

# Waterproof Strain Gages

# KFW

- Gage Factor Approx. 2.1
- Applicable Linear Expansion Coefficients 11, 16, 23
- Self-temperature-compensation Range 0 to 80°C

### Applicable Adhesives and Operating Temperature Ranges

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

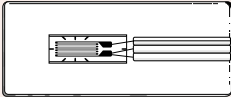
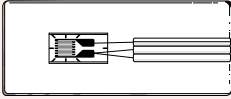

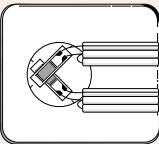
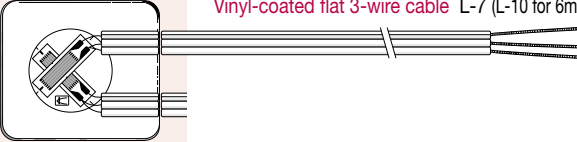
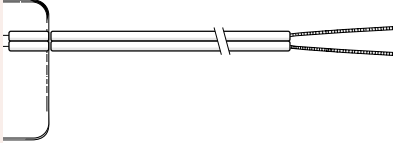
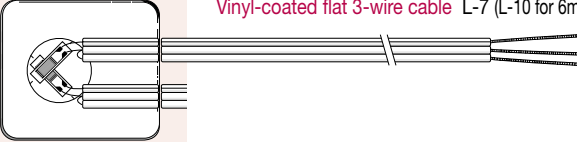
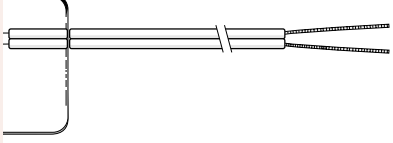
## Waterproof Foil Strain Gages

The KFW gages have the surface covered with a special resin for waterproofing. The waterproof structure enables these gages to serve for outdoor or underwater measurement merely by being bonded to measuring objects. The insulation resistance shows virtually no deterioration even after 100 hours of use under an underwater pressure of approximately 10MPa (100kgf/cm<sup>2</sup>). In addition, the covering resin is flexible enough to enable easy bonding to curved surfaces.

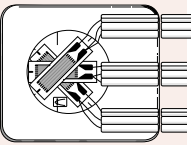

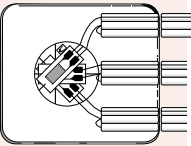

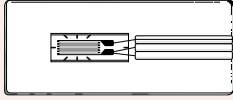
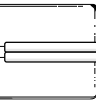
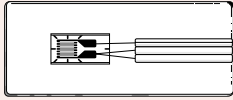
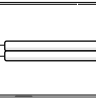
### Types, lengths and codes of leadwire cables pre-attached to KFW gages

Type Length	Vinyl-coated flat 2-wire cable		Vinyl-coated flat 3-wire cable	
	C1	D16, D17	C1	D16, D17
15 cm	L15C2R	L15C2S	L15C3R	L15C3S
30	L30C2R	L30C2S	L30C3R	L30C3S
50	L50C2R	L50C2S	L50C3R	L50C3S
1 m	L1M2R	L1M2S	L1M3R	L1M3S
2	L2M2R	L2M2S	L2M3R	L2M3S
3	L3M2R	L3M2S	L3M3R	L3M3S
4	L4M2R	L4M2S	L4M3R	L4M3S
5	L5M2R	L5M2S	L5M3R	L5M3S
6	L6M2R	L6M2S	L6M3R	L6M3S
8	L8M2R	L8M2S	L8M3R	L8M3S
10	L10M2R	L10M2S	L10M3R	L10M3S
15	L15M2R	L15M2S	L15M3R	L15M3S
20	L20M2R	L20M2S	L20M3R	L20M3S
30 m	L30M2R	L30M2S	L30M3R	L30M3S
Oprg. temp. range	-10 to 80°C			
Remarks	L-6; L-9 for 6m or longer		L-7; L-10 for 6m or longer	

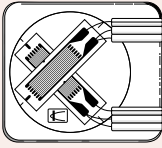
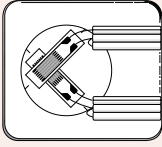
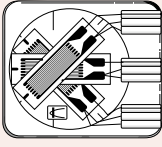
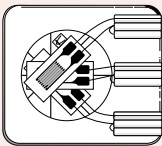
# KFW Gages ● Uniaxial 120Ω/Biaxial 120Ω

Pattern	Leadwire Cable – Type and Shape	Operating Temp. Range	Leadwire Length	Model
<b>KFW-5-120-C1-11</b> 16 23  <b>Uniaxial</b> ● Base Size 30 x 12 mm ● Gage Length 5 mm ● Gage Resistance 120Ω ● Pieces per Pack 10	 Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-5-120-C1-11 L1M3R
			3m	KFW-5-120-C1-11 L3M3R
			5m	KFW-5-120-C1-11 L5M3R
	 Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-5-120-C1-11 L1M2R
			3m	KFW-5-120-C1-11 L3M2R
			5m	KFW-5-120-C1-11 L5M2R
<b>KFW-2-120-C1-11</b> 16 23  <b>Uniaxial</b> ● Base Size 30 x 12 mm ● Gage Length 2 mm ● Gage Resistance 120Ω ● Pieces per Pack 10	 Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-2-120-C1-11 L1M3R
			3m	KFW-2-120-C1-11 L3M3R
			5m	KFW-2-120-C1-11 L5M3R
	 Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-2-120-C1-11 L1M2R
			3m	KFW-2-120-C1-11 L3M2R
			5m	KFW-2-120-C1-11 L5M2R
<b>KFW-5-120-D16-11</b> 16 23  <b>Biaxial, 0°/90° stacked rosette</b> ● Base Size 21 x 18 mm ● Gage Length 5 mm ● Gage Resistance 120Ω ● Pieces per Pack 5	 Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-5-120-D16-11 L1M3S
			3m	KFW-5-120-D16-11 L3M3S
			5m	KFW-5-120-D16-11 L5M3S
	 Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-5-120-D16-11 L1M2S
			3m	KFW-5-120-D16-11 L3M2S
			5m	KFW-5-120-D16-11 L5M2S
<b>KFW-2-120-D16-11</b> 16 23  <b>Biaxial, 0°/90° stacked rosette</b> ● Base Size 21 x 18 mm ● Gage Length 2 mm ● Gage Resistance 120Ω ● Pieces per Pack 5	 Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-2-120-D16-11 L1M3S
			3m	KFW-2-120-D16-11 L3M3S
			5m	KFW-2-120-D16-11 L5M3S
	 Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-2-120-D16-11 L1M2S
			3m	KFW-2-120-D16-11 L3M2S
			5m	KFW-2-120-D16-11 L5M2S

# KFW Gages ● Triaxial 120Ω/Uniaxial 350Ω

Pattern	Leadwire Cable – Type and Shape	Operating Temp. Range	Leadwire Length	Model	
<b>KFW-5-120-D17-11</b> Triaxial, 0°/90°/45° stacked rosette ● Base Size 21 x 18 mm ● Gage Length 5 mm ● Gage Resistance 120Ω ● Pieces per Pack 5	 Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-5-120-D17-11 L1M3S	
			3m	KFW-5-120-D17-11 L3M3S	
			5m	KFW-5-120-D17-11 L5M3S	
		 Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-5-120-D17-11 L1M2S
				3m	KFW-5-120-D17-11 L3M2S
				5m	KFW-5-120-D17-11 L5M2S
<b>KFW-2-120-D17-11</b> Triaxial, 0°/90°/45° stacked rosette ● Base Size 21 x 18 mm ● Gage Length 2 mm ● Gage Resistance 120Ω ● Pieces per Pack 5	 Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-2-120-D17-11 L1M3S	
			3m	KFW-2-120-D17-11 L3M3S	
			5m	KFW-2-120-D17-11 L5M3S	
		 Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-2-120-D17-11 L1M2S
				3m	KFW-2-120-D17-11 L3M2S
				5m	KFW-2-120-D17-11 L5M2S
<b>KFW-5-350-C1-11</b> Uniaxial ● Base Size 30 x 12 mm ● Gage Length 5 mm ● Gage Resistance 350Ω ● Pieces per Pack 10	 Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-5-350-C1-11 L1M3R	
			3m	KFW-5-350-C1-11 L3M3R	
			5m	KFW-5-350-C1-11 L5M3R	
		 Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-5-350-C1-11 L1M2R
				3m	KFW-5-350-C1-11 L3M2R
				5m	KFW-5-350-C1-11 L5M2R
<b>KFW-2-350-C1-11</b> Uniaxial ● Base Size 30 x 12 mm ● Gage Length 2 mm ● Gage Resistance 350Ω ● Pieces per Pack 10	 Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-2-350-C1-11 L1M3R	
			3m	KFW-2-350-C1-11 L3M3R	
			5m	KFW-2-350-C1-11 L5M3R	
		 Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-2-350-C1-11 L1M2R
				3m	KFW-2-350-C1-11 L3M2R
				5m	KFW-2-350-C1-11 L5M2R

# KFW Gages ● Biaxial 350Ω/Triaxial 350Ω

Pattern	Leadwire Cable - Type and Shape	Operating Temp. Range	Leadwire Length	Model	
 <p><b>KFW-5-350-D16-11</b> 16 Biaxial, 0°/90° stacked rosette</p> <ul style="list-style-type: none"> <li>● Base Size 21 x 18 mm</li> <li>● Gage Length 5 mm</li> <li>● Gage Resistance 350Ω</li> <li>● Pieces per Pack 5</li> </ul>	Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-5-350-D16-11 L1M3S	
				3m	KFW-5-350-D16-11 L3M3S
				5m	KFW-5-350-D16-11 L5M3S
		Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-5-350-D16-11 L1M2S
				3m	KFW-5-350-D16-11 L3M2S
				5m	KFW-5-350-D16-11 L5M2S
 <p><b>KFW-2-350-D16-11</b> 16 Biaxial, 0°/90° stacked rosette</p> <ul style="list-style-type: none"> <li>● Base Size 21 x 18 mm</li> <li>● Gage Length 2 mm</li> <li>● Gage Resistance 350Ω</li> <li>● Pieces per Pack 5</li> </ul>	Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-2-350-D16-11 L1M3S	
				3m	KFW-2-350-D16-11 L3M3S
				5m	KFW-2-350-D16-11 L5M3S
		Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-2-350-D16-11 L1M2S
				3m	KFW-2-350-D16-11 L3M2S
				5m	KFW-2-350-D16-11 L5M2S
 <p><b>KFW-5-350-D17-11</b> 16 Triaxial, 0°/90°/45° stacked rosette</p> <ul style="list-style-type: none"> <li>● Base Size 21 x 18 mm</li> <li>● Gage Length 5 mm</li> <li>● Gage Resistance 350Ω</li> <li>● Pieces per Pack 5</li> </ul>	Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-5-350-D17-11 L1M3S	
				3m	KFW-5-350-D17-11 L3M3S
				5m	KFW-5-350-D17-11 L5M3S
		Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-5-350-D17-11 L1M2S
				3m	KFW-5-350-D17-11 L3M2S
				5m	KFW-5-350-D17-11 L5M2S
 <p><b>KFW-2-350-D17-11</b> 16 Triaxial, 0°/90°/45° stacked rosette</p> <ul style="list-style-type: none"> <li>● Base Size 21 x 18 mm</li> <li>● Gage Length 2 mm</li> <li>● Gage Resistance 350Ω</li> <li>● Pieces per Pack 5</li> </ul>	Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer)	-10 to 80°C	1m	KFW-2-350-D17-11 L1M3S	
				3m	KFW-2-350-D17-11 L3M3S
				5m	KFW-2-350-D17-11 L5M3S
		Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)	-10 to 80°C	1m	KFW-2-350-D17-11 L1M2S
				3m	KFW-2-350-D17-11 L3M2S
				5m	KFW-2-350-D17-11 L5M2S