MicroStrain Sensing Product Datasheet

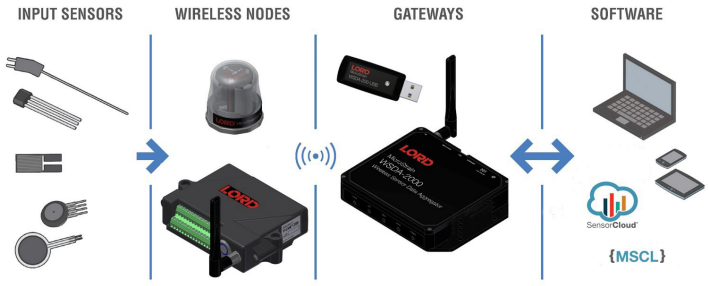
TC-Link®-200-OEM

Wireless Temperature Sensor Node

The TC-Link-200-OEM allows users to collect data from a range of sensor types including Thermocouples, Resistance Thermometers, and Thermistors. The node supports high resolution, low noise data collection from 1 temperature transducer at sample rates up to 128 Hz.

LORD Sensing Wireless Sensor Networks enable simultaneous, high-speed sensing and data aggregation from scalable sensor networks. Our wireless sensing systems are ideal for test and measurement, remote monitoring, system performance analysis, and embedded applications.

Users can easily program nodes for continuous, periodic burst, or event-triggered sampling with the SensorConnect software. The optional web-based SensorCloud interface optimizes data aggregation, analysis, presentation, and alerts for sensor data from remote networks.



PRODUCT HIGHLIGHTS

- 1 input channel supporting Thermocouples, Resistance Thermometers and Thermistors
- On-board linearization algorithms supporting a wide range of temperature transducers
- Small form factor, low power consumption and wireless
- Supply power from 3.3 to 30 V
- Continuous, periodic burst, and event-triggered sampling
- LXRS and LXRS+ protocol allows lossless data collection, scalable networks and node synchronization of ±50 µs.

FEATURES AND BENEFITS

HIGH PERFORMANCE

- Up to 128 Hz sampling
- High resolution 24-bit data
- Digital filtering for up to 120 db rejection of 50 and 60 Hz noise
- Datalog up to 8 million data points
- Duty Cycle sensor excitation for low power operation, well-suited for battery powered applications
- Wireless range up to 1km (400 m)

APPLICATIONS

- Thermal profiling
- Refrigeration monitoring
- Production process monitoring
- Quality control
- Environmental monitoring

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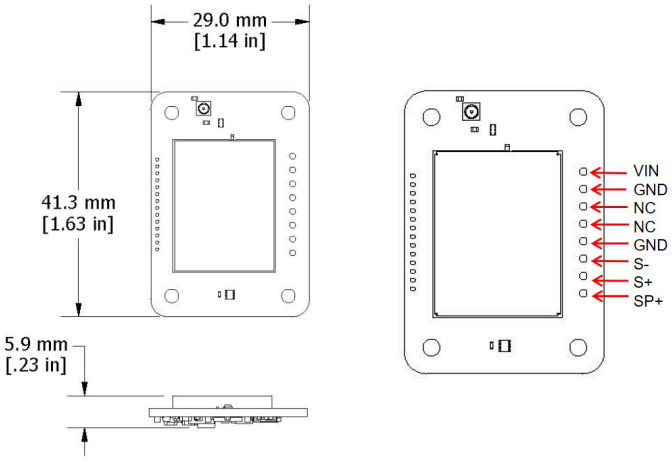
Wireless Temperature Sensor Node

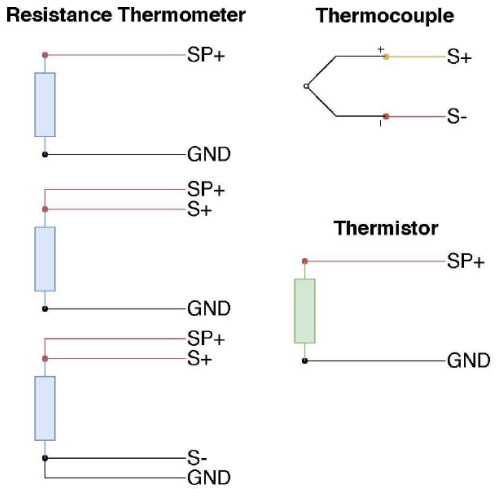
Specifications

General				
Sensor input channels	Thermocouple, RTD, or Thermistor input, 1 channel			
Integrated sensors	Temperature CJC, 1 channel			
Digital filter	Adjustable low pass filter with 3db frequency as low as 2.3 Hz and up to 120 db 50/60 Hz rejection			
Thermocouple Input				
Measurement range	-210°C to 1820°C (depending on thermocouple type)			
Accuracy	±0.5°C (20 to 70°C node temperature) ±1°C (-40 to 85°C node temperature)			
Resolution	0.1°C			
Compatible types	J, K, N, R, S, T, E and B			
RTD Input				
Measurement range	-200°C to 850°C			
Accuracy	±0.5°C (depending on RTD accuracy)			
Resolution	0.01°C			
Compatible types	PT-10, PT-50, PT-100, PT-200, PT-500, PT-1000			
Thermistor Input				
Measurement range	-40°C to 150°C (depending on Thermistor type)			
Accuracy	±3°C (depending on Thermistor accuracy)			
Resolution	0.02°C			
Compatible types	44004, 44033, 44005, 44030, 44006, 44031, 44007, 44034, 44008, 44032, YSI-400			
Integrated Temperature Cold Junction Compensation (CJC) Channel				
Compensation range	-40°C to 105°C (0°C to 105°C for type B Thermocouples)			
Accuracy	±0.13°C (20°C to 70°C), ±0.25°C (-40°C to 105°C)			
Resolution	0.02°C			
Sampling				
Sampling modes	Continuous and event triggered			
Output options	Temperature, mV, Resistance or custom			
Sampling rates	Up to 128 Hz			
Sample rate stability	±5 ppm			
Network capacity	Up to 128 nodes per RF channel (bandwidth calculator:) www.microstrain.com/configure-your-system			
Node synchronization	±50 µsec			
Data storage capacity	16 M Bytes (up to 8,000,000 data points)			
Operating Parameters				
Wireless communication range	Outdoor/line-of-sight: 2 km (ideal), 800 m (typical) Onboard antenna: 1 km (ideal), 400 (typical) Indoor/obstructions: 50 m (typical)			
Radio frequency (RF) transceiver carrier	License-free 2.405 to 2.480 GHz (16 channels)			
RF transmit power	User-set 0 dBm to 20 dBm. Restricted regionally			
Power input range	3.3 V dc to 30 V dc			
Pulse Current*	**Tx Power**	**VIN = 3.6 V**	**VIN = 5.0 V**	**VIN = 12 V**
	+20 dBm	135 mA	100 mA	45 mA
	+16 dBm or less	100 mA	70 mA	32 mA

Operating temperature	-40°C to +105°C
Angular acceleration limit	500*g* sustained, 1000*g* intermittent
ESD	4 kV
Physical Specifications	
Dimensions	41.3 mm x 29.0 mm x 5.9 mm
Interface	Solder or screw-down terminal available
Weight	7 grams
Integration	
Compatible gateways	All WSDA gateways
Software	SensorCloud, SensorConnect, Windows 7, 8 & 10 compatible
Software development kit	http://www.microstrain.com/software/mscl
Regulatory compliance	FCC (USA), IC (Canada), CE, RoHS (EU), MIC (Japan)

* Power source must supply short duration pulse currents as determined by the transmit power setting and the supply voltage.





Parker LORD

Jl.Radin Inten II No 61 B
Duren Sawit Jakarta Timur,
Jakarta, Indonesia

phone: +62 8139 9291 909
email: Sales@testindo.com
www.testingindonesia.co.id
www.testindo.com