



# Bolt Strain Gauges BTM series

These gauges are used for measurement of tensile strain of bolt. They are simply inserted into pre-drilled hole in the bolt with exclusive adhesives. This method is recommendable when an ordinary strain gauges can not be mounted on the bolt surface. Accurate tensile force measurement is possible by calibrating the bolt after installing the bolt gauges.

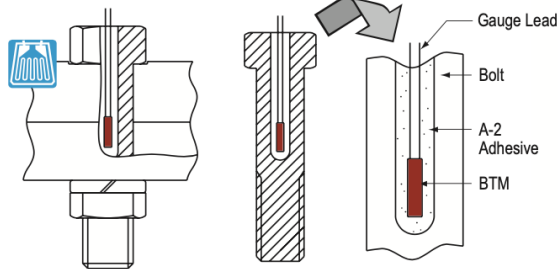
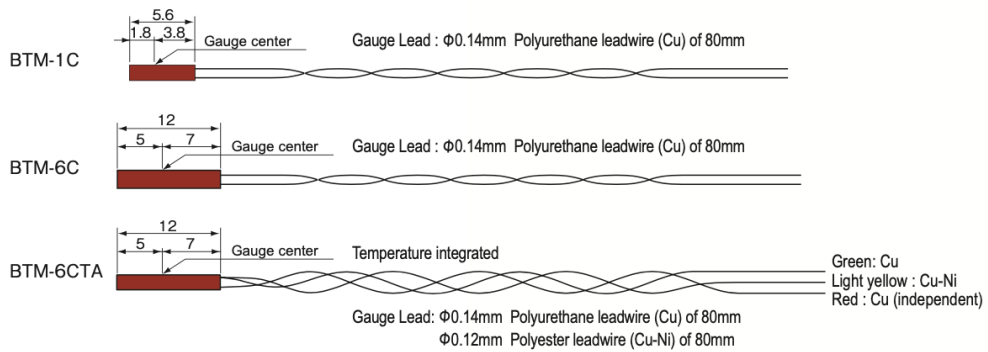
The BTM bolt gauges use heat-curing A-2 adhesive for installation, which provides better long-term stability.

Operating temperature range  
-10~+80°C

Applicable adhesives  
A-2 -10~+80°C

Gauge pattern	Type	Gauge size(mm)		Backing size(mm)		Resist- ance Ω
		Length	Width	Length	Width	

### ●Single axis



BTM-1C (Hole drilled: $\Phi 1.6$ mm)	1	0.7	5.6	1.4	120
BTM-6C (Hole drilled: $\Phi 2.0$ mm)	6	1	12	1.7	120
BTM-6CTA (Hole drilled: $\Phi 2.0$ mm) Temperature integrated applicable in -10~+80°C	6	1	12	1.7	120

NB: Polyurethane insulation of the gauge leads is easily removed by heat of soldering iron, while Polyester sheath is removed by chemical solvent.

Minimum order quantity is 10 strain gauges.  
These strain gauges are available with integral leadwires attached. (made to order)

### Optional syringe and needle

Exclusive syringe for injecting A-2 adhesive into the pre-drilled hole before BTM gauge is embedded.

Applicable to	Needle diameter	Needle length
BTM-1C	1.5mm-dia.	60mm
BTM-6C	1.8mm-dia.	100mm





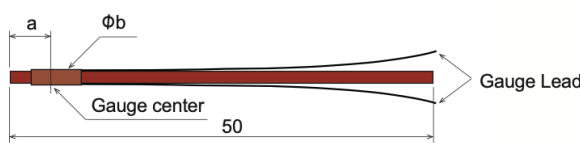
# Bolt Strain Gauges BTMC series $\text{C}\epsilon$

These gauges are used for measurement of tensile strain of bolt. They are simply inserted into pre-drilled hole in the bolt with exclusive adhesives. This method is recommendable when an ordinary strain gauges can not be mounted on the bolt surface. Accurate tensile force measurement is possible by calibrating the bolt after installing the bolt gauges.

The BTMC gauges have a tube shape sensing element, and they are installed with fast-curing CN adhesive. The installation is easily made at room temperature.

Operating temperature range  
-10~+80°C

Applicable adhesives  
CN -10~+80°C

Gauge pattern	Type	Gauge Length (mm)	Gauge Center a(mm)	Backing diameter $\phi_b$ (mm)	Resistance $\Omega$
<p>● Single axis</p> 	BTMC-05-D10-003LE (Hole drilled : $\phi 1.0\text{mm}$ )	0.5	5	$\phi 0.9$	120
	BTMC-1-D16-003LE (Hole drilled : $\phi 1.6\text{mm}$ )	1	5	$\phi 1.5$	120
	BTMC-3-D20-006LE (Hole drilled : $\phi 2.0\text{mm}$ )	3	10	$\phi 1.9$	120

Gauge Lead:  $\phi 0.1\text{mm}$  Polyimide insulated of 30mm for BTMC-05 and BTMC-1, 60mm for BTMC-3

