



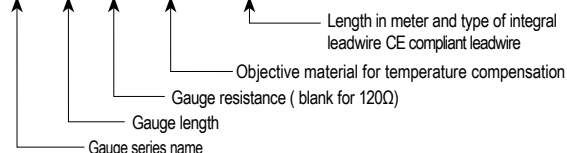
# High Temperature Strain Gauges ZF series C€

These strain gauges are designed for measurement in high temperature up to 300°C. It utilizes specially designed Ni-Cr alloy foil for the grid and polyimide resin for the gauge backing. Owing to the construction, the strain gauges are successfully used for measurement in high temperature.

|                                |                      |
|--------------------------------|----------------------|
| Operating temperature range    | Applicable adhesives |
| -20~+300°C                     | NP-50 -20~+300°C     |
| Temperature compensation range | C-1/EB-2 -20~+200°C  |
| +10~+100°C                     | CN -20~+120°C        |

Please specify the type number as shown in the example below.

**ZFLA -6 (-350) -11 -6FA3LT-F**



Objective material for temperature compensation  
(coefficient of linear thermal expansion  $\times 10^{-6}/^{\circ}\text{C}$ )

-11: Mild steel -17: Stainless steel -23: Aluminium

Note: The backing color of ZF series gauges are the same for every material for temperature compensation.

| Gauge pattern                            | Type              | Gauge size(mm)<br>Length Width |     | Backing size(mm)<br>Length Width |      | Resistance Ω |
|--|-------------------|--------------------------------|-----|----------------------------------|------|--------------|
| <b>●Single axis</b><br>                  | Single axis       |                                |     |                                  |      |              |
|  | ZFLK-2            | 2                              | 0.5 | 5.4                              | 1.4  | 120          |
|  | ZFLA-1            | 1                              | 1.8 | 7                                | 3    | 120          |
|  | ZFLA-3            | 3                              | 1.8 | 10.5                             | 3.5  | 120          |
|  | ZFLA-6            | 6                              | 2.5 | 15.5                             | 4.5  | 120          |
|  | ZFLA-3-60         | 3                              | 0.7 | 7.7                              | 2.6  | 60           |
|  | ZFLA-1-350        | 1                              | 1.7 | 6.6                              | 3.2  | 350          |
|  | ZFLA-3-350        | 3                              | 3.1 | 10.2                             | 5.2  | 350          |
|  | ZFLA-6-350        | 6                              | 2.8 | 16                               | 5.3  | 350          |
| <b>●0°/90° 2-axis Plane type</b><br>     | 0°/90° 2-axis     |                                |     |                                  |      |              |
|  | ZFCA-1-350        | 1                              | 1.7 | 8.5                              | 8.5  | 350          |
|  | ZFCA-3-350        | 3                              | 1.4 | 10.5                             | 10.5 | 350          |
| <b>●0°/45°/90° 3-axis Plane type</b><br> | 0°/45°/90° 3-axis |                                |     |                                  |      |              |
|  | ZFRA-1-350        | 1                              | 1.7 | 8.5                              | 8.5  | 350          |
|  | ZFRA-3-350        | 3                              | 1.4 | 10.5                             | 10.5 | 350          |
| <b>●Stacked type</b><br>                 | Stacked type      |                                |     |                                  |      |              |
|  | ZFCAL-1           | 1                              | 1.1 | Φ5.4                             |      | 120          |
|  | ZFRA-1-350        | 1                              | 1.7 | 8.5                              | 8.5  | 350          |
|  | ZFRA-3-350        | 3                              | 1.4 | 10.5                             | 10.5 | 350          |
|  | ZFRAL-1           | 1                              | 1.1 | Φ5.4                             |      | 120          |

Minimum order quantity is 10 strain gauges.

## Dedicated leadwire recommended for ZF series strain gauges

We supply various leadwires dedicated to strain gauges so as to meet our customers' requirements. Please refer to page 32 to 40 for the details of combination of a strain gauge and a leadwire. For CE marked strain gauges, only the leadwires using lead-free solder are available.

### Type and designation of leadwires

| Usage            | Leadwire name   | Operating temperature range of leadwire (°C) | Type number example    |
|------------------|---|--|------------------------|
| High temperature | 3-wire twisted fluorinated resin (FEP) leadwire 6FA □ LT-F              | -269~+200                                    | ZFLA-3-350-11-6FA3LT-F |
|                  | 3-wire twisted fluorinated resin (FEP) single-core leadwire 6FB □ LT-F  |  | ZFLA-3-350-11-6FB3LT-F |
|                  | 3-wire twisted fluorinated resin (PTFE) leadwire 4FA □ LT-F             | -269~+260                                    | ZFLA-3-350-11-4FA3LT-F |
|                  | 3-wire twisted fluorinated resin (PTFE) single-core leadwire 4FB □ LT-F |  | ZFLA-3-350-11-4FB3LT-F |

NB: □ shows the lead wire length in meter