

Data sheet - strain gauges

Thin film material *W*, adjustment *D*

Technical specifications	unit	
Thin film material		NiCr
thickness	nm	100-200
Carrier material		Polyimide
thickness	µm	50±5
moisture absorption	%	approx. 1
Cover material		Polyimide, adhesive
thickness	µm	40±7,5
Pads material		Ti, W, Ni, Au
thickness	nm	200-400
Adjustment		D
Temperature response adjust to	ppm/K	10-14
range	°C	-10 - 85
tolerance	ppm/K	±0,5
Reference temperature	°C	23
Operating temperature range	°C	-40 - 200
Nominal resistance (e.g.: LM02)	Ω	>300
Resistance tolerance**	%	±0,5

	unit	
Gauge factor** (e.g.: LM02)		1,9
Gauge factor-longitudinal**		1,9
Gauge factor-transversal**		-0,02
Gauge factor tolerance** (related to gauge factor-long.)	%	±5
Maximum elongation	µm/m	5000
Number of load cycles (±1100µm/m, drift <30µm/m)		>>10 Mio.
Radius of curvature, inner radius	mm	>6
outer radius	mm	>6
Requirement bonding materials max. curing temperature	°C	165
max. curing pressure	bar	2-4
max. after curing temperature	°C	200
Requirement solder max. soldering temperature	°C	300
max. duration	s	<3

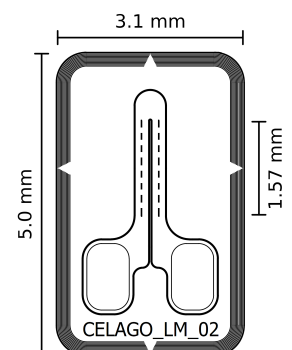
Note: *Optionally stated on the packaging (option *P*).
 **Optionally on packaging with tighter tolerance limits specified (option *P*).

Available types

Strain gauge-type		Grid-length	Overall-length	Overall-width	Nominal resistance
LM01	Linear SG	2,80 mm	8,0 mm	4,0 mm	from 700 Ω
LM02		1,57 mm	5,0 mm	3,1 mm	from 300 Ω
LM03		1,57 mm	5,0 mm	3,1 mm	from 3,5 kΩ
LM06		1,0 mm	3,0 mm	1,0 mm	from 100 Ω
LM07		1,57 mm	5,0 mm	3,1 mm	from 15 kΩ
SM01_R	Shear SG	1,57 mm	5,0 mm	2,5 mm	from 350 Ω
SM01_L		1,57 mm	5,0 mm	2,5 mm	from 350 Ω
TR01	T-ro- sette	0,80 mm	8,4 mm	2,0 mm	from 400 Ω
PM01	Half- bridge	1,15 mm	10,0 mm	2,0 mm	from 1 kΩ
VB04	Full- bridge	2,0 mm	8,0 mm	8,0 mm	from 1 kΩ
VB05		2,0 mm	8,0 mm	8,0 mm	from 350 Ω
VB06		2,0 mm	8,0 mm	8,0 mm	from 4 kΩ
MR01	Membrane rosette	2,0 mm (radial)	20,0 mm	20,0 mm	from 4 kΩ

Linear and shear strain gauges are also available as double strain gauges (SG) or chain SG. Customized designs can be made on request. The freedom of form is not related only on measuring grid size and position, but in particular on the foil shape.

Example of a linear strain gauge in the LM02 version:



Grid length: 1,57 mm
 Overall length: 5,0 mm
 Overall width: 3,1 mm

Further information as well as an overview of possible custom made can be found in our product and service catalogue at www.celago-sensors.de.

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CeLaGo Sensors GmbH
 Eschberger Weg 46, 66121 Saarbrücken, Germany
 Phone: +49 (0)681 85787 - 660
 Email: info@celago-sensors.de
WWW.CELAGO-SENSORS.DE

