

Generic Autonomous Sensor Tag

AST-02-GEN



Description

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-GEN sensor tag can be used to interface with various industrial analogue and digital micro-sensors: pressure, differential pressure, temperature, displacement, air flow velocity, liquid level and many others.

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 dependant)

Custom sensors adaptable: analog & digital
inputs, configurable output voltages


RoHS compliant

CE certified



AST-02-GEN

Characteristics

Regulatory approvals	EN 60950-1 EN 61000-6-2 EN 55011 EN 301489-3 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	10 Hz	
RF Sensitivity	from - 9 dBm to + 15 dBm (max)	
Available Output voltages	1 V, 1.8 V, 3.3 V, 5 V Software configurable	
Inputs	2x Analog 0-5V 1x SPI 1x I2c	
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 connector)	

Ordering Options

Part Number	Configuration Description
AST-02-GEN- A0-A1-A2	<p>A0: Input Configuration</p> <p>DI : 1x SPI & 1x I2C input channels</p> <p>1A : 1x analog input channel</p> <p>2A : 2x analog input channels</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>