MAGNETIC FIELD STRAIN GAUGES series MF

Suffix code for temperature compensation materials
-11: Mild steel -17: Stainless steel -23: Aluminium

For ordering, the above suffix code should be added to the basic gauge type.

Applicable adhesives for single element

CN/CN-E	–20 ~ +80°C
RP-2	–20 ~ +80°C

Applicable adhesives for 2-/3-element Stacked Rosette

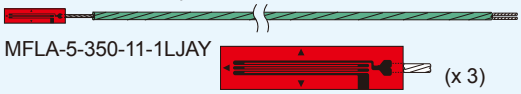
CN/CN-E	–20 ~ +120°C
NP-50B/EB-2/C-1	–20 ~ +200°C

MAGNETIC FIELD USE

These gauges are designed for strain measurement in magnetic field. The gauges have a sensing element material which exhibits low magnetoresistance. In addition, the sensing element consists of two identical grids with one grid folded back on another. These construction makes the strain gauges less sensitive to the influence of the alternating field. The gauges have a twisted leadwire pre-attached which is also effective to avoid the influence of the alternating field. The 2-element and 3-element rosette gauges of this series are usable in high temperature up to 200°C.

Single element

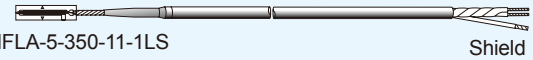
0.08mm² integral stranded vinyl leadwire of 1m -LJAY
Total leadwire resistance per meter : 0.44Ω



MFLA-5-350-11-1LJAY (x 3)

Shielded leadwire

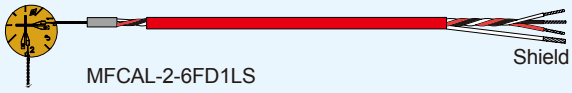
ϕ 3.2mm 2-core shielded stranded vinyl leadwire of 1m
Total leadwire resistance per meter : 0.44Ω



MFLA-5-350-11-1LS Shield

0°/90° 2-element Stacked Rosette

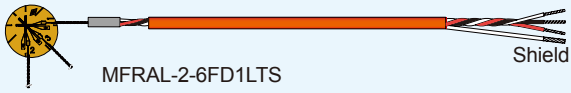
ϕ 1.5mm 0.04mm² 3-wire twisted fluorinated resin insulated lead-wire of 1m
Total leadwire resistance per meter : 1.1Ω



MFCAL-2-6FD1LS Shield

0°/45°/90° 3-element Stacked Rosette

ϕ 1.5mm 0.04mm² 3-wire twisted fluorinated resin insulated lead-wire of 1m
Total leadwire resistance per meter : 1.1Ω



MFRAL-2-6FD1LTS Shield

Concrete structure use

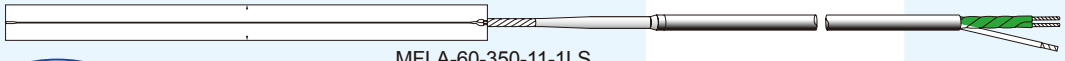
Temperature-compensation is not available.

0.08mm² integral stranded vinyl leadwire of 1m
Total leadwire resistance per meter : 0.44Ω

MFLA-60-350-1LJAY

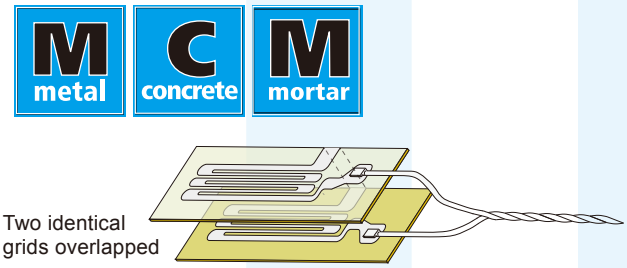
Shielded leadwire

ϕ 3.2mm 2-core shielded stranded vinyl leadwire of 1m
Total leadwire resistance per meter : 0.44Ω



MFLA-60-350-11-1LS

Gauge pattern	Basic type	Gauge size L	Gauge size W	Backing L	Backing W	Resistance Ω
Single element	Minimum order is 10 gauges or more.					
	MFLA-2-350-11	2	0.5	4.7	1.9	350
	MFLA-5-350-11	5	0.5	7.9	1.9	350
2-element Rosette/3-element Rosette	Minimum order is 10 gauges or more.					
0°/90° 2-element Stacked Rosette						
	MFCAL-2-6FD-1LTS	2	0.1	ϕ7		120
	MFCAL-2-350-6FD1LTS	2	0.2	ϕ7		350
0°/45°/90° 3-element Stacked Rosette						
	MFRAL-2-6FD-1LTS	2	0.1	ϕ7		120
	MFRAL-2-350-6FD1LTS	2	0.2	ϕ7		350
Single element	Minimum order is 10 gauges or more.					
	MFLA- 60-350	60	0.1	64	5	350



Two identical grids overlapped

Single element
Operating temperature range –20°C +80°C

Integral leadwire lengths longer than 1m are available for single element gauges. For 2-element and 3-element rosette gauges, no other length than 1m is available.

2-element Rosette/3-element Rosette
Operating temperature range
–20°C +200°C

Single element
Operating temperature range –20°C +80°C

Point

Countermeasure againt Noise interference in magnetic field

If you are not using magnetic field strain gauge, use a strain gauge with a narrow gauge width. A narrow gauge width reduces the induced voltage on the gauge leads and is preferable to a wide strain gauge.

The parallel leadwires used in normal strain measurement are affected by induction. Always use twisted wires. The intertwining of twisted wires cancels out the induced voltage that is generated. Using shielded leadwires also prevents interference from noise.

Connection

If you extend the leadwires, locate the connection as far as possible from the magnetic field. Bridge boxes should also be placed as far as possible from the magnetic field. If you do connect the wires inside the magnetic field, keep the length of the connecting wire (A) short and the distance between the leads (B) small.