | Base | Remarks |
|---|---|---|---|---|---|
| KFGS-10-120-D17-11 | ● | 10 | 3 | ϕ21 | |
| KFGS-10-120-D17-16 | ● | | | | |
| KFGS-10-120-D17-23 | ● | | | | |
| KFGS-10-120-D17-27 | ● | | | | |
| KFGS-5-120-D17-11 | ● | 5 | 1.4 | ϕ11 | |
| KFGS-5-120-D17-16 | ● | | | | |
| KFGS-5-120-D17-23 | ● | | | | |
| KFGS-5-120-D17-27 | ● | | | | |
| KFGS-3-120-D17-11 | ● | 3 | 1.3 | ϕ10 | |
| KFGS-3-120-D17-16 | ● | | | | |
| KFGS-3-120-D17-23 | ● | | | | |
| KFGS-3-120-D17-27 | ● | | | | |
| KFGS-2-120-D17-11 | ● | 2 | 1.2 | ϕ8 | |
| KFGS-2-120-D17-16 | ● | | | | |
| KFGS-2-120-D17-23 | ● | | | | |
| KFGS-2-120-D17-27 | ● | | | | |
| KFGS-1-120-D17-11 | ● | 1 | 1.1 | ϕ5 | |
| KFGS-1-120-D17-16 | ● | | | | |
| KFGS-1-120-D17-23 | ● | | | | |
| KFGS-1-120-D17-27 | ● | | | | |

## Biaxial, 0°/90° plane arrangement

Resistance: 120 Ω
Gage factor: Approx. 2.1

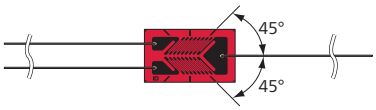



*The above picture is KFGS-2-120-D1-11.

| Models | Base Color | Gage (Grid) Length | Gage (Grid) Width | Base Length | Base Width | Remarks |
|---|---|---|---|---|---|---|
| KFGS-2-120-D1-11 | ● | 2 | 3.2 | 10 | 8.5 | |
| KFGS-2-120-D1-16 | ● | | | | | |
| KFGS-2-120-D1-23 | ● | | | | | |
| KFGS-2-120-D1-27 | ● | | | | | |

## Biaxial, 0°/90° plane arrangement (For torque measurement)

Resistance: 120 Ω
Gage factor: Approx. 2.1

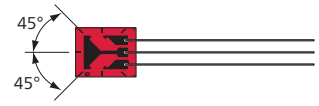
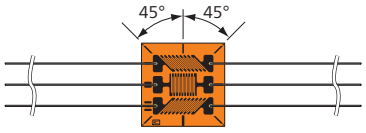
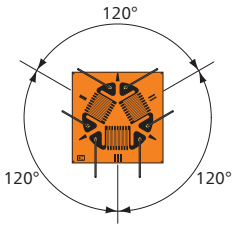
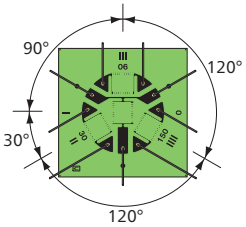



*The above picture is KFGS-2-120-D2-11.

| Models | Base Color | Gage (Grid) Length | Gage (Grid) Width | Base Length | Base Width | Remarks |
|---|---|---|---|---|---|---|
| KFGS-2-120-D2-11 | ● | 2 | 3.4 | 12 | 7 | |
| KFGS-2-120-D2-16 | ● | | | | | |
| KFGS-2-120-D2-23 | ● | | | | | |
| KFGS-2-120-D2-27 | ● | | | | | |

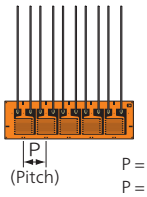
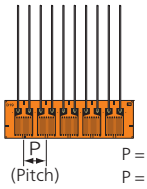
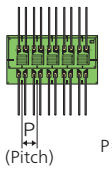
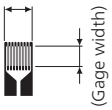
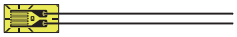
10 gages/pkg

# General-purpose Foil Strain Gages (KFGS)

| Patterns<br>Gage Resistance, Gage Factors | Models | Base Color | Dimensions (mm) Gage (Grid) Length | Gage (Grid) Width | Base Length | Base Width | Remarks |
|---|---|---|---|---|---|---|---|
| **Biaxial, 0°/90° plane arrangement (For torque measurement)**<br>Resistance: 120 Ω<br>Gage factor: Approx. 2.1 | | | | | | | |
| <br>*The above picture is KFGS-2-120-D31-11. | KFGS-2-120-D31-11<br>KFGS-2-120-D31-16<br>KFGS-2-120-D31-23<br>KFGS-2-120-D31-27 | ●<br>●<br>●<br>● | 2 | 1.2 | 8 | 6.5 | |
| **Triaxial, 0°/90°/45° plane arrangement**<br>Resistance: 120 Ω<br>Gage factor: Approx. 2.1 | | | | | | | |
| <br>*The above picture is KFGS-2-120-D3-16. | KFGS-2-120-D3-11<br>KFGS-2-120-D3-16<br>KFGS-2-120-D3-23<br>KFGS-2-120-D3-27 | ●<br>●<br>●<br>● | 2 | 3.6 | 11 | 11 | |
| **Triaxial, 0°/120°/240° plane arrangement**<br>Resistance: 120 Ω<br>Gage factor: Approx. 2.1 | | | | | | | |
| <br>*The above picture is KFGS-2-120-D4-16. | KFGS-2-120-D4-11<br>KFGS-2-120-D4-16<br>KFGS-2-120-D4-23<br>KFGS-2-120-D4-27 | ●<br>●<br>●<br>● | 2 | 3.4 | 12 | 12 | |
| | KFGS-1-120-D4-11<br>KFGS-1-120-D4-16<br>KFGS-1-120-D4-23<br>KFGS-1-120-D4-27 | ●<br>●<br>●<br>● | 1 | 1.7 | 7 | 7 | |
| **Quadraxial, 0°/30°/90°/150° plane arrangement**<br>Resistance: 120 Ω<br>Gage factor: Approx. 2.1 | | | | | | | |
| <br>*The above picture is KFGS-2-120-D6-23. | KFGS-2-120-D6-11<br>KFGS-2-120-D6-16<br>KFGS-2-120-D6-23<br>KFGS-2-120-D6-27 | ●<br>●<br>●<br>● | 2 | 3.1 | 17 | 17 | |
| **Uniaxial, with lead wires from both ends**<br>Resistance: 120 Ω<br>Gage factor: Approx. 2.1 | | | | | | | |
| <br>*The above picture is KFGS-1-120-C2-27. | KFGS-1-120-C2-11<br>KFGS-1-120-C2-16<br>KFGS-1-120-C2-23<br>KFGS-1-120-C2-27 | ●<br>●<br>●<br>● | 1 | 1.8 | 5.6 | 3 | |
| <br>*The above picture is KFGS-1-120-C3-27. | KFGS-1-120-C3-11<br>KFGS-1-120-C3-16<br>KFGS-1-120-C3-23<br>KFGS-1-120-C3-27 | ●<br>●<br>●<br>● | 1 | 1.8 | 5.5 | 2.7 | |

10 gages/pkg

# General-purpose Foil Strain Gages (KFGS)

| Patterns<br>Gage Resistance, Gage Factors | Models | Base Color | Dimensions (mm) Gage (Grid) Length | Gage (Grid) Width | Base Length | Base Width | Remarks |
|---|---|---|---|---|---|---|---|
| **Uniaxial (For shearing strain measurement)**<br>Resistance: 120 Ω<br>Gage factor: Approx. 2.1<br>Torque measurement is possible by using C15 and C16 in combination. | | | | | | | |
| <br>*The above picture is KFGS-2-120-C15-11. | KFGS-2-120-C15-11<br>KFGS-2-120-C15-16<br>KFGS-2-120-C15-23<br>KFGS-2-120-C15-27 | ●<br>●<br>●<br>● | 2 | 0.8 | 5.2 | 3 | |
| <br>*The above picture is KFGS-2-120-C16-11. | KFGS-2-120-C16-11<br>KFGS-2-120-C16-16<br>KFGS-2-120-C16-23<br>KFGS-2-120-C16-27 | ●<br>●<br>●<br>● | 2 | 0.8 | 5.2 | 3 | |
| **Uniaxial 5-element (For concentrated stress measurement)**<br>Resistance: 120 Ω<br>Gage factor: Approx. 2.1<br>Pre-attached type: 2 polyester-coated copper wires (10 cm) + the specified lead-wire cable | | | | | | | |
| <br>P (Pitch)<br>P = 3 mm for gage length 2 mm<br>P = 2 mm for gage length 1 mm<br>*The above picture is KFGS-2-120-D9-16 N10C2. | KFGS-2-120-D9-11<br>KFGS-2-120-D9-16<br>KFGS-2-120-D9-23<br>KFGS-2-120-D9-27 | ●<br>●<br>●<br>● | 2 | 2.2 | 17 | 5 | 5 gages/pkg |
| | KFGS-1-120-D9-11<br>KFGS-1-120-D9-16<br>KFGS-1-120-D9-23<br>KFGS-1-120-D9-27 | ●<br>●<br>●<br>● | 1 | 1.4 | 12 | 4 | 5 gages/pkg |
| <br>P (Pitch)<br>P = 3 mm for gage length 2 mm<br>P = 2 mm for gage length 1 mm<br>*The above picture is KFGS-2-120-D19-16 N10C2. | KFGS-2-120-D19-11<br>KFGS-2-120-D19-16<br>KFGS-2-120-D19-23<br>KFGS-2-120-D19-27 | ●<br>●<br>●<br>● | 2 | 2.5 | 17 | 5 | 5 gages/pkg |
| | KFGS-1-120-D19-11<br>KFGS-1-120-D19-16<br>KFGS-1-120-D19-23<br>KFGS-1-120-D19-27 | ●<br>●<br>●<br>● | 1 | 1.5 | 12 | 4 | 5 gages/pkg |
| **Biaxial 5-element, stacked rosette (For concentrated stress measurement)**<br>Resistance: 120 Ω<br>Gage factor: Approx. 2.1<br>Pre-attached type: 2 polyester-coated copper wires (10 cm) + the specified lead-wire cable | | | | | | | |
| <br>P (Pitch)<br>P=2 mm<br>(Gage length)<br><br>(Gage width)<br>Lower-side gage pattern<br>*The above picture is KFGS-1-120-D39-23 N10C2. | KFGS-1-120-D39-11<br>KFGS-1-120-D39-16<br>KFGS-1-120-D39-23<br>KFGS-1-120-D39-27 | ●<br>●<br>●<br>● | 1 | 1.4<br>(1.5) | 12 | 6.4 | Figures in ( ) are for lower-side gage patterns.<br>5 gages/pkg |
| **Uniaxial 60Ω gages**<br>Resistance: 60 Ω<br>Gage factor: Approx. 2.1<br>Use 2 gages in parallel connection. (Bending compensation is possible.) | | | | | | | |
| <br>*The above picture is KFGS-5-60-C1-27. | KFGS-5-60-C1-11<br>KFGS-5-60-C1-16<br>KFGS-5-60-C1-23<br>KFGS-5-60-C1-27 | ●<br>●<br>●<br>● | 5 | 2 | 10 | 3.4 | |
| <br>*The above picture is KFGS-2-60-C1-27. | KFGS-2-60-C1-11<br>KFGS-2-60-C1-16<br>KFGS-2-60-C1-23<br>KFGS-2-60-C1-27 | ●<br>●<br>●<br>● | 2 | 2.3 | 7.2 | 3.7 | |

10 gages/ pkg unless otherwise specified.

# General-purpose Foil Strain Gages (KFGS)

## Uniaxial 350Ω gages

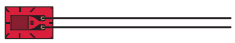
Resistance: 350 Ω
Gage factor: Approx. 2.1



*The above picture is KFGS-5-350-C1-11.



*The above picture is KFGS-3-350-C1-11.



*The above picture is KFGS-2-350-C1-11.

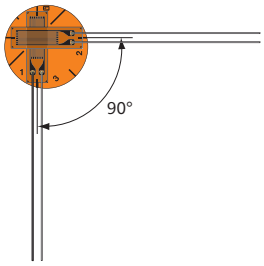


*The above picture is KFGS-1-350-C1-11.

| Models | Base Color | Gage (Grid) Length | Gage (Grid) Width | Base Length | Base Width | Remarks |
|---|---|---|---|---|---|---|
| KFGS-5-350-C1-11 | Red | 5 | 2 | 9.4 | 4.2 | |
| KFGS-5-350-C1-16 | Orange | | | | | |
| KFGS-5-350-C1-23 | Green | | | | | |
| KFGS-5-350-C1-27 | Yellow | | | | | |
| KFGS-3-350-C1-11 | Red | 3 | 2 | 7.4 | 4.2 | |
| KFGS-3-350-C1-16 | Orange | | | | | |
| KFGS-3-350-C1-23 | Green | | | | | |
| KFGS-3-350-C1-27 | Yellow | | | | | |
| KFGS-2-350-C1-11 | Red | 2 | 2 | 6.3 | 4.2 | |
| KFGS-2-350-C1-16 | Orange | | | | | |
| KFGS-2-350-C1-23 | Green | | | | | |
| KFGS-2-350-C1-27 | Yellow | | | | | |
| KFGS-1-350-C1-11 | Red | 1 | 2 | 4.8 | 3.4 | |
| KFGS-1-350-C1-16 | Orange | | | | | |
| KFGS-1-350-C1-23 | Green | | | | | |
| KFGS-1-350-C1-27 | Yellow | | | | | |

## Biaxial 350Ω gages, 0°/90° stacked rosette

Resistance: 350 Ω
Gage factor: Approx. 2.1

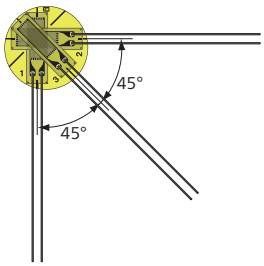



*The above picture is KFGS-5-350-D16-16.

| Models | Base Color | Gage (Grid) Length | Gage (Grid) Width | Base | Remarks |
|---|---|---|---|---|---|
| KFGS-5-350-D16-11 | Red | 5 | 2 | ϕ11 | |
| KFGS-5-350-D16-16 | Orange | | | | |
| KFGS-5-350-D16-23 | Green | | | | |
| KFGS-5-350-D16-27 | Yellow | | | | |
| KFGS-3-350-D16-11 | Red | 3 | 2 | ϕ10 | |
| KFGS-3-350-D16-16 | Orange | | | | |
| KFGS-3-350-D16-23 | Green | | | | |
| KFGS-3-350-D16-27 | Yellow | | | | |
| KFGS-2-350-D16-11 | Red | 2 | 2 | ϕ10 | |
| KFGS-2-350-D16-16 | Orange | | | | |
| KFGS-2-350-D16-23 | Green | | | | |
| KFGS-2-350-D16-27 | Yellow | | | | |
| KFGS-1-350-D16-11 | Red | 1 | 1.8 | ϕ8 | |
| KFGS-1-350-D16-16 | Orange | | | | |
| KFGS-1-350-D16-23 | Green | | | | |
| KFGS-1-350-D16-27 | Yellow | | | | |

## Triaxial 350Ω gages, 0°/90°/45° stacked rosette

Resistance: 350 Ω
Gage factor: Approx. 2.1

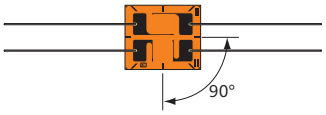
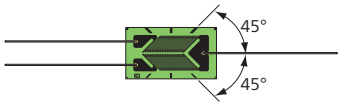
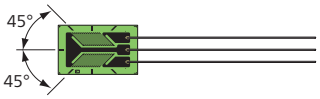
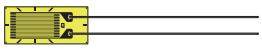
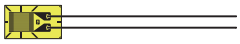
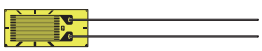
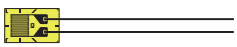



*The above picture is KFGS-5-350-D17-27.

| Models | Base Color | Gage (Grid) Length | Gage (Grid) Width | Base | Remarks |
|---|---|---|---|---|---|
| KFGS-5-350-D17-11 | Red | 5 | 2 | ϕ11 | |
| KFGS-5-350-D17-16 | Orange | | | | |
| KFGS-5-350-D17-23 | Green | | | | |
| KFGS-5-350-D17-27 | Yellow | | | | |
| KFGS-3-350-D17-11 | Red | 3 | 2 | ϕ10 | |
| KFGS-3-350-D17-16 | Orange | | | | |
| KFGS-3-350-D17-23 | Green | | | | |
| KFGS-3-350-D17-27 | Yellow | | | | |
| KFGS-2-350-D17-11 | Red | 2 | 2 | ϕ10 | |
| KFGS-2-350-D17-16 | Orange | | | | |
| KFGS-2-350-D17-23 | Green | | | | |
| KFGS-2-350-D17-27 | Yellow | | | | |
| KFGS-1-350-D17-11 | Red | 1 | 1.8 | ϕ8 | |
| KFGS-1-350-D17-16 | Orange | | | | |
| KFGS-1-350-D17-23 | Green | | | | |
| KFGS-1-350-D17-27 | Yellow | | | | |

10 gages/pkg

# General-purpose Foil Strain Gages (KFGS)

| Patterns<br>Gage Resistance, Gage Factors | Models | Base Color | Dimensions (mm) Gage (Grid) Length | Gage (Grid) Width | Base Length | Base Width | Remarks |
|---|---|---|---|---|---|---|---|
| **Biaxial 350Ω gages, 0°/90° plane arrangement**<br>Resistance: 350 Ω<br>Gage factor: Approx. 2.1 | | | | | | | |
| <br>*The above picture is KFGS-2-350-D1-16. | KFGS-2-350-D1-11<br>KFGS-2-350-D1-16<br>KFGS-2-350-D1-23<br>KFGS-2-350-D1-27 | ●<br>●<br>●<br>● | 2 | 3 | 10 | 8.5 | |
| **Biaxial 350Ω gages 0°/90° plane arrangement (For torque measurement)**<br>Resistance: 350 Ω<br>Gage factor: Approx. 2.1 | | | | | | | |
| <br>*The above picture is KFGS-2-350-D2-23. | KFGS-2-350-D2-11<br>KFGS-2-350-D2-16<br>KFGS-2-350-D2-23<br>KFGS-2-350-D2-27 | ●<br>●<br>●<br>● | 2 | 4 | 12 | 6.8 | |
| <br>*The above picture is KFGS-2-350-D31-23. | KFGS-2-350-D31-11<br>KFGS-2-350-D31-16<br>KFGS-2-350-D31-23<br>KFGS-2-350-D31-27 | ●<br>●<br>●<br>● | 2 | 3 | 10.5 | 6.5 | |
| **Uniaxial 500Ω gages (For making transducers)**<br>Resistance: 500 Ω<br>Gage factor: Approx. 2.1 | | | | | | | |
| <br>*The above picture is KFGS-5-500-C1-27. | KFGS-5-500-C1-11<br>KFGS-5-500-C1-16<br>KFGS-5-500-C1-23<br>KFGS-5-500-C1-27 | ●<br>●<br>●<br>● | 5 | 3.5 | 11 | 4.9 | |
| <br>*The above picture is KFGS-2-500-C1-27. | KFGS-2-500-C1-11<br>KFGS-2-500-C1-16<br>KFGS-2-500-C1-23<br>KFGS-2-500-C1-27 | ●<br>●<br>●<br>● | 2 | 2.6 | 7.5 | 4.4 | |
| **Uniaxial 1000Ω gages (For making transducers)**<br>Resistance: 1000 Ω<br>Gage factor: Approx. 2.1 | | | | | | | |
| <br>*The above picture is KFGS-5-1K-C1-27. | KFGS-5-1K-C1-11<br>KFGS-5-1K-C1-16<br>KFGS-5-1K-C1-23<br>KFGS-5-1K-C1-27 | ●<br>●<br>●<br>● | 5 | 3.5 | 11 | 4.9 | |
| <br>*The above picture is KFGS-2-1K-C1-27. | KFGS-2-1K-C1-11<br>KFGS-2-1K-C1-16<br>KFGS-2-1K-C1-23<br>KFGS-2-1K-C1-27 | ●<br>●<br>●<br>● | 2 | 3 | 7.2 | 4.5 | |

10 gages/pkg

# General-purpose Foil Strain Gages (KFGS)

| Patterns<br>Gage Resistance, Gage Factors | Models | Base Color | Dimensions (mm) | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | Gage (Grid) | | Base | | |
| | | | Length | Width | Length | Width | |

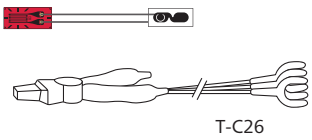
## ●KFGS Series Foil Strain Gages with Gage Terminal

### Uniaxial

RoHS

Resistance: 120 Ω
Gage factor: Approx. 2.1

KFGS gages equipped with a gage terminal enable one-touch-connection/disconnection of the lead-wire cable. They are suitable for residual stress measurement with the cutting method. A clip-equipped dedicated cable T-C26 (Vinyl-coated, 2 m long) is optionally available.



T-C26

(When the clip-equipped dedicated cable is used, the operating temperature range of each adhesive after curing is –10 to 80°C.)

*The above picture is KFGS-2-120-C1-11 T-F7.

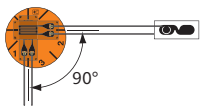
Applicable Adhesives

| | Operating Temp. after Curing the Adhesive | | Operating Temp. after Curing the Adhesive |
|---|---|---|---|
| CC-36 | –30 to 100°C | CC-35 | –30 to 120°C |
| CC-33A | –196 to 120°C | EP-340 | –55 to 120°C |

| | | | | | | |
|---|---|---|---|---|---|---|
| KFGS-2-120-C1-11 T-F7 | ● | 2 | 1.2 | 6.3 | 2.8 | ϕ0.14 Polyester-coated copper cable 15 mm long |
| KFGS-2-120-C1-16 T-F7 | ● | | | | | |
| KFGS-2-120-C1-23 T-F7 | ● | | | | | |
| KFGS-1-120-C1-11 T-F7 | ● | 1 | 1.1 | 4.8 | 2.4 | ϕ0.14 Polyester-coated copper cable 15 mm long |
| KFGS-1-120-C1-16 T-F7 | ● | | | | | |
| KFGS-1-120-C1-23 T-F7 | ● | | | | | |

### Biaxial, 0°/90° stacked rosette

Resistance: 120 Ω
Gage factor: Approx. 2.1

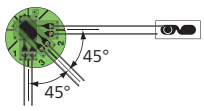



*The above picture is KFGS-2-120-D16-16 T-F7.

| | | | | | | |
|---|---|---|---|---|---|---|
| KFGS-2-120-D16-11 T-F7 | ● | 2 | 1.2 | ϕ8 | | ϕ0.14 Polyester-coated copper cable 15 mm long |
| KFGS-2-120-D16-16 T-F7 | ● | | | | | |
| KFGS-2-120-D16-23 T-F7 | ● | | | | | |
| KFGS-1-120-D16-11 T-F7 | ● | 1 | 1.1 | ϕ5 | | ϕ0.14 Polyester-coated copper cable 15 mm long |
| KFGS-1-120-D16-16 T-F7 | ● | | | | | |
| KFGS-1-120-D16-23 T-F7 | ● | | | | | |

### Triaxial, 0°/90°/45° stacked rosette

Resistance: 120 Ω
Gage factor: Approx. 2.1




*The above picture is KFGS-2-120-D17-23 T-F7.

| | | | | | | |
|---|---|---|---|---|---|---|
| KFGS-2-120-D17-11 T-F7 | ● | 2 | 1.2 | ϕ8 | | ϕ0.14 Polyester-coated copper cable 15 mm long |
| KFGS-2-120-D17-16 T-F7 | ● | | | | | |
| KFGS-2-120-D17-23 T-F7 | ● | | | | | |
| KFGS-1-120-D17-11 T-F7 | ● | 1 | 1.1 | ϕ5 | | ϕ0.14 Polyester-coated copper cable 15 mm long |
| KFGS-1-120-D17-16 T-F7 | ● | | | | | |
| KFGS-1-120-D17-23 T-F7 | ● | | | | | |

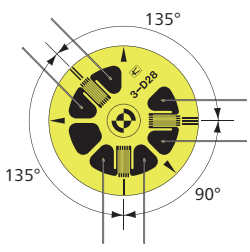
## ●KFGS Series Foil Strain Gages for Boring Method

### Triaxial, 0°/135°/90° plane arrangement

RoHS

Resistance: 120 Ω
Gage factor: Approx. 2.1

Designed to measure residual stress released by the boring method.




For KFGS gages with the lead-wire cable pre-attached, see page 1-18.

*The above picture is KFGS-3-120-D28-27.

Applicable Adhesives

| | Operating Temp. after Curing the Adhesive | | Operating Temp. after Curing the Adhesive |
|---|---|---|---|
| CC-33A | –196 to 120°C | EP-340 | –55 to 150°C |
| CC-35 | –30 to 120°C | PC-600 | –196 to 150°C |
| CC-36 | –30 to 100°C | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| KFGS-3-120-D28-11 | ● | 3 | 2 | ϕ19.8 | | Diameter of gage center ϕ10.8 |
| KFGS-3-120-D28-16 | ● | | | | | |
| KFGS-3-120-D28-23 | ● | | | | | |
| KFGS-3-120-D28-27 | ● | | | | | |
| KFGS-1.5-120-D28-11 | ● | 1.5 | 1.3 | ϕ12 | | Diameter of gage center ϕ5.5 |
| KFGS-1.5-120-D28-16 | ● | | | | | |
| KFGS-1.5-120-D28-23 | ● | | | | | |
| KFGS-1.5-120-D28-27 | ● | | | | | |

10 gages/ pkg unless otherwise specified.