TC-Link®-200-OEM

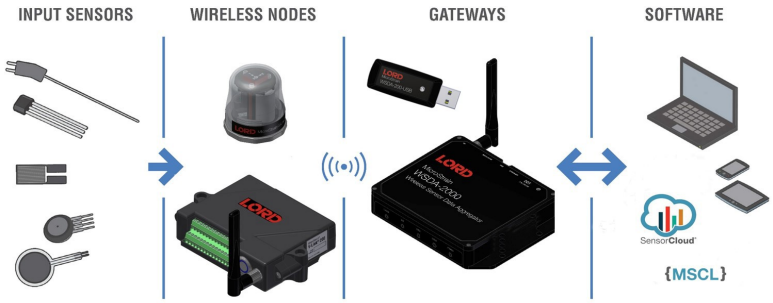
Wireless Temperature Sensor Node

TC-Link-200-OEM - small, low-cost, single channel temperature sensor node ready for OEM integration

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.

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.

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 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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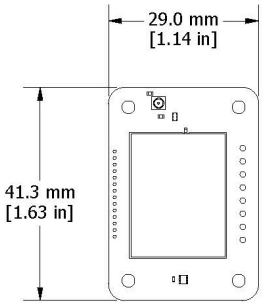
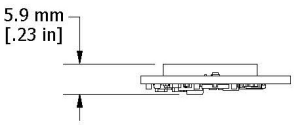
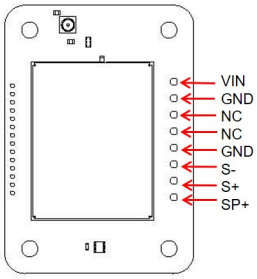
Specifications

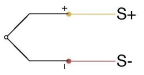
General	
Sensor input channels	Thermocouple, RTD, or Thermistor input, 1 channel
Integrated sensors	Temperature CJC, 1 channel
Digital filter	Adjustable low pass filter with 3db frequency as low as 2.3 Hz and up to 120 db 50/60 Hz rejection
Thermocouple Input	
Measurement range	-210° C to 1820° C (depending on thermocouple type)
Accuracy	±0.25° C (20 to 70° C node temperature) ±0.5° C (-40 to 105° 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	1 channel: 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
Operating temperature	-40 °C to +105 °C
ESD	4 kV
Physical Specifications	
Dimensions	41.3 mm x 29 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 (European Union), JET (Japan)



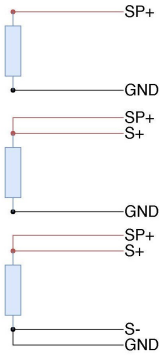




Thermocouple



Resistance Thermometer



Thermistor

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