

High-elongation Gages (KFEM & KFEL)



Strain Gages

Outline

Lead-wire cable

General

Waterproof

Concrete

Composite material
PCB
Plastics

Ultra-small strain
High temp.
Low temp.

High elongation

Non-
magnetoiresistive

Hydrogen gas
Bending

With protector
Embedded

Crack

Adhesive
Coating agent

Custom-
designed

Patterns, Gage Resistance, Gage Factor	Models	Dimensions (mm)				Remarks
		Gage (Grid)		Base		
		Length	Width	Length	Width	

●KFEM Series Ultrahigh-elongation Foil Strain Gages

RoHS

When ordering, suffix the lead-wire cable code (see table at the right) to the model number with a space in between.
E.g.
For the gage with a vinyl-coated flat 2-wire cable 10 m long pre-attached
→ **KFEM-5-120-C1 L10M2R**

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

*Strain limit of 20% to 30% is ensured for simple tension applied to the gage bonded on stainless steel (SUS 304) or aluminum alloy (A1050) at normal temperature.

*Strain limit will be decreased under the following conditions.

- In case of bonding to non-adhesive materials such as aluminum alloy (A7075) and plastics (Polypropylene)
- In case of the targets have discontinuous distortion, or any crack on its surface
- In case of measurement at high/low temperature.

Uniaxial

Resistance: 120 Ω
Gage factor: Approx. 2.0



Applicable Adhesive

	Operating Temp. after Curing the Adhesive
CC-36	-20 to 80°C

■Types, lengths and codes of lead-wire cables pre-attached to KFEM gages

Type	2 polyester-coated copper wires	Vinyl-coated flat 2-wire cable	Vinyl-coated flat 3-wire cable
Length	C1		
15 cm	N15C2	L15C2R	L15C3R
30 cm	N30C2	L30C2R	L30C3R
1 m	N1M2	L1M2R	L1M3R
3 m	—	L3M2R	L3M3R
5 m	—	L5M2R	L5M3R
Operating temp.	-20 to 80°C		-10 to 80°C
Remarks	Twisted for ≥ 50 cm	L-6, L-9 for ≥ 6 m	L-7, L-10 for ≥ 6 m

*** For other lead-wire cable lengths, contact us.**

KFEM-10-120-C1	10.0	2.5	17.5	4.5
KFEM-5-120-C1	5.0	1.5	11.5	3.0
KFEM-2-120-C1	2.0	1.5	8.5	3.0
KFEM-1-120-C1	1.0	1.3	7.0	2.5

Patterns, Gage Resistance, Gage Factor	Models	Dimensions (mm)				Remarks
		Gage (Grid)		Base		
		Length	Width	Length	Width	

●KFEL Series High-elongation Foil Strain Gages

RoHS

When ordering, suffix the lead-wire cable code (see table at the right) to the model number with a space in between.
E.g.
For the gage with a vinyl-coated flat 2-wire cable 10 m long pre-attached
→ **KFEL-5-120-C1 L10M2R**
For the gage with a vinyl-coated flat 3-wire cable 5 m long pre-attached
→ **KFEL-5-120-D35 L5M3S**

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

Uniaxial

Resistance: 120 Ω
Gage factor: Approx. 2.1



Applicable Adhesive

	Operating Temp. after Curing the Adhesive
CC-36	-10 to 80°C

■Types, lengths and codes of lead-wire cables pre-attached to KFEL gages

Type	2 polyester-coated copper wires	Vinyl-coated flat 2-wire cable		Vinyl-coated flat 3-wire cable	
Length	C1, D34, and D35	C1	D34, D35	C1	D34, D35
15 cm	N15C2	L15C2R	L15C2S	L15C3R	L15C3S
30 cm	N30C2	L30C2R	L30C2S	L30C3R	L30C3S
1 m	N1M2	L1M2R	L1M2S	L1M3R	L1M3S
3 m	—	L3M2R	L3M2S	L3M3R	L3M3S
5 m	—	L5M2R	L5M2S	L5M3R	L5M3S
Operating temp.	-10 to 80°C				
Remarks	Twisted for ≥ 50 cm	L-6, L-9 for ≥ 6 m		L-7, L-10 for ≥ 6 m	

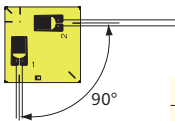
*** For other lead-wire cable lengths, contact us.**

Note: Besides the usual surface treatment with sandpaper, the gage bonding surface should be treated with the surface treatment agent S-9B if the gage is bonded to non-adhesive plastics such as polyethylene and polypropylene. Then, bond the gage using the adhesive CC-36. For S-9B and bonding conditions for other special materials, contact us.

KFEL-5-120-C1	5	2.1	11	3.5
KFEL-2-120-C1	2	2.1	8	4

Bi-axial, 0°/90°

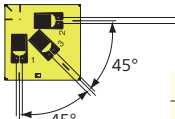
Resistance: 120 Ω
Gage factor: Approx. 2.1



KFEL-5-120-D34	5	2.1	13	13
KFEL-2-120-D34	2	2.1	10	10

Tri-axial, 0°/90°/45°

Resistance: 120 Ω
Gage factor: Approx. 2.1



KFEL-5-120-D35	5	2.1	13	13
KFEL-2-120-D35	2	2.1	10	10