

Strain Gauged Bolt Sensor



FEATURES

- 1/4, 1/2 or full bridge
- Sealed to IP65
- Built to order.

APPLICATIONS

- Test rigs
- Research and development
- Where there is limited space where traditional load cells cannot be used

DESCRIPTION

The S-SGBS is a strain gauged bolt. There are two options: (i) Externally strain gauged: This is done by reducing the outer diameter on the shank of the bolt and applying a full bridge to this reduced area, or, (ii) Internally strain gauged: This is done by spark eroding a 1.6mm hole down the centre of the bolt and applying a single strain gauge on the neutral axis. The build specification will be established during the quotation stage as there are plenty of options available. The bolts can be load calibrated using PCM's calibration facility.

TYPICAL SPECIFICATION

PARAMETER	VALUE	UNITS
Capacity	To suit the bolt size	$\mu\epsilon$
Rated Output	Dependant on bolt size and diameter	mV/V
Linearity & non repeatability	Typically 0.25% depending on bolt quality	$\pm\%$ of Rated Output
Zero Return after 30 minutes	0.15	$\pm\%$ of Applied Load
Zero Balance	1.5	$\pm\%$ of Rated Output
Temperature Range: Operating	-30 to +80	$^{\circ}\text{C}$
Temperature Effect: On zero	0.2	$\mu\text{V}/\text{V}/^{\circ}\text{C}$
Safe Overload	150	% of Rated Capacity
Ultimate Overload	300	% of Rated Capacity
Excitation: Recommended	10	Volts AC or DC
Excitation: Maximum	15	
Input Impedance	120–350 nominal	ohm
Output Impedance	120–350 nominal	ohm
Insulation Resistance	>2	G Ω at 50VDC
Deflection at Rated Capacity	NA	mm
Weight (approximate) :	NA	kg
Construction	Steel—depending on bolt	
Environmental Protection	IP65	
Cable	Optional	