6B10 / 6B18 Type - 1/4-Channel Wheatstone/Full Bridge Interface Node

Basics	6B10: 1-Channel	6B18: 4-Channel
Battery Power	Qty. x 1 (3.6V Lithium primary D-Cell ER34615)	Qty. x 4 (3.6V Lithium primary D-Cell ER34615)
Accuracy Stop Voltage	2.1VDC	
Mesh Stop Voltage	2.1VDC	
Battery Connection	Standard Aluminium Battery Holder	
Local Storage	Min. 1500 Messages at Mesh3.0 Protocol	
Dimension (L x W x H)	Interface Node: 100 x 100 x 60mm	180 x 140 x 60mm
Node Weight	0.45kg	1.45kg
Cable Gland	Qty. 1 x EMC-CMA14 for external sensor connection (through cable diameter, 4-8mm)	Qty. 4 x EMC-CMA14 for external VW sensor connections (through cable diameter, 4-8mm)
Wire Connection	Spring type wiring terminal	
Primary Sensor		
Sensor Type	Strain gauges in Wheatstone Bridge, 4 or 6 wires	
No. of Inputs	1 Channel	4 Channel
Excitation Voltage	10.0V **(Default Setting)**, 5.0V or 2.5V via rotary switch	
Excitation Current	Max. 100 mA	
Range	$\pm$4.8 mV/V @ 10.0V Excitation Voltage **(Default Setting)**; $\pm$9.5 mV/V @ 5.0V Excitation Voltage; $\pm$19.0 mV/V @ 2.5V Excitation Voltage.	
Accuracy	Better than 0.02%FS	
Sensitivity	0.1 uV/V	
Standard System Parameter		
Temperature	Range:-40 to 125°C; Accuracy: ±0.1℃	
Humidity	Range: 0-100%RH; Accuracy: ±1.5%RH	
Voltage	Accuracy: ±0.1V	
WSN Interface		
Mesh Wireless Interface	WisenMeshWAN® / WisenMeshNET® Protocol Mesh 3.0 ONLY	
Industrial Standard		
Casing & Painting Materials	Aluminium-Alloy Die Castings 12 (Epoxy Polyester Powder Coating)	
IP Rating	≥ IP66	
Operating Temperature	-40 to 85°C	
Fire Proof	Approved	
Applications		

WisenMeshWAN® Wheatstone Bridge Interface Node is compatible with all different brands of high-quality strain gauge in a Wheatstone Bridge arrangement at 4 wires or 6 wires formats.

Examples of sensors:

1.   Encardio, Load Cell: https://www.encardio.com/geotechnical-products/center-hole-load-cell

CENTER HOLE / ANCHOR BOLT LOAD CELL — MODEL ELC-30S

Colour	Signal
Red	+ Excitaion
Black	- Excitation
Green	+ Output
White	- Output

2. Sisgeo, Load Cell: https://sisgeo.com/products/load-cells/electric-anchor-load-cells/

ELECTRIC ANCHOR LOAD CELLS

3. Geosense, Load Cell: https://www.geosense.com/products/strain-gauge-anchor-load-cells-sglc-7000/

4. LCM Systems Ltd, LPB Custom Designed Stainless Steel Load Measuring Pin: https://www.lcmsystems.com/lpb-custom-design-load-pins

5. Geokon Load Cells (Electrical Resistance) | Model 3000: https://www.geokon.com/3000

6. **Plus ALL** the sensors of the same type and working principle.

Node Connections

For 4 wires sensor, use node terminals of Exc+, Exc-, Sigl+, Sigl-;

For 6 wires sensor, use node terminals of Sens+, Sens-, Exc+, Exc-, Sigl+, Sigl-;

Notice: Shield connection is required if external noise is large.

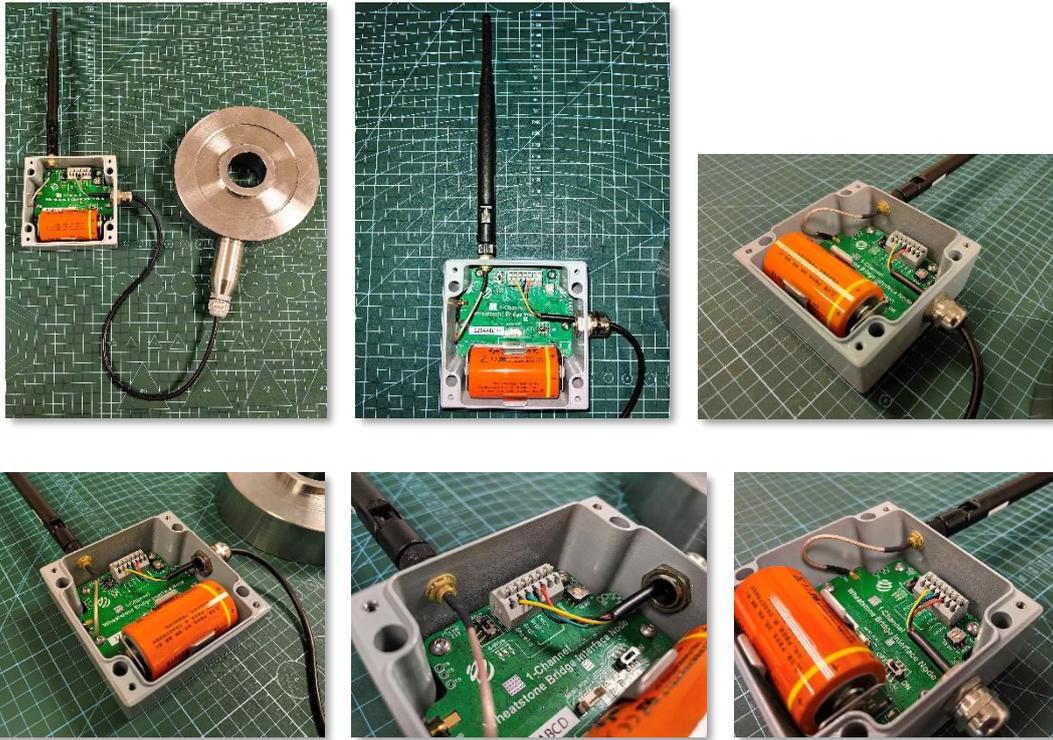| Format		Node Terminal	Sensor Wires	Photo
6 wires	4 wires	Sens+ → Sensor+		
		Sens- → Sensor-		
		Exc+ → Excitation+		
		Exc- → Excitation-		
		Sigl- → Signal- / Output-		
		Sigl+ → Signal+ / Output+		
		Shield → Shield on sensor cable		

Product Photo

Figure. Top view, side view, internal view.

Figure. WisenMesh 1-Channel Wheatstone Bridge Interface Node.

Figure. WisenMesh 4-Channel Wheatstone Bridge Interface Node.

Battery Life in Months

Time Interval/min	Months
1	1.0
5	4.3
15	13.0
30	25.4
60	48.8