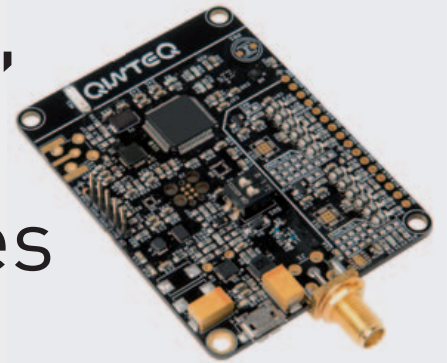


Sensor Tag for Full-, Half- and Quarter-Bridge Strain Gauges

AST-02-STR



The AST family of sensor tags allows wireless measurements to be taken by sensors from remote locations. Sensors are powered by microwave energy, harvested from a dedicated RF power source and need no batteries or other consumables.

The AST-02-STR sensor tag is designed for use with full-bridge & half-bridge strain gauge sensors. The device offers gauge offset, gain control and calibration.

Features

2450 MHz harvesting frequency

Maintenance-free:
no embedded battery, no wiring

Integrated 868 MHz bi-directional radio

Operation down to - 9 dBm input RF power

Up to 100 m working distance
(application dependent)

Compatible with quarter-, half- and full-bridges configurations

Gauge offset, gain control and calibration


RoHS compliant

CE certified



AST-02-STR

Characteristics

Regulatory approvals	EN 60950-1 EN 61000-6-2 EN 55011	EN 301489-1 & -3 EN 300220-1 & -2	
Harvesting frequency	2450 MHz		
Integrated Radio			
Operating frequency	868.320 MHz		
Modulation (Rx & Tx)	2-GFSK / 50 kHz		
Data bit rate (Rx & Tx)	100 kbps on air		
Integrated energy Storage	200 µF capacitor (other capacitor sizes upon request)		
ADC resolution	24 bits		
Maximum sampling rate	10Hz		
RF Sensitivity	from - 9 dBm to + 15 dBm (max)		
Bridge configurations			
Types	Quarter-, Full- and Half- bridges		
Internal bridge completion	Quarter- bridge: 350 Ω or 1000 Ω (on demand) ± 0,01% Full- and Half- bridges: 1000 Ω ± 0,01%		
Bridge excitation voltage	2,5 V		
Full scale measurement range	± 3,9 mV/V (depending on gain)		
Maximum measurement resolution	0.23 µV/V		
Measurement accuracy	<1%		
Input channels	2		
Mounting	4x metallic holes Ø=3.6 mm in each corner		
Dimensions	70 mm x 52 mm x 9 mm (without SMA connector)		
Operating (storage) Temp.	- 20 °C / + 70 °C (- 40 °C / + 85 °C)		
Weight	30 g (with 1 SMA connectors)		

Ordering Options

Part Number	Configuration Description
AST-02-STR- A0-A1-A2	<p>A0: Tag Configuration</p> <p>10: Full bridge</p> <p>12: Half-Bridge</p> <p>14: Quarter-bridge</p> <p>A1: Power RF Input</p> <p>PVJ: Jack connector for external 50 Ω antenna (vertically mounted)</p> <p>PVP: Plug connector for external 50 Ω antenna (vertically mounted)</p> <p>PHJ: Jack connector for external 50 Ω antenna (horizontally mounted)</p> <p>PHP: Plug connector for external 50 Ω antenna (horizontally mounted)</p> <p>A2: Data RF Input/Output</p> <p>DA: Integrated 868 MHz - 2,5 dBi antenna</p> <p>DVJ: Jack connector for external 50 Ω antenna (vertically mounted)</p> <p>DVP: Plug connector for external 50 Ω antenna (vertically mounted)</p> <p>DHJ: Jack connector for external 50 Ω antenna (horizontally mounted)</p> <p>DHP: Plug connector for external 50 Ω antenna (horizontally mounted)</p>