# MicroStrain Sensing Product Datasheet



## TC-Link®-200-0EM

#### **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





## **Wireless Temperature Sensor Node**

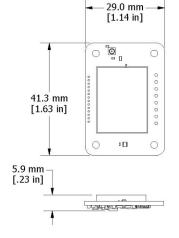


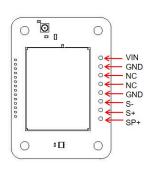
#### **Specifications**

Thermocouple, RTD, or Thermistor input, 1 channels	General					
Adjustable low pass filter with 3db frequency as low as 2.3 Hz and up to 120 db 50/60 Hz rejection						
Iow as 2.3 Hz and up to 120 db 50/60 Hz rejection	Integrated sensors					
Accuracy	Digital filter	Adjustable low pass filter with 3db frequency as low as 2.3 Hz and up to 120 db 50/60 Hz rejection				
Accuracy						
#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 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 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 (16 M Bytes (up to 8,000,000 data points)  Operating Parameters  Wireless communication range (16 M Bytes (up to 8,000,000 data points)  Operating Parameters  Wireless communication range (16 M Bytes (up to 8,000,000 data points)  Operating Parameters  Wireless communication range (16 M Bytes (up to 8,000,000 data points)  Operating Parameters  Wireless communication range (16 M Bytes (up to 8,000,000 data points)  Operating Parameters  Wireless communication range (16 M Bytes (up to 8,000,000 data points)  Operating Parameters  Wireless communication range (16 M Bytes (up to 8,000,000 data points)  Operating Parameters  Wireless (17 Yeore (17 Yeore) (VIN = 5.0 V VIN = 12 V +20 dBm (135 M 100 M 45 M	Measurement range	(depending on thermocouple type)				
Compatible types	Accuracy	±0.5°C (20 to 70°C node temperature) ±1°C (-40 to 85°C node temperature)				
New Notes   Name   Na	Resolution	0.1°C				
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 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         Sample rate stability       ±5 ppm         Network capacity       Up to 128 Hz         Sample rate stability       ±5 ppm         Network capacity       ±50 µsec         Data storage capacity       16 M Bytes (up to 8,000,000 data points)         Vireless communication range       communication range         Wireless communication range       Outdoor/line-of-sight: 2 km (ideal), 400 (typical) Indoor/obstructions	Compatible types	J, K, N, R, S, T, E and B				
## Accuracy ## 0.5°C (depending on RTD accuracy)    Resolution	RTD Input					
Resolution  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  Sample rate stability  ±5 ppm  Up to 128 hz  Sample rate stability  ±5 ppm  Up to 128 nodes per RF channel (bandwidth calculator:) www.microstrain.com/configure-your-system  Node synchronization  ±50 µsec  Outdoor/ine-of-sight: 2 km (ideal), 800 m (typical) Onboard antenna: 1 km (ideal), 400 (typical) Indoor/obstructions: 50 m (typical) Component range  Radio frequency (RF) transceiver carrier  RF transmit power  User-set 0 dBm to 20 dBm. Restricted regionally  Power input range  135 mA 100 mA 45 mA	Measurement range	-200°C to 850°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)  ±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  Sample rate stability  ±5 ppm  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  Outdoor/lobstructions: 50 m (typical) Indoor/obstructions: 50 m (typical) Indoor/obstructions: 50 m (typical) Power input range  3.3 V dc to 30 V dc  Tx Power VIN = 3.6 V VIN = 5.0 V VIN = 12 V  +20 dBm 135 mA 100 mA 45 mA	Accuracy	±0.5°C (depending on RTD accuracy)				
Thermistor Input  Measurement range	Resolution	0.01°C				
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         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 Praceiver Carr	Compatible types	PT-10, PT-50, PT-100, PT-200, PT-500, PT-1000				
#3°C (depending on Thermistor accuracy)   Resolution	Thermistor Input					
Resolution  O.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 for type B Thermocouples)  Accuracy  ±0.13°C (20°C to 70°C), ±0.25°C (-40°C to 105°C)  Resolution  O.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  Up to 128 nodes per RF channel (bandwidth calculator:) www.microstrain.com/configure-your-system  Node synchronization  ±50 µsec  Outdoor/line-of-sight: 2 km (ideal), 800 m (typical) Onboard antenna: 1 km (ideal), 400 (typical) Indoor/obstructions: 50 m (typical)  Onboard antenna: 1 km (ideal), 400 (typical)  Compensation range  Radio frequency (RF) transceiver carrier  RF transmit power  User-set 0 dBm to 20 dBm. Restricted regionally  Power input range  Tx Power  VIN = 3.6 V VIN = 5.0 V VIN = 12 V  Pulse Current*  +20 dBm  135 mA  100 mA  45 mA	Measurement range	-40°C to 150°C (depending on Thermistor type)				
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 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  Up to 128 nodes per RF channel (bandwidth calculator:) www.microstrain.com/configure-your-system  Node synchronization  ±50 µsec  Data storage capacity  If M Bytes (up to 8,000,000 data points)  Operating Parameters  Wireless communication range  Radio frequency (RF) transceiver carrier  RF transmit power  User-set 0 dBm to 20 dBm. Restricted regionally  Power input range  Tx Power  VIN = 3.6 V VIN = 5.0 V VIN = 12 V  Pulse Current*  4000 Cto 105°C  Compensation (CJC) Channel  A4007, 44034, 44008, 44032, YSI-400  PSI A4030, 44008, 14031, 400  License-free 2.405 to 2.480 GHz (16 channels)  Tx Power  VIN = 3.6 V VIN = 5.0 V VIN = 12 V  Pulse Current*  45 mA	Accuracy	±3°C (depending on Thermistor accuracy)				
Integrated Temperature Cold Junction Compensation (CJC) Channel  Compensation range  -40°C to 105°C (0°C to 105°C (0°C to 105°C for type B Thermocouples)  -40°C to 105°C for type B Thermocouples  -40°C to 105°C for type B Thermocouples  -40°C to 105°C for type B Thermocouples  -40°C to 105°C, 40°C to 105°C, 40°C to 105°C)  -40°C to 105°C, 40°C to 105°C, 40°C to 105°C)  -40°C to 105°C, 40°C to	Resolution	0.02°C				
Compensation range  Accuracy  \$\frac{\text{+}0^{\circ} \text{ to } 105^{\circ} \text{ (0°C to } 105^{\circ} \text{ for type B Thermocouples)}}{\text{+}20.13^{\circ} \text{ (20°C to } 70^{\circ} \text{C)}, \pm 20.25^{\circ} \text{C} \text{-}40^{\circ} \text{C to } 105^{\circ} \text{C}}{\text{Composition}}\$  Accuracy  \$\pm 20.13^{\circ} \text{ (20°C to } 70^{\circ} \text{C)}, \pm 20.25^{\circ} \text{C} \text{-}40^{\circ} \text{C to } 105^{\circ} \text{C}}{\text{Composition}}\$  Bampling  Sampling  Continuous and event triggered  Output options  Temperature, mV, Resistance or custom  Sampling rates  Up to 128 Hz  \$\frac{\text{5 ppm}}{\text{Up to } 128 \text{ nodes per RF channel (bandwidth calculator:)} \text{www.microstrain.com/configure-your-system}}\$  Node synchronization  \$\frac{\text{50 \text{ µsec}}{\text{Up sec}}\$  Data storage capacity  16 M Bytes (up to 8,000,000 data points)  Operating Parameters  Outdoor/line-of-sight: 2 km (ideal), 800 m (typical) Onboard antenna: 1 km (ideal), 400 (typical) Indoor/obstructions: 50 m (typical)  Communication range  Radio frequency (RF) transceiver carrier  User-set 0 dBm to 20 dBm. Restricted regionally  Power input range  3.3 V dc to 30 V dc  Tx Power  VIN = 3.6 V VIN = 5.0 V VIN = 12 V +20 dBm  135 mA  100 mA  45 mA	Compatible types					
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 Continuous and event triggered Continuous and eve						
Sampling   Sampling	Compensation range					
Sampling modes Continuous and event triggered Output options Temperature, mV, Resistance or custom Sampling rates Up to 128 Hz Sample rate stability  ±5 ppm 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 Wireless communication range Radio frequency (RF) transceiver carrier RF transmit power User-set 0 dBm to 20 dBm. Restricted regionally Power input range  135 mA 100 mA 45 mA	Accuracy	±0.13°C (20°C to 70°C), ±0.25°C (-40°C to 105°C)				
Sampling modes       Continuous and event triggered         Output options       Temperature, mV, Resistance or custom         Sampling rates       Up to 128 Hz         Sample rate stability       ±5 ppm         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 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         Tx Power       VIN = 3.6 V VIN = 5.0 V VIN = 12 V         Pulse Current*       +20 dBm       135 mA       100 mA       45 mA	Resolution	0.02°C				
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 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         Tx Power       VIN = 3.6 V VIN = 5.0 V VIN = 12 V         Pulse Current*       +20 dBm       135 mA       100 mA       45 mA	Sampling					
Sampling rates  Sample rate stability  Lip to 128 Hz  Lip to 128 nodes per RF channel (bandwidth calculator:)  Www.microstrain.com/configure-your-system  License-free 2.405 to 2.480 GHz (16 channels)  Power input range  License-free 2.405 mt (20 dBm. Restricted regionally  Pulse Current*  Lip to 128 Hz  Lip to 128 nodes per RF channel (bandwidth calculator:)  Wirelesnow, www.microstrain.com/configure-your-system  Lip to 128 nodes per RF channel (bandwidth calculator:)  Wirelesnow, microstrain.com/configure-your-system  Lip to 128 nodes per RF channel (bandwidth calculator:)  Wirelesnow, microstrain.com/configure-your-system  Lip to 128 nodes per RF channel (bandwidth calculator:)  Wirelesnow, microstrain.com/configure-your-system  Lip to 128 nodes per RF channel (bandwidth calculator:)  Wirelesnow, microstrain.com/configure-your-system  Data storage capacity  Outdoor/line-of-sight: 2 km (ideal), 800 m (typical)  Onboard antenna: 1 km (ideal), 400 (typical)  Indoor/obstructions: 50 m (typical)  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  135 mA 100 mA 45 mA	Sampling modes	Continuous and event triggered				
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  Tx Power VIN = 3.6 V VIN = 5.0 V VIN = 12 V Pulse Current*  +20 dBm 135 mA 100 mA 45 mA	Output options	Temperature, mV, Resistance or custom				
Network capacity  Up to 128 nodes per RF channel (bandwidth calculator:) www.microstrain.com/configure-your-system  150 μsec  Data storage capacity  16 M Bytes (up to 8,000,000 data points)  Operating Parameters  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  RF transmit power  User-set 0 dBm to 20 dBm. Restricted regionally  Power input range  3.3 V dc to 30 V dc  Tx Power  VIN = 3.6 V VIN = 5.0 V VIN = 12 V  Pulse Current*  +20 dBm  135 mA  100 mA  45 mA	Sampling rates	Up to 128 Hz				
Network capacity       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 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         Tx Power       VIN = 3.6 V VIN = 5.0 V VIN = 12 V         Pulse Current*       +20 dBm       135 mA       100 mA       45 mA	Sample rate stability	±5 ppm				
Data storage capacity  Operating Parameters  Wireless communication range  Radio frequency (RF) transceiver carrier  RF transmit power  Duscr-set 0 dBm to 20 dBm. Restricted regionally  Power input range  Tx Power  Pulse Current*  16 M Bytes (up to 8,000,000 data points)  Operating Parameters  Outdoor/line-of-sight: 2 km (ideal), 800 m (typical) Onboard antenna: 1 km (ideal), 400 (typical) Indoor/obstructions: 50 m (typical)  Power (ideal), 400 (typical)  License-free 2.405 to 2.480 GHz (16 channels)  User-set 0 dBm to 20 dBm. Restricted regionally  Power input range  Tx Power  VIN = 3.6 V VIN = 5.0 V VIN = 12 V  Pulse Current*  +20 dBm  135 mA  100 mA  45 mA	Network capacity	calculator:)				
Wireless communication range Onboard antenna: 1 km (ideal), 800 m (typical) Onboard antenna: 1 km (ideal), 400 (typical) Indoor/obstructions: 50 m (typical) (typical) Indoor/obstructions: 50 m (typical) (ty	Node synchronization	±50 μsec				
Wireless communication range  Radio frequency (RF) transceiver carrier  RF transmit power  Power input range  Tx Power  Pulse Current*  Outdoor/line-of-sight: 2 km (ideal), 800 m (typical) Onboard antenna: 1 km (ideal), 400 (typical) Indoor/obstructions: 50 m (typical)  License-free 2.405 to 2.480 GHz (16 channels)  User-set 0 dBm to 20 dBm. Restricted regionally  VIN = 3.6 V VIN = 5.0 V VIN = 12 V  Pulse Current*  Outdoor/line-of-sight: 2 km (ideal), 800 m (typical) Indoor/obstructions: 50 m (typical)  License-free 2.405 to 2.480 GHz (16 channels)  User-set 0 dBm to 20 dBm. Restricted regionally  13.3 V dc to 30 V dc  Tx Power  VIN = 3.6 V VIN = 5.0 V VIN = 12 V  Pulse Current*	Data storage capacity	16 M Bytes (up to 8,000,000 data points)				
Communication range Communication range Communication range 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  Tx Power VIN = 3.6 V VIN = 5.0 V VIN = 12 V  Pulse Current* +20 dBm 135 mA 100 mA 45 mA						
RF transmit power User-set 0 dBm to 20 dBm. Restricted regionally Power input range  Tx Power VIN = 3.6 V VIN = 5.0 V VIN = 12 V Pulse Current*  License-free 2.405 to 2.480 GH2 (18 channels) User-set 0 dBm to 20 dBm. Restricted regionally VIN = 3.6 V VIN = 5.0 V VIN = 12 V Pulse Current*		Onboard antenna: 1 km (ideal), 400 (typical)				
Power input range 3.3 V dc to 30 V dc  Tx Power VIN = 3.6 V VIN = 5.0 V VIN = 12 V  Pulse Current* +20 dBm 135 mA 100 mA 45 mA		License-free 2.405 to 2.480 GHz (16 channels)				
Tx Power VIN = 3.6 V VIN = 5.0 V VIN = 12 V Pulse Current* +20 dBm 135 mA 100 mA 45 mA	RF transmit power	User-set 0 dBm to 20 dBm. Restricted regionally				
Pulse Current*         +20 dBm         135 mA         100 mA         45 mA	Power input range	3.3 V dc to 30 V dc				
		Tx Power VIN = 3.6 V VIN = 5.0 V VIN = 12 V				
+16 dBm or less	Pulse Current*	+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	500g sustained, $1000g$ 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.





### **Resistance Thermometer** Thermocouple SP+ -GND SP+ **Thermistor** SP+ -GND SP+ GND -S--GND





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