

PRECISION STRAIN GAGE RECTANGULAR CORNER ROSETTES AND RESIDUAL STRESS PATTERN

Custom-Designed
Strain Gages
Available!
No Minimum Quantities.
Consult Engineering.



To Order

GAGE PATTERN Leads not shown	MODEL NO. Pkg of 10	NOM. RESISTANCE (Ω)	DIMENSIONS mm (inch) [†]				MAX PERMITTED BRIDGE ENERGIZING VOLTAGE (Vrms)	TERMINATION	TEMP COMP	TERM PAD
			GRID		CARRIER					
			A	B	C	D				
RECTANGULAR CORNER ROSETTE										
<p>Shown actual size, 27 mm, leads not shown</p>	SGD-13/120-RY91	120	11.0 (0.433)	5.0 (0.197)	27.0 (0.06)	27.0 (0.06)	15	Ribbon Leads	ST	BPT-6
	SGD-13/120-RY93	120	Corner rosette extra-large 120 Ω				20	Ribbon Leads	AL	
	SGD-13/120-RY21	120					15	Solder Pads	ST	
	SGD-13/120-RY23	120					20	Solder Pads	AL	

Open-face gages available. Consult Pressure Sales and Engineering.

Note: For strain gage accessories, visit us online.

Ordering Example: SGD-13/120-RY91, 120 Ω nominal-resistance strain gage.

NOTE
ST = Steel
AL = Aluminum

To Order

GAGE PATTERN Leads not shown	MODEL NO. Pkg of 10	NOM. RESISTANCE (Ω)	DIMENSIONS mm (inch) [†]				MAX PERMITTED BRIDGE ENERGIZING VOLTAGE (Vrms)	TERMINATION	TEMP COMP	TERM PAD
			GRID		CARRIER					
			A	B	C	D				
RESIDUAL STRESS PATTERN ROSETTE										
<p>Shown actual size, 10.5 mm</p>	SGD-1.5/120-SR11	120	1.20 (0.047)	1.33 (0.052)	10.50 (0.413)	10.50 (0.413)	2.5	Ribbon Leads	ST	BPT-6
	SGD-1.5/120-SR13	120	Residual stress pattern 120 Ω				3.5	Ribbon Leads	AL	
	SGD-1.5/120-SR41	120					2.5	Solder Pads	ST	
	SGD-1.5/120-SR43	120					3.5	Solder Pads	AL	



DISCOUNT SCHEDULE

1 to 10 pkgs.	Net
11 to 24 pkgs.	5%
25 to 49 pkgs.	10%
50 and up and OEM . .	Consult Factory

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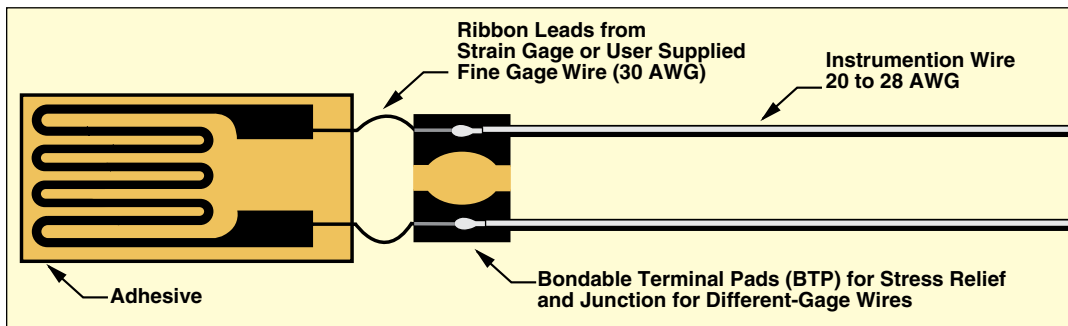
Ordering Example: SGD-1.5/120-SR11, 120 Ω nominal-resistance strain gage.

OMEGA offers stress relief or residual stress pattern strain gages. These strain gages are mounted onto a test piece

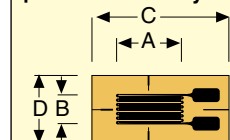
that is already stressed. Instrumentation is attached to all 3 elements in the rosette. The stress magnitude is determined by unloading the test specimen by boring-out or drilling a

small hole in the center of the strain gage. By removing material you are releasing the stress, and measuring the relaxed residual stress in the vicinity of the hole. Hole diameter and depth is 1.85 mm (0.07")

TYPICAL STRAIN GAGE INSTALLATION



† Dimensions Key:



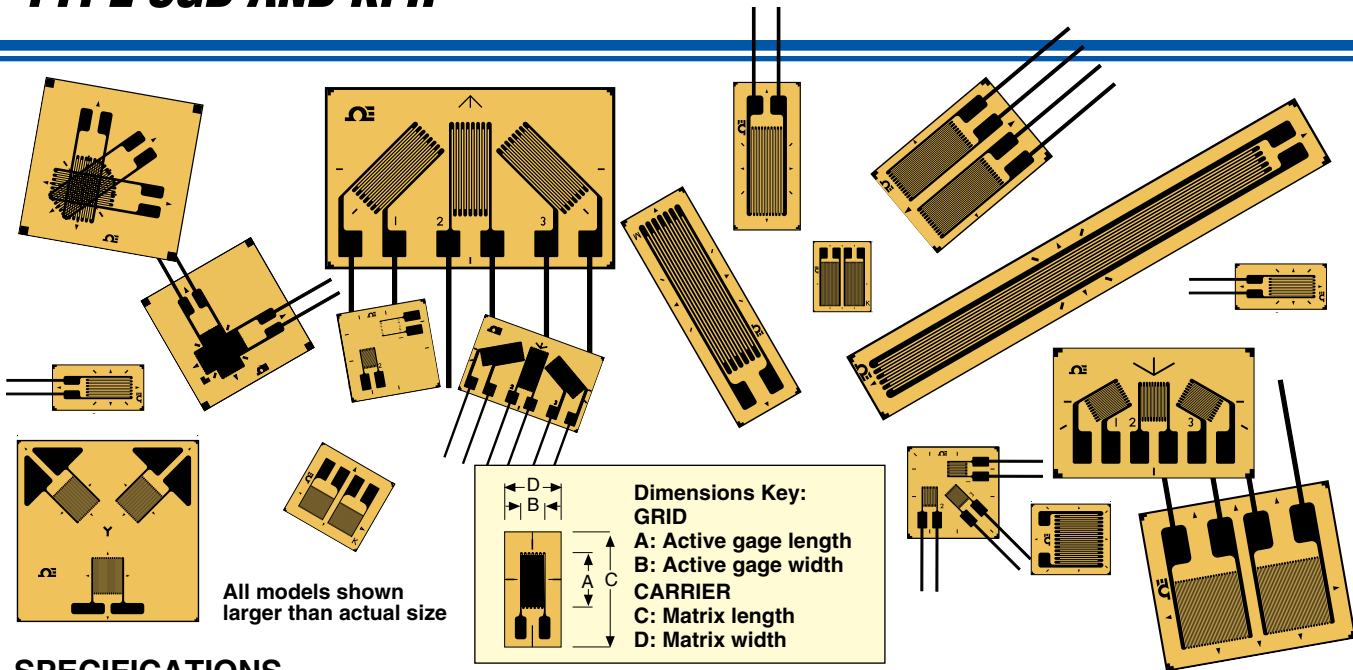
GRID
A: Active gage length
B: Active gage width
CARRIER
C: Matrix length
D: Matrix width

STRAIN GAGES
E

PRECISION STRAIN GAGE

PRECISION SPECIFICATIONS CHART

TYPE SGD AND KFH



SPECIFICATIONS

	SGD SERIES	KFH SERIES—PRE-WIRED
Foil Measuring Grid	Constantan foil 5 microns thick	Constantan foil 6 microns thick
Carrier	Polyimide	Kapton®
Substrate Thickness	20 microns	15 microns
Cover Thickness	25 microns	9 microns
Connection Dimensions: mm (inch)	Solder pads or ribbon leads, tinned copper flat wire 30 L x 0.1 D x 0.3 mm W (1.2 x 0.004 x 0.012")	Pre-wired, 2 or 3 leads 27 AWG strand polyvinyl insulation 1 x 2 mm (0.04 x 0.08")
Nominal Resistance	Stated in "To Order" box	120 ±0.4 or 350 Ω
Resistance Tolerance Per Package	±0.15% to ±0.5% depending on gage spec	0.3%
Gage Factor (Actual Value Printed on Each Package)	2.0 ±5%	2.10 ±10%
Gage Factor Tolerance Per Package	1.00%	1.00%
THERMAL PROPERTIES		
Reference Temperature	23°C (73°F)	23°C (73°F)
SERVICE TEMPERATURE		
Static Measurements	-75 to 200°C (-100 to 392°F)	-20 to 100°C (-4 to 212°F)
Dynamic Measurements	-75 to 200°C (-100 to 392°F)	-20 to 100°C (-4 to 212°F)
TEMPERATURE CHARACTERISTICS		
Steel (and Certain Stainless Steels)	11 ppm/°C (6.1 ppm/°F)	10.8 ppm/°C (6 ppm/°F)
Aluminum	23 ppm/°C (12.8 ppm/°F)	—
Uncompensated	±20 ppm/°C (11.1 ppm/°F)	—
Temperature Compensated Range	-5 to 120°C (5 to 248°F)	10 to 80°C (50 to 176°F)
Tolerance of Temp Compensation	2 ppm/°C (1.0 ppm/°F)	1 ppm/°C (0.5 ppm/°F)
MECHANICAL PROPERTIES		
Maximum Strain	3% or 30,000 microstrain	5% or 50,000 microstrain
Hysteresis	Negligible	Negligible
Fatigue (at ±1500 microstrain)	>10,000,000 cycles	>10,000,000 cycles
Smallest Bending Radius	3 mm (1/8")	3 mm (1/8")
Transverse Sensitivity	—	Stated on each package