ALTHEN SENSORS & CONTROLS

ε Series "GF"

plastics

Description

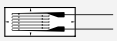
Compatible adhesive & Operational temperature
CN: - 20~ + 80°C

Operational temperature -20~+80°C
Temperature compensation range approximately +10~+80°C

LOW ELASTIC MATERIALS - PLASTICS USE

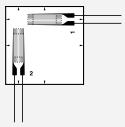
This gauge is suited for measurement on materials such as plastics having low elastic modulus compared to metal. Its specially designed grid reduces the tightening effect of the gauge to the specimen material.

●Single-element (G.F. 2.1 approx.)



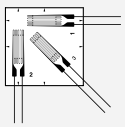
GFLA-3

●90° 2-element Cross (G.F. 2.1 approx.)
Plane type



GFCA-3

●45° /90° 3-element Rosette (G.F. 2.1 approx.)
Plane type



GFRA-3

Each package contains 10 gauges.

Gauge pattern		Type	Gauge size L	Gauge size W	Backing L	Backing W	Resistance in Ω
			L : length		W : width (Unit : mm)		
	Single-element	GFLA-3-50 -70	3	2.3	9.5	4.0	120
		GFLA-6-50 -70	6	2.5	14.0	5.0	120
		GFLA-3-350-50 -70	3	2.9	10.0	5.0	350
		GFLA-6-350-50 -70	6	2.7	15.0	5.0	350
	90° 2-element Cross, Plane type	GFCA-3-50 -70	3	1.7	10.5	10.5	120
		GFCA-3-350-50 -70	3	2.9	15.0	15.0	350
	45° /90° 3-element Rosette, Plane type	GFRA-3-50 -70	3	1.7	10.5	10.5	120
		GFRA-3-350-50 -70	3	2.9	15.0	15.0	350
			50: Epoxy resin 70:Acrylic resin, ABS resin				

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Leadwire-integrated GF series (made-to-order)

Operational temperature range varies with different materials of lead wire outer sheath. Before use, be sure of the temperature range for lead wire.

Lead wires	Operational temperature range	Gauge type examples	Colors of Lead wire
2-wire Parallel vinyl wire	-20~+80°C	L: GFLA-3-50-3L	Grey
3-wire Parallel vinyl wire	-20~+80°C	LT: GFLA-3-50-3LT	Blue stripe (independent)

Information

- **Effect of test specimen elastic modulus**
  The gauge factor of strain gauges is tested at the elastic modulus for steel of 206GPa equivalent to 21000kgf/mm^2. When a strain gauge is installed on materials such as plastic that have a low elastic modulus, the stress distribution where the gauge is installed is distorted, which has the effect of reducing the gauge factor. This phenomenon is referred to as the strain gauge constraint effect and increases as the elastic modulus of the test specimen decreases. For materials with an elastic modulus of 2.9GPa equivalent to 300kgf/mm$_2$ or less, a preparatory test must be conducted separately to correct the gauge factor.

- **Effect of Joule's heat generation**
  GF series gauges have a originated gauge pattern designed to reduce an effect of Joule's heat. In general, strain gauges have an allowable current of 30mA for metallic specimens, while 10mA or less should be applied to plastic materials.