# **High-elongation Strain Gages**



#### Gage Factor

Approx.2.1

Applicable Adhesive and Operating Temperature Range CC-36: -10 to 80°C

### High-elongation Foil Strain Gages

Developed to measure strain in elastic to plastic regions on structures, the KFEL gages can measure strain as large as 10 to 15% with simple tension strain. Thus, these gages are applicable for large strain measurement and destructive testing of metals (steel, stainless steel and aluminum) and plastics (polyethylene and polypropylene).

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

|                   |                                 |  | 00       |                                |          |  |
|-------------------|---------------------------------|--|----------|--------------------------------|----------|--|
| Туре              | 2 polyester-coated copper wires | Vinyl-coated flat 2-wire cable                       |          | Vinyl-coated flat 3-wire cable |          |  |
| Length            | C1, D34, D35                    | C1   | D34, D35 | C1                             | D34, D35 |  |
| 2 cm              | N2C2                            |  |          |                                |          |  |
| 3                 | N3C2                            |  |          |                                |          |  |
| 4                 | N4C2                            |  |          |                                |          |  |
| 5                 | N5C2                            |  |          |                                |          |  |
| 10                | N10C2                           |  |          |                                |          |  |
| 15                | N15C2                           | L15C2R   | L15C2S   | L15C3R                         | L15C3S   |  |
| 30                | N30C2                           | L30C2R   | L30C2S   | L30C3R                         | L30C3S   |  |
| 50                | N50C2                           | L50C2R   | L50C2S   | L50C3R                         | L50C3S   |  |
| 1 m               | N1M2                            | 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           | Twisted for 50cm and 1m long    | L-6; L-9 for 6m or longer L-7; L-10 for 6m or longer |          |                                |          |  |

## **KFEL Gages** • Uniaxial 120 $\Omega$

| Pattern  | Leadwire Cable – Type and Shape                            | Operating<br>Temp.<br>Range | Leadwire<br>Length | Model               |
|--|--|-----------------------------|--------------------|---------------------|
| KFEL-5-120-C1  | Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer) |                             | 1m                 | KFEL-5-120-C1 L1M3R |
|  |  | –10<br>to 80°C              | 3m                 | KFEL-5-120-C1 L3M3R |
|  |  |                             | 5m                 | KFEL-5-120-C1 L5M3R |
|  | Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)  |                             | 1m                 | KFEL-5-120-C1 L1M2R |
|  |  | −10<br>to 80°C              | 3m                 | KFEL-5-120-C1 L3M2R |
|  |  |                             | 5m                 | KFEL-5-120-C1 L5M2R |
|  | 2 polyester-coated copper wires                            |                             | 30cm               | KFEL-5-120-C1 N30C2 |
|  |  | -10<br>to 80°C              | 50cm               | KFEL-5-120-C1 N50C2 |
|  |  |                             | 1m                 | KFEL-5-120-C1 N1M2  |
| UniaxialBase Size11 x 3.5 mmGage Length5 mm  | Silver-clad copper wires                                   | –10<br>to 80°C              | 25mm               | KFEL-5-120-C1       |
| <ul> <li>Gage Resistance 120Ω</li> <li>Pieces per Pack 10</li> </ul>                 |  |                             |                    |                     |
| KFEL-2-120-C1  | Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer) |                             | 1m                 | KFEL-2-120-C1 L1M3R |
|  |  | –10<br>to 80°C              | 3m                 | KFEL-2-120-C1 L3M3R |
|  |  |                             | 5m                 | KFEL-2-120-C1 L5M3R |
|  | Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)  |                             | 1m                 | KFEL-2-120-C1 L1M2R |
|  |  | –10<br>to 80°C              | 3m                 | KFEL-2-120-C1 L3M2R |
|  |  |                             | 5m                 | KFEL-2-120-C1 L5M2R |
|  | 2 polyester-coated copper wires                            |                             | 30cm               | KFEL-2-120-C1 N30C2 |
|  |  | –10<br>to 80°C              | 50cm               | KFEL-2-120-C1 N50C2 |
|  |  |                             | 1m                 | KFEL-2-120-C1 N1M2  |
| Uniaxial● Base Size8 x 4 mm● Gage Length2 mm● Gage Resistance120Ω● Pieces per Pack10 | Silver-clad copper wires                                   | –10<br>to 80°C              | 25mm               | KFEL-2-120-C1       |

## **KFEL Gages** • Biaxial 120 $\Omega$

| Pattern   | Leadwire Cable – Type and Shape                            | Operating<br>Temp.<br>Range | Leadwire<br>Length | Model                |
|---|--|-----------------------------|--------------------|----------------------|
| KFEL-5-120-D34  | Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer) |                             | 1m                 | KFEL-5-120-D34 L1M3S |
|   |  | –10<br>to 80°C              | 3m                 | KFEL-5-120-D34 L3M3S |
|   |  |                             | 5m                 | KFEL-5-120-D34 L5M3S |
|   | Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)  |                             | 1m                 | KFEL-5-120-D34 L1M2S |
|   |  | –10<br>to 80°C              | 3m                 | KFEL-5-120-D34 L3M2S |
|   |  |                             | 5m                 | KFEL-5-120-D34 L5M2S |
|   | 2 polyester-coated copper wires                            | -10<br>to 80°C              | 30cm               | KFEL-5-120-D34 N30C2 |
|   |  |                             | 50cm               | KFEL-5-120-D34 N50C2 |
|   |  |                             | 1m                 | KFEL-5-120-D34 N1M2  |
| Biaxial, 0°/90°● Base Size13 x 13 mm● Gage Length5 mm● Gage Resistance120Ω● Pieces per Pack10 | Silver-clad copper wires                                   | -10<br>to 80°C              | 25mm               | KFEL-5-120-D34       |
| KFEL-2-120-D34  | Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer) | -10<br>to 80°C              | 1m                 | KFEL-2-120-D34 L1M3S |
|   |  |                             | 3m                 | KFEL-2-120-D34 L3M3S |
|   |  |                             | 5m                 | KFEL-2-120-D34 L5M3S |
|   | Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)  |                             | 1m                 | KFEL-2-120-D34 L1M2S |
|   |  | –10<br>to 80°C              | 3m                 | KFEL-2-120-D34 L3M2S |
|   |  |                             | 5m                 | KFEL-2-120-D34 L5M2S |
|   | 2 polyester-coated copper wires                            |                             | 30cm               | KFEL-2-120-D34 N30C2 |
|   |  | –10<br>to 80°C              | 50cm               | KFEL-2-120-D34 N50C2 |
|   |  |                             | 1m                 | KFEL-2-120-D34 N1M2  |
| Biaxial, 0°/90°● Base Size10 x 10 mm● Gage Length2 mm● Gage Resistance120Ω● Pieces per Pack10 | Silver-clad copper wires                                   | -10<br>to 80°C              | 25mm               | KFEL-2-120-D34       |

### **KFEL Gages** • Triaxial 120 $\Omega$

| Pattern  | Leadwire Cable – Type and Shape                            | Operating<br>Temp.<br>Range | Leadwire<br>Length | Model                |
|--|--|-----------------------------|--------------------|----------------------|
| KFEL-5-120-D35   | Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer) | –10<br>to 80°C              | 1m                 | KFEL-5-120-D35 L1M3S |
|  |  |                             | 3m                 | KFEL-5-120-D35 L3M3S |
|  |  |                             | 5m                 | KFEL-5-120-D35 L5M3S |
|  | Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)  | -10<br>to 80°C              | 1m                 | KFEL-5-120-D35 L1M2S |
|  |  |                             | 3m                 | KFEL-5-120-D35 L3M2S |
|  |  |                             | 5m                 | KFEL-5-120-D35 L5M2S |
|  | 2 polyester-coated copper wires                            | –10<br>to 80°C              | 30cm               | KFEL-5-120-D35 N30C2 |
|  |  |                             | 50cm               | KFEL-5-120-D35 N50C2 |
|  |  |                             | 1m                 | KFEL-5-120-D35 N1M2  |
| Triaxial, 0°/90°/45°Base Size13 x 13 mmGage Length5 mm   | Silver-clad copper wires                                   | –10<br>to 80°C              | 25mm               | KFEL-5-120-D35       |
| <ul> <li>Gage Resistance 120Ω</li> <li>Pieces per Pack 10</li> </ul>                               |  |                             |                    |                      |
| KFEL-2-120-D35   | Vinyl-coated flat 3-wire cable L-7 (L-10 for 6m or longer) | −10<br>to 80°C              | 1m                 | KFEL-2-120-D35 L1M3S |
|  |  |                             | 3m                 | KFEL-2-120-D35 L3M3S |
|  |  |                             | 5m                 | KFEL-2-120-D35 L5M3S |
|  | Vinyl-coated flat 2-wire cable L-6 (L-9 for 6m or longer)  |                             | 1m                 | KFEL-2-120-D35 L1M28 |
|  |  | –10<br>to 80°C              | 3m                 | KFEL-2-120-D35 L3M2S |
|  |  |                             | 5m                 | KFEL-2-120-D35 L5M28 |
|  | 2 polyester-coated copper wires                            |                             | 30cm               | KFEL-2-120-D35 N30C2 |
|  |  | –10<br>to 80°C              | 50cm               | KFEL-2-120-D35 N50C2 |
|  |  |                             | 1m                 | KFEL-2-120-D35 N1M2  |
| Triaxial, 0°/90°/45°● Base Size10 x 10 mm● Gage Length2 mm● Gage Resistance120Ω● Pieces per Pack10 | Silver-clad copper wires                                   | –10<br>to 80°C              | 25mm               | KFEL-2-120-D35       |
|  |  |                             |                    |                      |