

Waterproof Strain Gages

KFW/KFWS/KCW

● KFW Waterproof Foil Strain Gages

KFW series foil strain gages have a surface covered by a special resin to provide a waterproof structure (thickness of the waterproof resin layer: approx. 2mm). The waterproof structure enables the user to use these gages outdoors or underwater simply by bonding them to the measuring object with adhesives (operation for over 100 hours under an underwater pressure of approximately 10MPa causes virtually no deterioration of the insulation resistance). In addition, the resin is flexible enough to easily apply these gages on a curved surface.

Applicable Adhesives and Operating Temperature Ranges

CC-33A: -10 to 80°C EP-18: -10 to 80°C

● KFWS Small-sized Waterproof Foil Strain Gages

Small-sized waterproof foil strain gages in the KFWS series are suitable for outdoor or underwater strain measurement where the gage bonding space is limited. The waterproof resin layer made as thin as 1.3mm is flexible to permit sticking onto a curved surface of 10mm diameter.

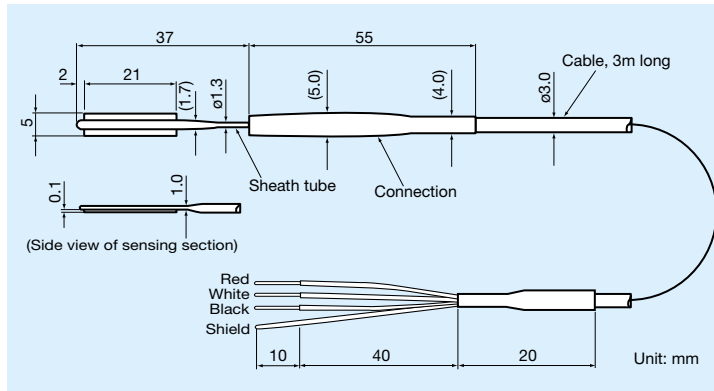
Applicable Adhesives and Operating Temperature Ranges

CC-33A: -10 to 80°C EP-18: -10 to 80°C

● KCW Weldable Waterproof Foil Strain Gage

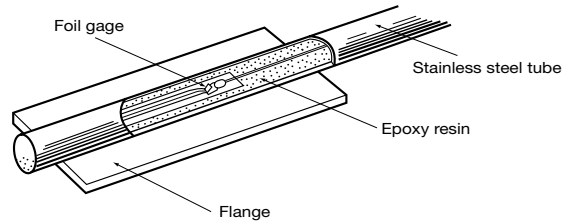
The KCW weldable foil strain gage ensures easy handling in the field. The gage does not require coating for use under severe high-pressure or underwater environments. It can endure a water pressure of approximately 10MPa. The operating temperature range is -20 to 100°C and the gage provides a self-temperature-compensating capability (1-gage 3-wire system). Mounting: Spot welding (applicable welding machine: GW-3C with a capacity of 20W-second)

■ Dimensions



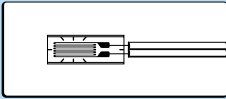
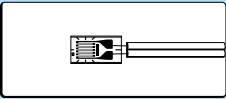
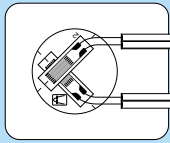
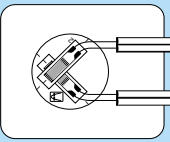
■ Structure

The foil strain gage comes in a stainless steel tube and is completely molded with epoxy resin.

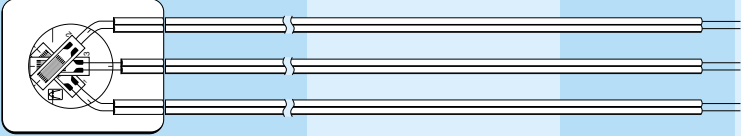
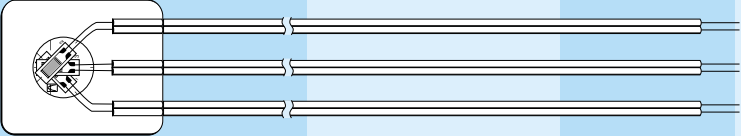


KFW Gages ■ Waterproof Foil Strain Gages

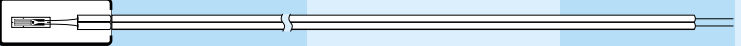

(All come with leadwires. When ordering, specify the length and type of leadwires.)

Pattern (Virtually on Full Size)	Model	Dimensions (mm)				Resistance (Ω)	Gage Factor (Approx.)	Gages per Pack	Remarks
		Grid Length	Grid Width	Base Length	Base Width				
■ Uniaxial, 120Ω  Models for 16 and 23 can also be manufactured.	With vinyl-coated 2-wire/3-wire cable 15, 30, 50cm, 1, 2, 3, 4, 5, 6, 8, 10, 15, 20 or 30m long. Listed below are models with a vinyl-coated 2-wire flat cable 1m long.							350Ω model can also be manufactured with a slight difference in dimensions from 120Ω model.	
KFW-5-120-C1-11 L1M2R	5	2	30	12	120	2.1	10		
 Models for 16 and 23 can also be manufactured.	KFW-2-120-C1-11 L1M2R	2	2.3	30	12	120	2.1	10	
■ Biaxial, 0°/90° stacked rosette, 120Ω  Models for 16 and 23 can also be manufactured.	With vinyl-coated 2-wire/3-wire cable 15, 30, 50cm, 1, 2, 3, 4, 5, 6, 8, 10, 15, 20 or 30m long. Listed below are those with a vinyl-coated 2-wire flat cable 1m long.							350Ω model can also be manufactured with a slight difference in dimensions from 120Ω model.	
KFW-5-120-D16-11 L1M2S	5	2	21	18	120	2.1	5		
 Models for 16 and 23 can also be manufactured.	KFW-2-120-D16-11 L1M2S	2	1.4	21	18	120	2.1	5	

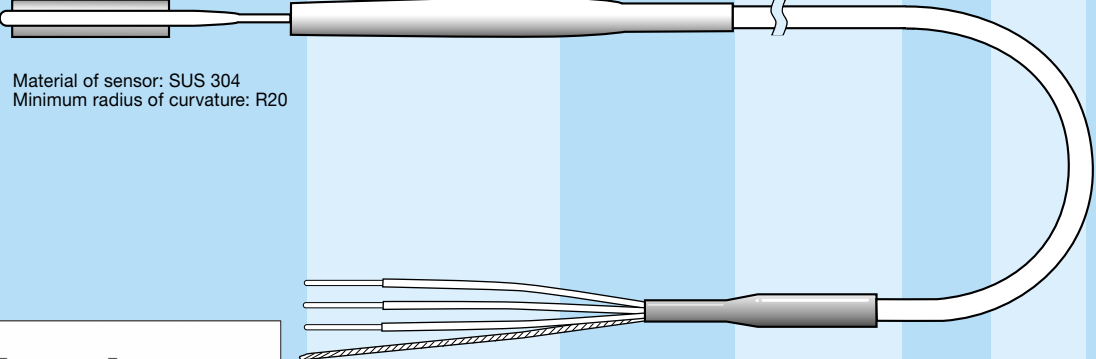
KFW Gages ■ Waterproof Foil Strain Gages

Pattern (Virtually on Full Size)	Model	Dimensions (mm)		Base		Resistance (Ω)	Gage Factor (Approx.)	Gages per Pack	Remarks
		Grid Length	Width	Length	Width				
<p>■ Triaxial, 0°/90°/45°, 120Ω</p>  <p>With vinyl-coated 2-wire/3-wire cable 15, 30, 50cm, 1, 2, 3, 4, 5, 6, 8, 10, 15, 20 or 30m long. Listed below are models with a vinyl-coated 2-wire cable 5m long.</p> <p>Models for 16 and 23 can also be manufactured.</p>	KFW-5-120-D17-11 L5M2S	5	2	21	18	120	2.1	5	350 Ω model can also be manufactured with a slight difference in dimensions from 120 Ω model.
 <p>Models for 16 and 23 can also be manufactured.</p>	KFW-2-120-D17-11 L5M2S	2	1.4	21	18	120	2.1	5	

KFWS Gages ■ Small-sized Waterproof Foil Strain Gages (All come with leadwire cable. When ordering, specify the length and type of cable.)

<p>■ Uniaxial, 120Ω</p>  <p>With vinyl-coated 2-wire/3-wire cable 15, 30, 50cm, 1, 2, 3, 4, 5, 6, 8, 10, 15, 20 or 30m long. Listed below is the model with a vinyl-coated 2-wire cable 5m long.</p> <p>Models for 16 and 23 can also be manufactured.</p>	KFWS-2N-120-C1-11 L5M2R	2	0.84	15	6	120	2.1	10	
<p>■ Biaxial, 0°/90° stacked rosette, 120Ω</p>  <p>With vinyl-coated 2-wire/3-wire cable, 15, 30, 50cm, 1, 2, 3, 4, 5, 6, 8, 10, 15, 20 or 30m long Listed below is the model with a vinyl-coated 2-wire cable 5m long.</p> <p>Models for 16 and 23 can also be manufactured.</p>	KFWS-2-120-D16-11 L5M2S	2	1,2	15	12	120	2.1	10	

KCW Gages ■ Weldable Waterproof Foil Strain Gages (This gage comes with polyethylene-coated 3-wire cross-link cable. When ordering, specify the length of cable.)

<p>■ Uniaxial, 1-element, 120Ω</p>  <p>Material of sensor: SUS 304 Minimum radius of curvature: R20</p> <p>With polyethylene-coated 3-wire cross-link cable 15, 30, 50cm, 1, 2, 3, 4, 5, 6, 8, 10, 15, 20 or 30m long. Listed below is the model with a polyethylene-coated 3-wire cross-link cable 3m long.</p>	KCW-5-120-CG10-11 G3M3S	5		21	5	120	2.2	2	
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