VOICE OF THE MACHINE

**Condition Monitoring and Diagnostic Solutions
SensoNODE™ Sensors and Software**

Sensors, Software, and Accessories
Catalog 3864 USA | March 2019

Parker

ENGINEERING **YOUR** SUCCESS.

Quick Coupling Division Locations

Minneapolis, MN

Grantsburg, WI

Chetek, WI

Union City, PA

⚠ **WARNING**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

• This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

• The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

• To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the "Offer of Sale."
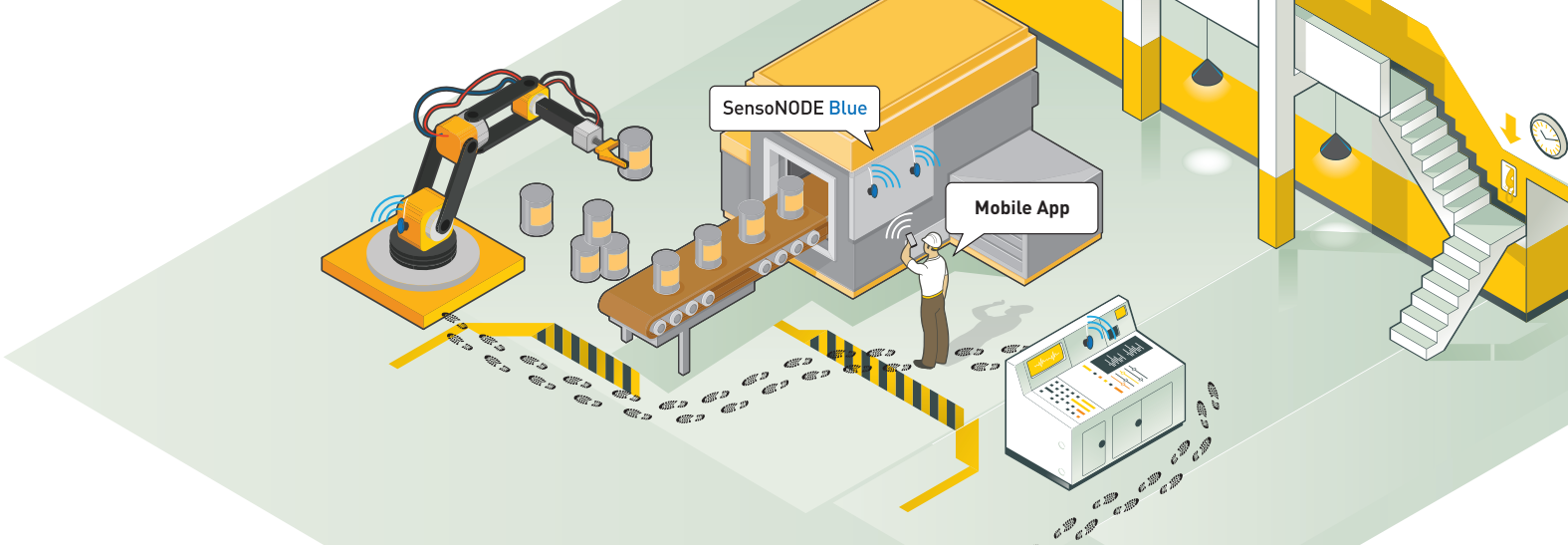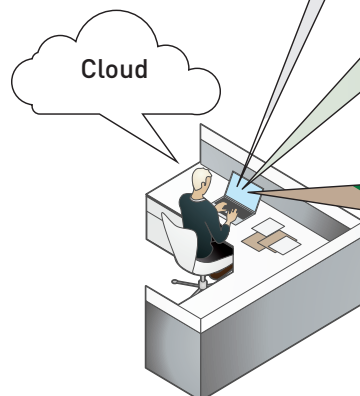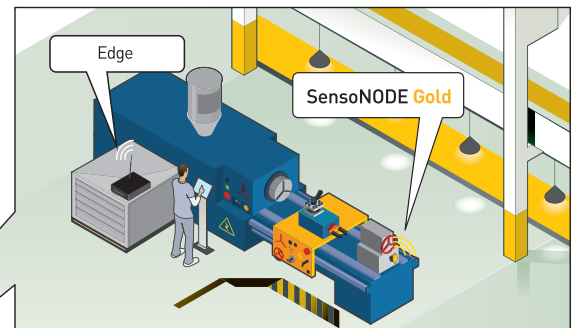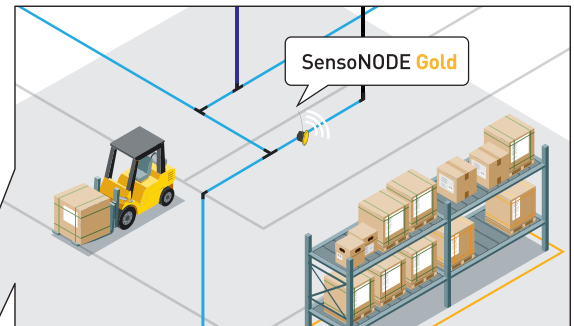
Table of Contents

Parker's IoT-Empowered Solutions

The Internet of Things (IoT) has changed the way manufacturing works, and you can't afford to be left behind. Global competitiveness drives companies to find new ways to improve efficiency and product quality, and incorporating IoT-enabled solutions into your operations ensures your company is moving forward.

Traditional condition monitoring means taking measurements on certain pieces of equipment or processes one at a time, either for diagnostics or performance analysis. While reliable, it can be an inaccurate, labor-intensive process that takes up valuable man-hours and creates potentially dangerous situations for workers...in short; it costs companies time and money.

Parker's **SensoNODE™ Sensors** and **Voice of the Machine™ Software** are IoT-empowered solutions that create new, advanced condition monitoring possibilities to **reduce downtime** and **decrease maintenance costs**, helping you to **maintain production** and **improve efficiency**.

VOICE OF THE **MACHINE**™

Voice of the Machine is a centralized strategy to ensure standardization across all Parker IoT-empowered products. Voice of the Machine solutions assure you of component-level IoT that is interoperable, secure, scalable and easy-to-use.

Parker's advanced condition monitoring solutions listen to the Voice of the Machine, allowing you to:
• Reduce your risk, maintenance costs, and unplanned downtime
• Uncover operational and performance improvements
• Make informed, more confident decisions and enjoy greater peace of mind
• Leverage Parker's expertise to employ easy, cost-effective condition monitoring

Streamline Your Work with Advanced Condition Monitoring and Diagnostics

Advanced condition monitoring replaces the laborious, time-consuming process of walking from asset to asset, checking manual gauges, taking hand-written notes, and then spending the time to crunch those numbers.

Wirelessly get measurements without interrupting production.
- Identify issues before they escalate
- Reduce downtime
- Decrease maintenance costs
- Avoid dangerous situations
- Make better, more informed decisions
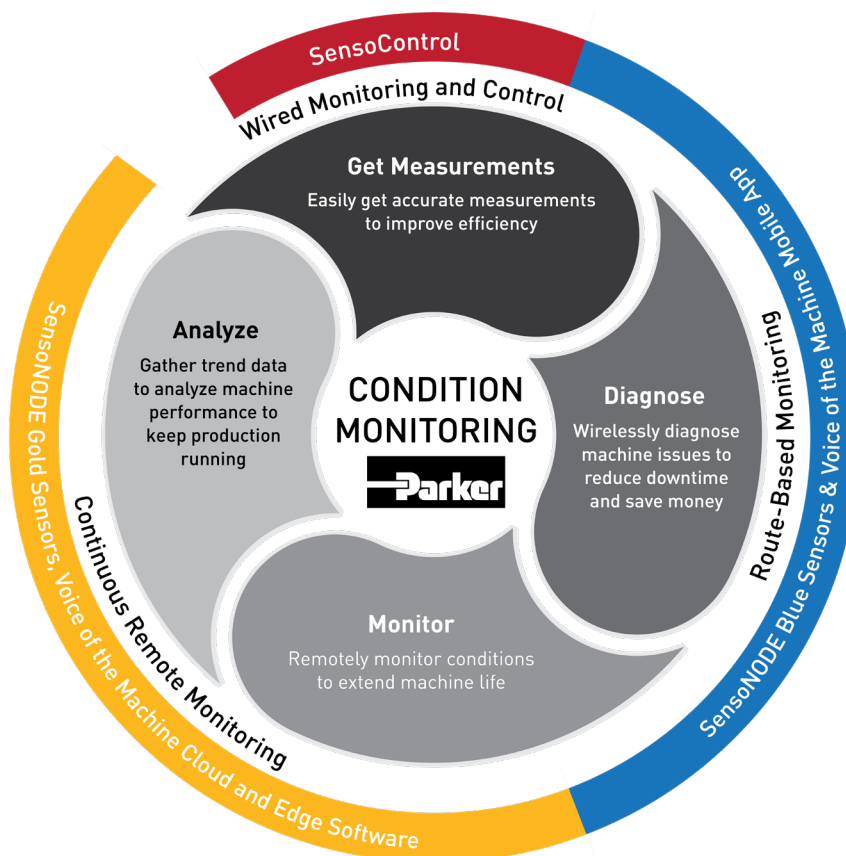- Improve labor efficiency

When used together, SensoNODE Sensors and Voice of the Machine Software create an advanced condition monitoring solution that delivers vital measurement data to help drive optimal tactical, operational, and strategic decisions, leading to maximum uptime.

Route-Based Monitoring - No network required
(SensoNODE Blue and Mobile App)
- Short-term monitoring when you need it
- Aids diagnostic efforts
- Take measurements from individual machines
- Wireless solution for on-site monitoring
- Export recorded measurements

Continuous Remote Monitoring - Network-based
(SensoNODE Gold and Cloud/Edge)
- Long-term and immediate health of machines and processes are viewable around the globe
- Ideal for environments where assets are mission critical, and shutdowns are costly
- User selectable measurement data storage
- Remote solution accessible anywhere, anytime
- Get notified automatically of discrepancies

SensoControl
Wired Monitoring and Control

Get Measurements
Easily get accurate measurements to improve efficiency

Analyze
Gather trend data to analyze machine performance to keep production running

CONDITION MONITORING
Parker

Diagnose
Wirelessly diagnose machine issues to reduce downtime and save money

Monitor
Remotely monitor conditions to extend machine life

Route-Based Monitoring
SensoNODE Blue Sensors & Voice of the Machine Mobile App

SensoNODE Gold Sensors, Voice of the Machine Cloud and Edge Software
Continuous Remote Monitoring

Condition Monitoring Solutions

	SensoControl	SensoNODE Blue and Mobile App	SensoNODE Gold and Edge	SensoNODE Gold and Cloud
Primary Application				
Wireless Continuous Remote Monitoring			√	√
Wireless Route-Based Monitoring		√		
Diagnostics	√	√		
Communication Method				
900 MHz Wireless			√	√
Bluetooth Low Energy (BLE)		√		
Wires	√			
Key Features				
Alert Notifications - Text, Email			√	√
In-Use Alarms		√	√	√
Export and Share Data	√	√	√	√
Recordings	√	√	√	√
View Historical Data			√	√
Configurable Dashboards		√	√	√
Functions or Calculations	√	√	√	√
Configurable Units of Measure	√	√	√	√
Multiple Visualizations	√	√	√	√
Viewable on Multiple Devices		√*	√	√
Add Sensors Instantly	√	√	√	√
Fastest Measurement Rate	1 millisecond **	1 second	20 seconds	20 seconds
Pressure Spike and Drop Capturing	√			
Synchronization of Measurement Inputs	√			
Battery Life	Use Dependent	Rate Dependent	Rate Dependent	Rate Dependent
FCC, IC, &/or CE Certified	√	√	√	√
IP Rating	IP67/IP64/IP65***	IP65	IP65	IP65
Data Storage				
Cloud			√	√
Local Server			√	
Mobile Device		√		
Handheld Meter	√			
Interface				
Desktop/Laptop	√		√	√
Mobile App		√		
Handheld Meter	√			
Other				
Software License			√	
Optional Cellular Subscription				√
Internet/WiFi/LAN Required			√	√
Collection Server Required			√	√
Site Survey Required			√	√

*In Broadcast Mode Only   **0.1ms Available on ServiceMaster+   ***Varies with Handmeters

Parker Hannifin Corporation
Quick Coupling Division
Minneapolis, MN
parker.com/conditionmonitoring

Route-Based Monitoring and Diagnostics

Parker's route-based monitoring and diagnostics allow workers to take instant measurements of individual assets wirelessly, and record those measurements using their mobile device. Compared to traditional, wired gauges, users spend less time getting measurements, and can avoid potentially unsafe working conditions; e.g. monitoring mobile equipment.

Parker's SensoNODE Blue Sensors and Voice of the Machine Mobile Software deliver an IoT solution where hardware and software work together to provide measurements and diagnostics across multiple applications and industries.

Ideal for quick, accurate diagnostics, SensoNODE Blue and Voice of the Machine help companies:

- Get accurate measurements
- Gather measurements from a distance without interrupting production
- Avoid potentially dangerous situations
- Diagnose issues quickly
- Improve work efficiency
- Share data direct from your mobile device

SensoNODE Blue Sensors and Voice of the Machine Software

SensoNODE Blue is Parker's series of Bluetooth-enabled sensors. Compact, energy-efficient, and wireless, they are designed to provide simple and useful solutions for diagnostic and condition monitoring applications with mobile devices. SensoNODE monitors asset measurements to help predict problems and prevent downtime.

Why Blue?
- Accurate measurements
- Easy installation
- No network required
- Wireless installation removes challenges of wired systems
- No external power source required
- Ultra-low battery consumption for up to five years of battery life*
- Sealed sensor housing ideal for harsh environments
- Compact lightweight design
- LED indicators aid in identifying sensor status

* Not continuous use

Voice of the Machine Mobile App allows users to receive measurements direct to their mobile devices. The app compiles the data and presents it in a way that makes sense to a user's operation, allowing them to track data immediately, and receive user-defined alarms for unplanned condition changes that may damage assets. Mapping and dashboard functions allow you to customize data visualization.

Why Mobile App?
- Measurements delivered to your mobile device
- Easy-to-use interface
- Customizable dashboards
- Mapping function
- Set your own alarm thresholds of measurements (min/max)
- Alerted when outside of defined thresholds
- Name sensors so they are easily identifiable
- Easy-to-understand trend charts
- Multiple users can access data from their mobile device
- Export data for analysis, sharing, and retention

SensoNODE™ Blue   Pressure

Features:

- Available in a variety of pressure ranges from -14.5 psi to 8700 psi.
- User-definable measurement units (psi/bar) for convenient and familiar data readings.
- Port options: Male NPT or SAE thread and EMA or PD quick couplers for fast and easy connecting.
- Corrosion resistant materials for challenging environments.
- Sensor also provides ambient temperature values.
- User selectable measurement and broadcast intervals. Refer to Voice of the Machine Mobile App for more information about capabilities and modalities.

Sensor Technical Data

Housing Material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Port	1/4" Male NPT	1/4" Male NPT	-4 SAE	-4 SAE	-4 SAE	-4 SAE
Wetted Parts Material	17-4 Stainless	17-4 Stainless	17-4 Stainless and Nitrile	17-4 Stainless and Nitrile	17-4 Stainless and Nitrile	17-4 Stainless and Nitrile
Measurement Range (pressure)	-14.5 to 14.5 psi [-1 to 1 bar]	0-150 psi [10 bar]	0-1500 psi [100 bar]	0-3625 psi [250 bar]	0-5800 psi [400 bar]	0-8700 psi [600 bar]
Max. Overload Pressure	29 psi	225 psi	2250 psi	5440 psi	8700 psi	13,050 psi
Burst Pressure	3x	4x	4x	4x	4x	4x
Accuracy (at 77°F/ 25°C)	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Resolution	.01 psi	.1 psi	1 psi	1 psi	1 psi	1 psi
Measurement and Broadcast Interval	User Selectable	User Selectable	User Selectable	User Selectable	User Selectable	User Selectable
Response Time (min)	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec
Ambient Temperature* (battery limited)	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]
Fluid Media Temperature Range	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]
Full Range Life Cycles	> 1 million	> 1 million	> 1 million	> 1 million	> 1 million	> 1 million
Certifications	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A	CR123A	CR123A	CR123A	CR123A	CR123A
IP Rating	IP65	IP65	IP65	IP65	IP65	IP65

Note: Consult QCD for other port options, pressure ratings, and port seal materials.

*Ambient temperature range can be broadened by installing Wired Power Adapter (SNWP2-B)

Pressure Sensors
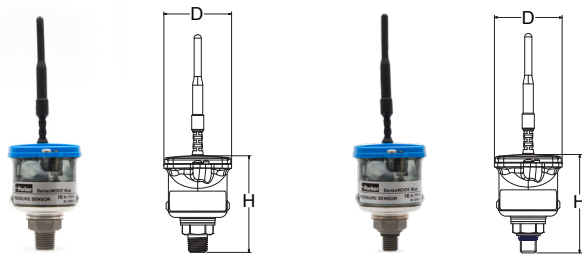
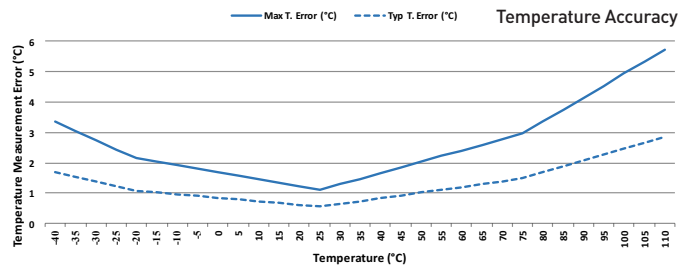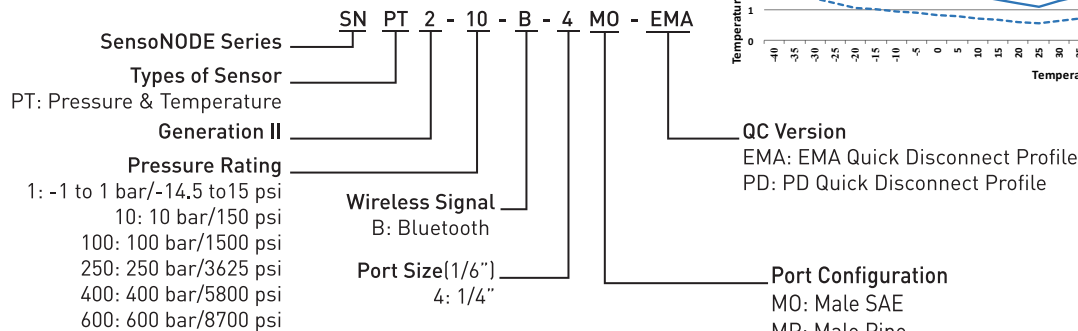| Part Number	Pressure Rating psi [bar]	Port	D	H
SNPT2-1-B-4MP	-14.5 to 14.5 [-1 to1]	¼" Male NPTF	ø1.88" [48mm]	2.66" [68mm]
SNPT2-10-B-4MP	0-150 [10]	¼" Male NPTF	ø1.88" [48mm]	2.66" [68mm]
SNPT2-100-B-4MO	0-1500 [100]	-4 SAE	ø1.88" [48mm]	2.72" [69mm]
SNPT2-250-B-4MO	0-3625 [250]	-4 SAE	ø1.88" [48mm]	2.72" [69mm]
SNPT2-400-B-4MO	0-5800 [400]	-4 SAE	ø1.88" [48mm]	2.72" [69mm]
SNPT2-600-B-4MO	0-8700 [600]	-4 SAE	ø1.88" [48mm]	2.72" [69mm]

Quick Couplers
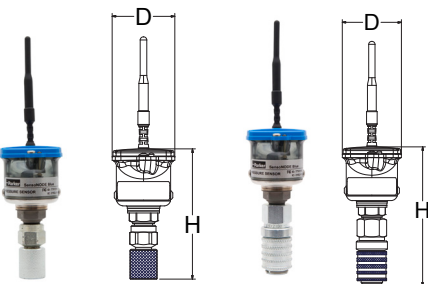
Part Number	Pressure Rating psi [bar]	Port	D	H
SNPT2-100-B-4MO-EMA	0-1500 [100]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-250-B-4MO-EMA	0-3625 [250]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-400-B-4MO-EMA	0-5800 [400]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-600-B-4MO-EMA	0-8700 [600]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-100-B-4MO-PD	0-1500 [100]	PD	ø1.88" [48mm]	4.40" [112mm]
SNPT2-250-B-4MO-PD	0-3625 [250]	PD	ø1.88" [48mm]	4.40" [112mm]
SNPT2-400-B-4MO-PD	0-5800 [400]	PD	ø1.88" [48mm]	4.40" [112mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe. For sales information outside of these regions, please contact your Parker representative.

Temperature Accuracy

Max T. Error (°C)   Typ T. Error (°C)

How to Order:

SN PT 2 - 10 - B - 4 MO - EMA

- SensoNODE Series
- Types of Sensor
  PT: Pressure & Temperature
- Generation II
- Pressure Rating
  - 1: -1 to 1 bar/-14.5 to15 psi
  - 10: 10 bar/150 psi
  - 100: 100 bar/1500 psi
  - 250: 250 bar/3625 psi
  - 400: 400 bar/5800 psi
  - 600: 600 bar/8700 psi
- Wireless Signal
  B: Bluetooth
- Port Size(1/6")
  4: 1/4"
- Port Configuration
  MO: Male SAE
  MP: Male Pipe
- QC Version
  EMA: EMA Quick Disconnect Profile
  PD: PD Quick Disconnect Profile

⚠ **WARNING**   The products listed can expose you to chemicals including Lead, which is known to the State of California to cause cancer, and to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

SensoNODE™ Blue

Temperature

Features:

- User-definable measurement units (F°/C°) for convenient and familiar data readings
- Port Options: Male NPTF and SAE
- Corrosion-resistant materials for challenging environments.
- User-selectable measurement and broadcast intervals. Refer to Voice of the Machine Mobile App for more information about capabilities and modalities.
- Available in unique foot and clamp designs for quick attachment to pipe or hard tubing.

Sensor Technical Data

Housing Material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Nylon
Port	1/4" Male NPTF	-4 SAE	1/4" Male NPTF	-4 SAE	Foot	Clamp
Wetted Parts Material	17-4 Stainless	17-4 Stainless and Nitrile	17-4 Stainless	17-4 Stainless and Nitrile	Stainless	Stainless
Measurement Range (Fluid Temperature)	-40°F to 230°F [-40°C to 110°C]	-40°F to 230°F [-40°C to 110°C]	-40°F to 230°F [-40°C to 110°C]	-40°F to 230°F [-40°C to 110°C]	-40°F to 257°F [-40°C to 125°C]	-40°F to 257°F [-40°C to 125°C]
Working Pressure	0-10k psi [0-700 bar]	0-9k psi [0-630 bar]	0-1500 psi [0-100 bar]	0-1500 psi [0-100 bar]	N/A	N/A
Max. Overload Pressure	3x	3x	2x	2x	N/A	N/A
Burst Pressure	4x	4x	3x	3x	N/A	N/A
Accuracy (at 77°F/ 25°C)	±3.0%	±3.0%	±3.0%	±3.0%	±5.0%	±5.0%
Resolution (from 14°F to 120°F) [-10°C to 44.8°C]	1°F [.56°C]	1°F [.56°C]	1°F [.56°C]	1°F [.56°C]	2°F [1.12°C]	2°F [1.12°C]
Measurement and Broadcast Intervals	User Selectable	User Selectable	User Selectable	User Selectable	User Selectable	Measurement Only (1 sec)
Response Time (minimum)	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec
Ambient Temperature (battery limited)*	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]
Full Range Life Cycles	> 1 million	> 1 million	> 1 million	> 1 million	> 1 million	> 1 million
Certifications	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A	CR123A	CR123A	CR123A	CR123A	CR2450
IP Rating	IP65	IP65	IP65	IP65	IP65	IP65

Note: Consult QCD for other port options and port seal materials.
*Ambient temperature range can be broadened by installing Wired Power Adapter (SNWP2-B)

Temperature Sensors – Ported

MO

MP
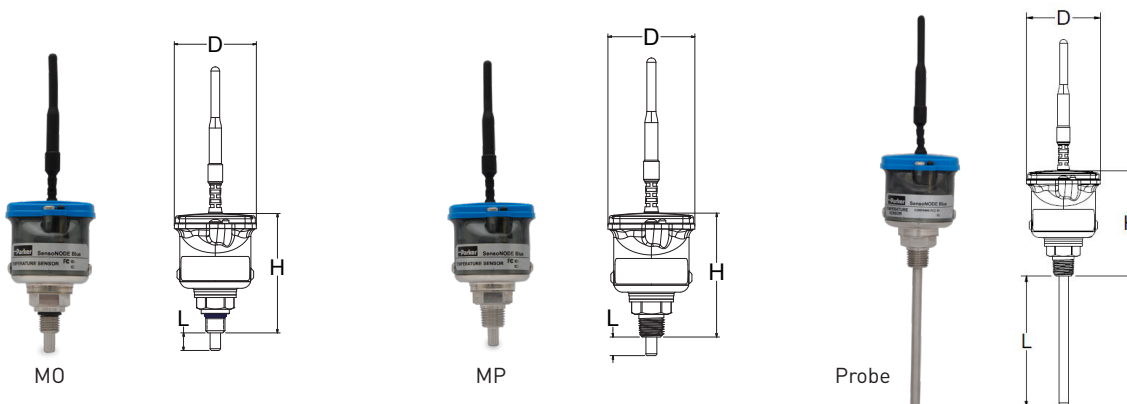
Probe

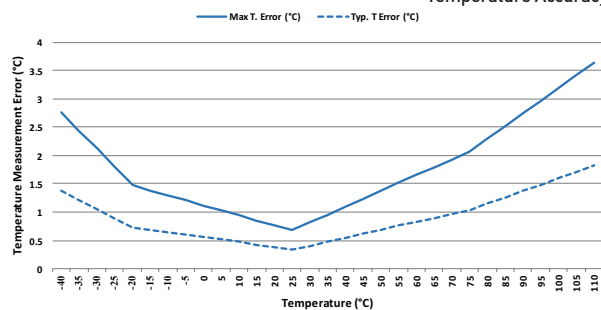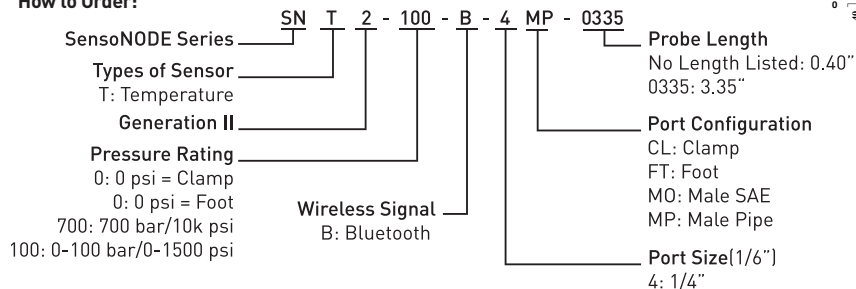| Part Number	Fluid Temperature Range	Port	D	H	L
SNT2-700-B-4MO	-40°F to 230°F [-40°C to 110°C]	-4 SAE	ø1.88˝ [48mm]	2.72˝ [69mm]	0.40˝ [10.16mm]
SNT2-700-B-4MP	-40°F to 230°F [-40°C to 110°C]	1/4˝ Male NPTF	ø1.88˝ [48mm]	2.66˝ [68mm]	0.40˝ [10.16mm]
SNT2-100-B-4MO-0335	-40°F to 230°F [-40°C to 110°C]	-4 SAE/Probe	ø1.88˝ [48mm]	2.72˝ [69mm]	3.35˝ [85mm]
SNT2-100-B-4MP-0335	-40°F to 230°F [-40°C to 110°C]	1/4˝ Male NPTF/Probe	ø1.88˝ [48mm]	2.66˝ [68mm]	3.35˝ [85mm]

Temperature Sensors – Foot and Clamp

Part Number	Fluid Temperature Range	L	H	Optimal Clamping
SNT2-0-B-FT	-40°F to 257°F [-40°C to 125°C]	2.42˝ [61.5mm]	2.31˝ [58.7mm]	> Ø.25˝+ [>Ø6.4mm]
SNT-0-B-CL-KB	-40°F to 257°F [-40°C to 125°C]	5.24˝ [133.1mm]	3.06˝ [77.7mm]	Ø.25˝ to Ø1.5˝ [Ø6.4mm-Ø38.1mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe. For sales information outside of these regions, please contact your Parker representative.

Temperature Accuracy

How to Order:

SensoNODE Series — SN

Types of Sensor — T
T: Temperature

Generation II — 2

Pressure Rating
0: 0 psi = Clamp
0: 0 psi = Foot
700: 700 bar/10k psi
100: 0-100 bar/0-1500 psi

Wireless Signal
B: Bluetooth

SN T 2 - 100 - B - 4 MP - 0335

Probe Length
No Length Listed: 0.40˝
0335: 3.35˝

Port Configuration
CL: Clamp
FT: Foot
MO: Male SAE
MP: Male Pipe

Port Size(1/6˝)
4: 1/4˝

⚠ **WARNING** The products listed can expose you to chemicals including Lead, which is known to the State of California to cause cancer, and to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
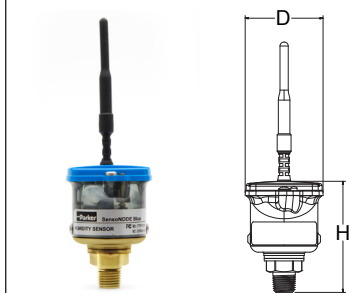
Features:

- 0-100% relative humidity.
- Ideal for ambient condition and inert compressed gas monitoring applications.
- NPTF port to make plumbing and connecting easier and faster.
- Optimal mounting orientation is vertical with port facing down to prevent moisture collection.
- Sensor also provides ambient temperature values.
- User-selectable measurement and broadcast intervals. Refer to the Voice of the Machine Mobile App for more information about capabilities and modalities.

Sensor Technical Data	
Housing Material	Polycarbonate
Port	1/4″ Male NPTF
Wetted Parts Material	Brass, Nitrile, Urethane, and GORE-TEX®
Measurement Range (Humidity)	0-100% RH
Working Pressure	0-150 psi [10 bar]
Max. Overload Pressure	150 psi Max [10 bar]
Burst Pressure	4x
Accuracy (77°F/25°C, 20% RH to 80% RH, at ambient pressure)	±5% RH Max
Resolution (at 77°F/25°C)	0.1% RH
Measurement and Broadcast Interval	User Selectable
Response Time (from 33% to 75% RH)	10 secs
Ambient Temperature (battery limited)*	-4°F to 158°F [-20°C to 70°C]
Temperature Accuracy (from 14°F to 185°F [-10°C to 85°C])	±1.0°F [±0.5°C]
Full Range Life Cycles	> 1 million
Certifications	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A
IP Rating	IP65

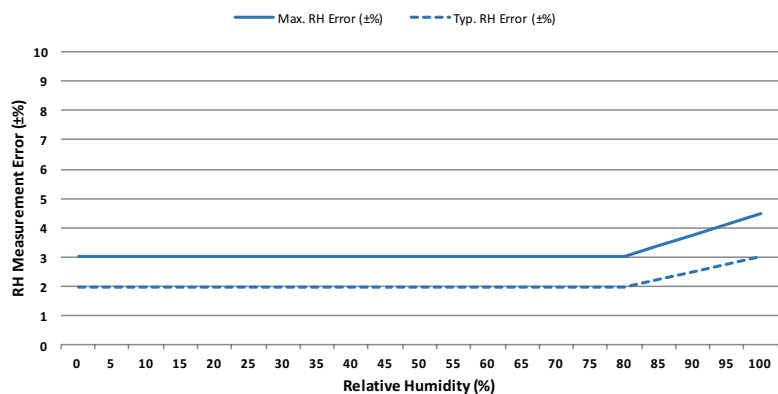*Ambient temperature range can be broadened by installing Wired Power Adapter (SNWP2-B)
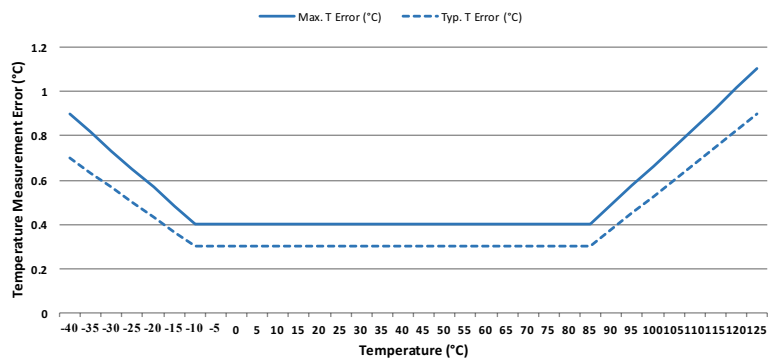
SensoNODE™ Blue   Humidity

Humidity Sensors

Part Number	RH Range	Port	D	H
SNHT2-10-B-4MP	0-100%	¼" Male NPTF	ø1.88" [48mm]	2.66" [68mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe. For sales information outside of these regions, please contact your Parker representative.
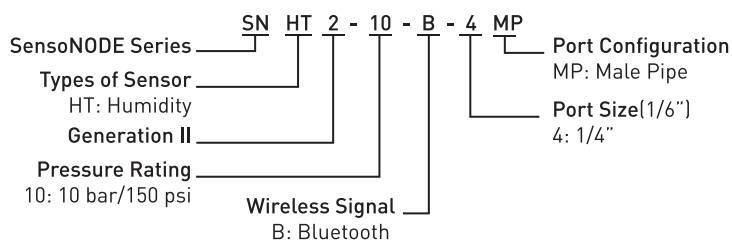
RH Accuracy

— Max. RH Error (±%)   --- Typ. RH Error (±%)

Temperature Accuracy

— Max. T Error (°C)   --- Typ. T Error (°C)

How to Order:

SN HT 2 - 10 - B - 4 MP

- SensoNODE Series
- Types of Sensor
  HT: Humidity
- Generation II
- Pressure Rating
  10: 10 bar/150 psi
- Wireless Signal
  B: Bluetooth
- Port Configuration
  MP: Male Pipe
- Port Size(1/6")
  4: 1/4"

⚠ **WARNING** The products listed can expose you to chemicals including Lead, which is known to the State of California to cause cancer, and to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

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Parker Hannifin Corporation
Quick Coupling Division
Minneapolis, MN
parker.com/conditionmonitoring

Features:
- Magnetic base for tool free mounting.
- Threaded stud port provides alternative mounting option where magnetic base is not suitable.
- Soft, thin and conformable sensors.
- Reliable accurate measurements while being strained up to 100% for millions of cycles.
- Resilient silicone rubber that can withstand harsh environments.

Sensor Technical Data		
Active Area Dimensions	50mm x 14mm	100mm x 14mm
Maximum Extension	100mm	200mm
Resolution	±0.1% strain FS (±50μm)	±0.1% strain FS (±100μm)
Sensitivity	0.026% strain FS (13μm)	0.026% strain FS (26μm)
Linearity	±1% FS	±1% FS
Hysteresis	±1% FS	±1% FS
Stiffness	0.15 N/mm	0.15 N/mm
Measurement Outputs	Percent strain in 100ths of a percent of length of active area; temperature in °C or °F	Percent strain in 100ths of a percent of length of active area; temperature in °C or °F
Sampling Rate	1Hz for standard configuration	1Hz for standard configuration
Ambient Temperatures	-40°F to +185°F, [-40°C to +85°C]	-40°F to +185°F, [-40°C to +85°C]
Full Range Life Cycles	> 5 million	> 5 million
IP Rating	IP67	IP67

| Transmitter Technical Data	
Base Material	Aluminum
Housing Material	Polycarbonate
Measurement and Broadcast Interval	User Selectable
Temperature Range with Wired Power	-40˚F-185˚F
Temperature Range with Battery	-4˚F-158˚F
Certifications	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A
IP Rating	IP65

strain
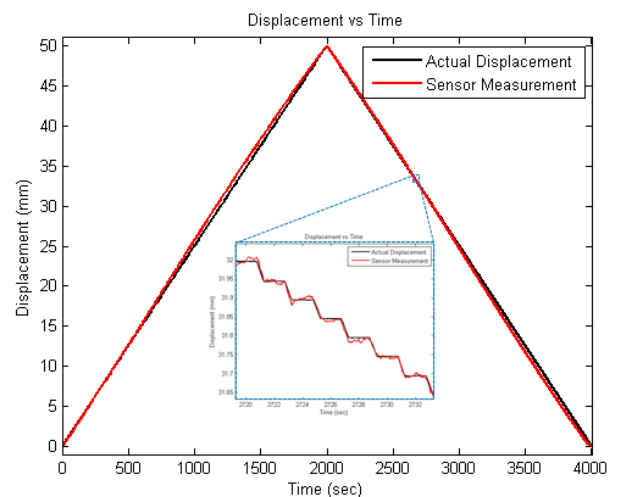
Sensor Kit

Part Number	Transmitter	Sensors
SNES2-KIT-B-50	(1) SNES2-B	(2) 50mm

Sensors
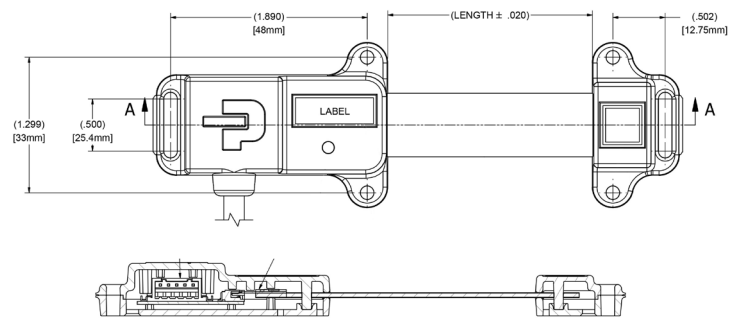
Part Number	Sensor Length (L)	Sensor Width (W)	Cable Length
EAPS-50HD	1.97" [50mm]	0.67" [17mm]	18" [457.2mm]
EAPS-100HD	3.94" [100mm]	0.67" [17mm]	18" [457.2mm]

Transmitter
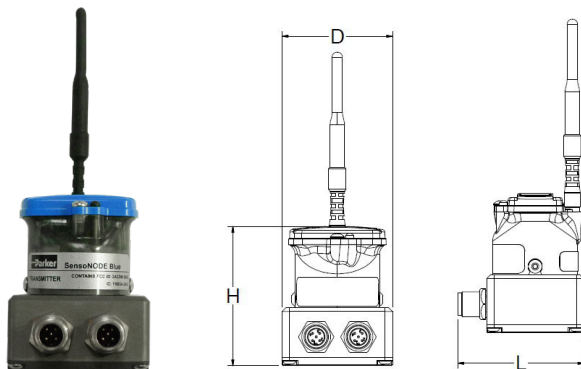
Part Number	Base Mounting Thread	D	H	L
SNES2-B	1/4-28 UNF x 0.45" [11mm]	2.11" [54mm]	2.67" [68mm]	2.41" [61mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe.
For sales information outside of these regions, please contact your Parker representative.

How to Order:

```
              EAP  S - 50 HD

Material _____|   |   |   |
EAP: Electroactive Polymer

Types of Sensor _____|   |   |
S: Strain

Length of Active Area _____|   |
50: 50mm
100: 100mm

Sensor Type _____|
HD: Heavy Duty
```

SensoNODE™ Blue

Features:

- Connects inline with any 4-20mA Sensor.
- Integrates hard wired sensors into wireless Voice of the Machine Software.
- Does not require reprogramming of existing control system
- Magnetic base for tool free mounting.
- Threaded stud port provides alternative mounting options where magnetic base is not suitable.
- Definable mapping feature in Voice of the Machine Mobile App to present 4-20mA signal in user defined units.
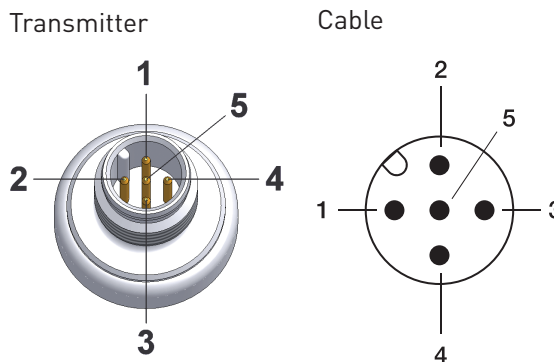- Requires connection cable SCK-400-xx-xx in conjunction with transmitter and 4-20mA Sensor.

Transmitter Technical Data	
Base Material	Aluminum
Housing Material	Polycarbonate
Accuracy	0.5% (additive to source)
Resolution	0.1%
Temperature Range with Wired Power	-40˚F-185˚F
Temperature Range with Battery	-4˚F-158˚F
Measurement and Broadcast Interval	User Selectable
Full Range Life Cycles	> 1 million
Certifications	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A
IP Rating	IP65
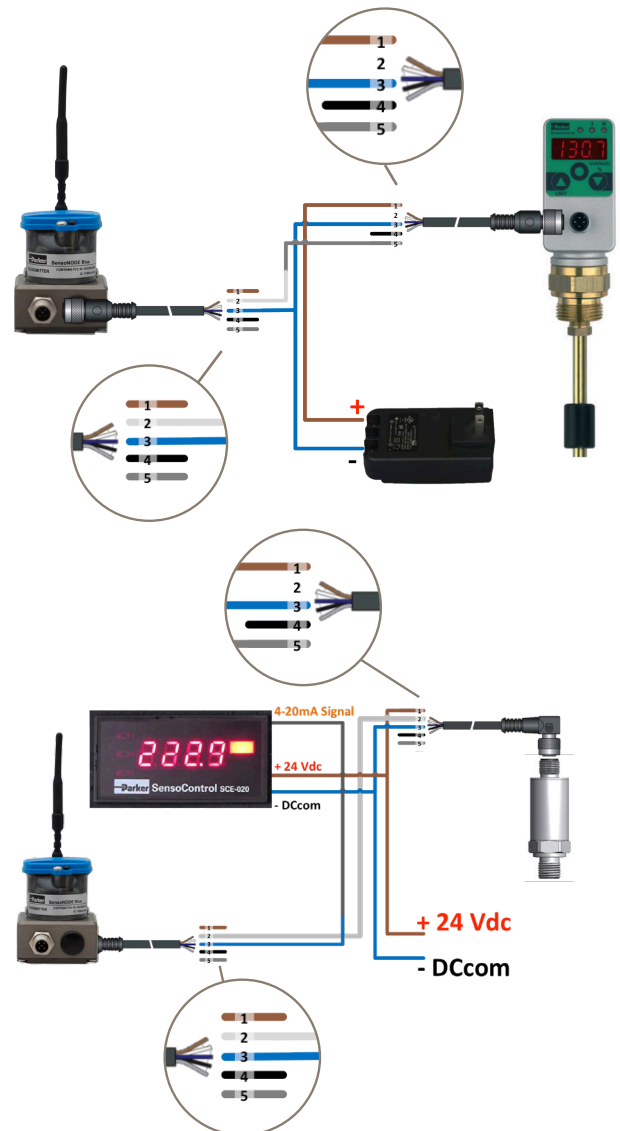
4-20mA Transmitter

Part Number	Base Mounting Thread	D	H	L
SN422-B	1/4-28 UNF x0.45" [11mm]	2.11" [54mm]	2.67" [68mm]	2.41" [61mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe.
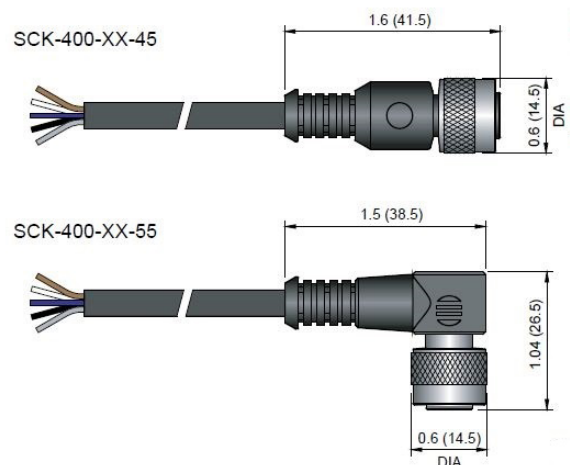For sales information outside of these regions, please contact your Parker representative.

Pin Assignment

PIN	Connection	Wire Color
1	No Connection	Brown
2	4-20mA Signal In	White
3	4-20mA Signal Out	Blue
4	No Connection	Black
5	No Connection	Gray

Transmitter   Cable

M12 Connection Cable

Part Number	Cable Length	Plug-in Connector
SCK-400-02-45	6.5 ft [2m]	M12 socket, straight
SCK-400-02-55	6.5 ft [2m]	M12 socket, 90°
SCK-400-05-45	16 ft [5m]	M12 socket, straight
SCK-400-05-55	16 ft [5m]	M12 socket, 90°
SCK-400-10-45	32.5 ft [10m]	M12 socket, straight
SCK-400-10-55	32.5 ft [10m]	M12 socket, 90°

SCK-400-XX-45

1.6 (41.5)
0.6 (14.5) DIA

SCK-400-XX-55

1.5 (38.5)
1.04 (26.5)
0.6 (14.5) DIA

Features:

- Wireless, remote readings
- Easy operation
- Hand-held digital pressure gauge
- Measure and display - pressure
- Backlit display
- User-adjustable pressure units
- Min/Max memory
- Battery life indicator
- Ranges for hydraulics and pneumatics
- Scanning rate of 10ms
- Fluid temperature: -4˚F to 176˚F
- Certifications: FCC, IC, CE

Cover Color Code

Blue	-14.5 to 230 psi (-1 to 16 bar)
Green	0 to 1500 psi (0 to 100 bar)
Orange	0 to 5800 psi (0 to 400 bar)
Red	0 to 8700 psi (0 to 600 bar)

Digital pressure monitoring

- Capture minimum/maximum pressure changes at a rate of 10 ms
- Digital readout more accurate than mechanical
- Exportable records and proof-of-work statements
- Set alarms, create/view trend graphs, create asset records

Wireless operation

- Powered by Industrial Mobile Software
- Fast accurate readings
- No more wiring or hoses getting caught in machinery
- Line of sight is not needed to obtain measurement
- Allows users to be away from machinery while in use and under full load, reducing safety risks

Scalable and expandable

- Increase or decrease the total number of gauges used
- No need to reconfigure wired infrastructure
- Works with SensoNODE™ Blue Sensors via Mobile App

pressure

ServiceJunior CONNECT
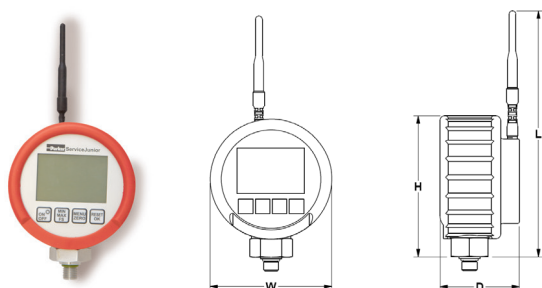
ServiceJunior CONNECT (PD Coupler*)	ServiceJunior CONNECT (EMA3 Coupler**)	ServiceJunior CONNECT (1/4"NPT Port)	Measuring Range	Overload Pressure (psi)	Resolution (psi)	Accuracy
SCJR-0250-PD-BLE2	SCJR-0250-EMA-BLE2	SCJR-0250-4MP-BLE2	-14.5 to 230 psi (-1 to 16 bar)	460	0.1	0.5% FS
SCJR-1500-PD-BLE2	SCJR-1500-EMA-BLE2	SCJR-1500-4MP-BLE2	0 to 1500 psi (0 to 100 bar)	2,900	1	0.5% FS
SCJR-5800-PD-BLE2	SCJR-5800-EMA-BLE2	SCJR-5800-4MP-BLE2	0 to 5800 psi (0 to 400 bar)	11,600	1	0.5% FS
SCJR-8700-PD-BLE2	SCJR-8700-EMA-BLE2	SCJR-8700-4MP-BLE2	0 to 8700 psi (0 to 600 bar)	14,500	1	0.5% FS

Product Dimensions	W	D	H	L
ServiceJunior CONNECT	3.52" [89.40mm]	2.28" [57.91mm]	4.04" [102.61mm]	7.05" [179.07mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe.
For sales information outside of these regions, please contact your Parker representative.

Battery life is dependent upon wireless transmission rate:
1 second rate = 100 hours of battery life   2 second rate = 200 hours of battery life

* PD Couplers rated to 6,000 psi max
** EMA3 Couplers rated to 9,000 psi max
Note: To receive ServiceJunior with calibration certificate, add K- to the beginning of the part number. (i.e. K-SCJR-1500-PD)

Accessories

Part Number	Description
PD240	PD Series Diagnostic Coupler
SCA-7/16-EMA-3	7/16 - 20UNF-2B female to M16X2.0 EMA3 female swivel
SCJA-1/4	7/16 - 20UNF-2B female to 1/4" NPT male adapter
PDH-19	19" PD Hose extension to be used with PD nipple
PDH-32	32" PD Hose extension to be used with PD nipple
SMA3-400	16" (400 mm) Hose assembly for EMA M16X2.0 interface
SCC-300	Storage case for three gauges and diagnostic adapters

SensoNODE™ Blue

Features:

- Supplies continuous power to sensors.
- Used with IEC/UL 508 Class 2 power supply.
- Easy upgrade eliminates the need for battery replacement.
- Extends temperature operating range over batteries.
- FCC, IC, and CE certified when used with SensoNODE products.

Technical Data	
Part Number	SNWP2-B
Wire Length	9.8 ft [3m]
Temperature Range	-40˚F-185˚F
Input Power	5-36 Volts DC
Output Power	3 Volts DC
Connection	Flying lead 24 AWG Wires
Form	CR123A Battery

Mobile App

Voice of the Machine Mobile App is used for diagnostics and condition monitoring for predictive maintenance. The app allows users to connect to Parker's SensoNODE™ Blue wireless sensors to gather measurements for a wide range of fluid and gas applications.

Voice of the Machine Mobile App puts vital information in the palm of the user's hand. It offers immediate and historic trend information collected by SensoNODE™ Blue wireless sensors and presents it in a way that makes sense to a user's operation, providing the information needed to optimize asset performance. Data can also be easily exported and shared.

Voice of the Machine Mobile App alerts users to unplanned condition changes that may damage components and equipment. As levels rise above or fall below user-defined thresholds, users are alerted to these events, giving them an opportunity to address potential issues that could harm the system over time, helping to reduce unplanned downtime and increase productivity.
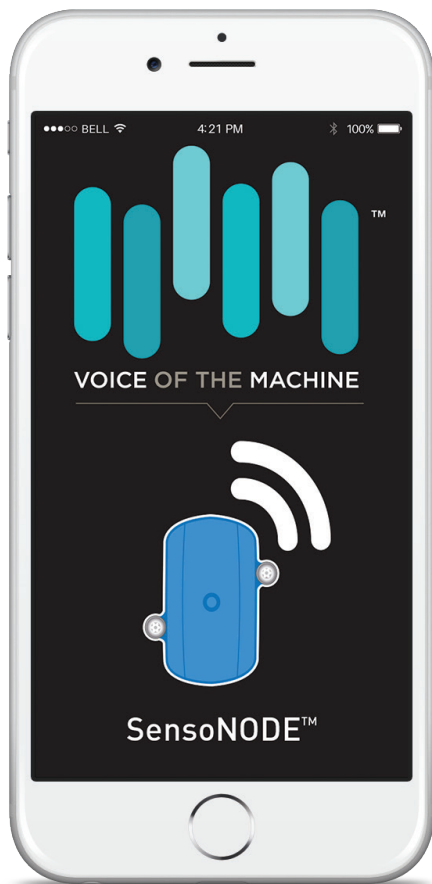
Capabilities:
- Mobile application designed for iOS and Android
- Connect and display SensoNODE Blue Sensors

Features:
- Intuitive design and user experience
- Auto recognition enables users to quickly add and connect multiple sensors concurrently
- Easy readability of measurements with visualized data in digital gauges and trend charts
- View immediate measurements that include current values and minimum/maximum indicators in addition to historical sensor information
- Configurable alarm thresholds with alerts when thresholds are exceeded; monitoring continues while sensors are unattended
- Customizable trend charts and dashboards
- Mapping function for pressure, 4-20mA and flexible displacement sensors that correlates raw measurements into your "specific" units
- Easily export and share data

Voice of the Machine™ Mobile App

Compatibility:
• Requires iOS 9 or newer/Android 4.4 or newer
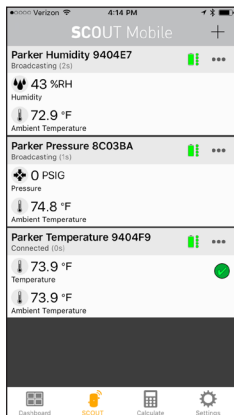
Languages:
• English

Supported Devices:
• iPhone (4S and newer)
• iPod Touch (5th Gen and newer)
• iPad 3, 4
• iPad Air and iPad Air 2
• iPad Mini (1st Gen and newer)
• iPad Pro
• Compatible with most Bluetooth Low
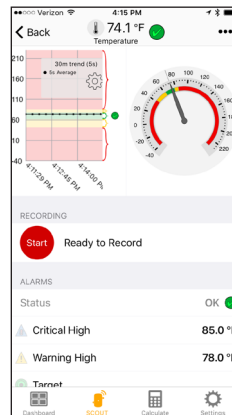 Energy (BLE) supported Android devices

Voice of the Machine™ Mobile App
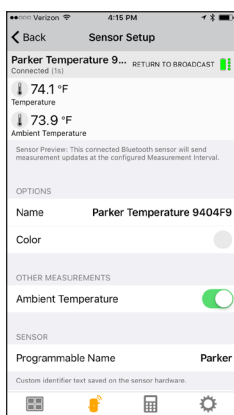
Sensor Inventory

One touch access to sensors that have been added to your mobile device with their latest measurements, alarm status, and sensor mode - broadcasting or connected.
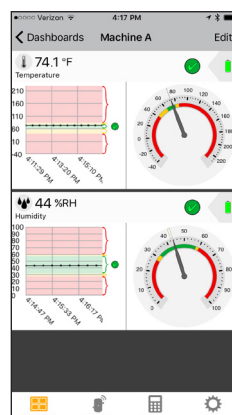
Measurement Detail

Focus on a single measurement with trend charts, digital gauge, alarm thresholds and other useful features for the operational professional.
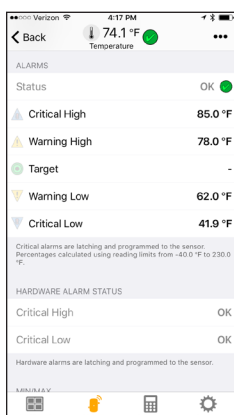
Sensor Setup

Configure sensors with individually programmed name, highlight color and modes of operation to suit different use cases.
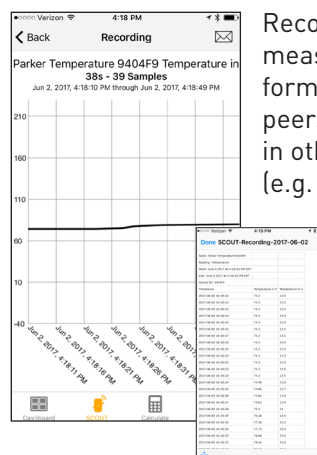
Dashboard

Simplify monitoring activities by grouping measurements that belong together and compare the group's trends and gauges.

Alarm Settings

Define measurement thresholds to get notified of important changes. Critical thresholds are programmed to sensor firmware for exception monitoring between readings.

Record and Export

Record and export measurements in CSV format for sharing with peers or further analyzing in other applications (e.g. Excel).

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Continuous Remote Monitoring

For more long-term condition monitoring applications, continuous remote monitoring allows you to track measurements to gauge the health of your machines and processes. Whether you're at your desk or out visiting a customer, you can monitor and collect data from multiple assets and get alerts of deviations. This is ideal for large-scale operations with production and assembly lines.
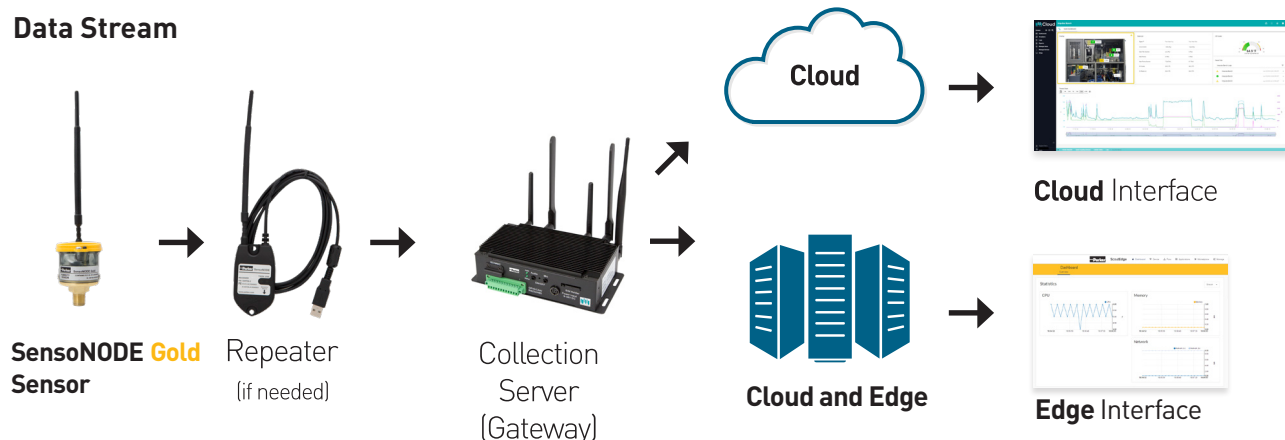
Parker's Voice of the Machine Software and SensoNODE Gold Sensors deliver a complete, **standalone solution that isn't dependent on a facility network or IT department.** All you need is an internet connection and browser to monitor your asset measurements from anywhere.

With quick and simple data gathering from multiple facilities, users can:
• Review data anywhere, anytime and make better decisions
• Improve safety
• Get measurements without interrupting production
• Monitor more assets and processes with fewer staff
• Optimize machine performance and service life
• Maintain production quality
• Immediate notification of deviations/exceptions
• Analyze performance trends for indications of pending failures

SensoNODE Gold and Voice of the Machine Software

Data Stream

SensoNODE Gold Sensor

Repeater
(if needed)

Collection Server (Gateway)

Cloud

Cloud and Edge

Cloud Interface

Edge Interface

SensoNODE™ Gold Sensors and Voice of the Machine™ Software

SensoNODE Gold is Parker's series of networked, wireless sensors that are developed for continuous condition monitoring via the cloud or local enterprise applications. That means as long as you have an internet connection, you can get up-to-date measurements.

Why Gold?
- Wireless sensors that are small in size
- Simple sensor installation
- Provides accurate measurements
- Place sensors at point of need
- Longer battery life
- Longer range radio
- Durable construction for harsh environments – IP65 rated

Voice of the Machine Cloud Software is Parker's cloud-based continuous condition monitoring interface that provides alerts, status, and analytics for increased awareness of your processes and assets.

Why Cloud?
- Access to data anytime, anywhere
- Easy to use web-based interface
- No software download – no updates
- Receive alert notifications - email, text message, or in-system
- Visualize data in a way that makes most sense
- Customize alerts, trend charts, and dashboards
- View measurement anomalies easily
- Support continuous improvement efforts with trend data
- Multiple user access levels
- Remotely monitor multiple sites and sensors
- Export data

Voice of the Machine Edge Software
The Edge interface is designed to work seamlessly with a web browser-based user interface. Data is ingested from virtually any industrial asset. The software allows you to run various applications utilizing your data at the Edge, or send it securely to the Cloud for seamless enterprise integration.

Why Edge?
- App & Industrial Driver Marketplace
- Security Monitoring
- Remote Device Management
- 3rd Party Cloud Integration
- Private Marketplace

- Easy to Use Graphical Programming Interface
- Industrial Device Connectivity
- Application Deployment
- Secure Access

SensoNODE™ Gold   Pressure

Features:
- Available in a variety of pressure ranges from -14.5 psi to 8700 psi.
- User-definable measurement units (psi/bar) for convenient and familiar data readings.
- Port options: Male NPT or SAE thread and EMA or PD quick couplers for fast and easy connecting.
- Corrosion resistant materials for challenging environments.
- Sensor also provides ambient temperature values.
- Configurable measurement and broadcast intervals*. Refer to Voice of the Machine Cloud for more information about capabilities and modalities.

Sensor Technical Data

Housing Material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Port	1/4˝ Male NPT	1/4˝ Male NPT	-4 SAE	-4 SAE	-4 SAE	-4 SAE
Wetted Parts Material	17-4 Stainless	17-4 Stainless	17-4 Stainless and Nitrile	17-4 Stainless and Nitrile	17-4 Stainless and Nitrile	17-4 Stainless and Nitrile
Measurement Range (pressure)	-14.5 to 14.5 psi [-1 to 1 bar]	0-150 psi [10 bar]	0-1500 psi [100 bar]	0-3625 psi [250 bar]	0-5800 psi [400 bar]	0-8700 psi [600 bar]
Max. Overload Pressure	29 psi	225 psi	2250 psi	5440 psi	8700 psi	13,050 psi
Burst Pressure	3x	4x	4x	4x	4x	4x
Accuracy (at 77°F/ 25°C)	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Resolution	.01 psi	.1 psi	1 psi	1 psi	1 psi	1 psi
Response Time (min)	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec
Ambient Temperature (battery limited)**	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]
Fluid Media Temperature Range	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]	-40°F to 185°F [-40°C to 85°C]
Full Range Life Cycles	> 1 million	> 1 million	> 1 million	> 1 million	> 1 million	> 1 million
Certifications	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A	CR123A	CR123A	CR123A	CR123A	CR123A
IP Rating	IP65	IP65	IP65	IP65	IP65	IP65

Note: Consult QCD for other port options, pressure ratings, and port seal materials.
*Consult Subscription Agreement and Order Form or Parker QCD for any changes regarding data rates.
**Ambient temperature range can be broadened by installing Wired Power Adapter (SNWP2-2)
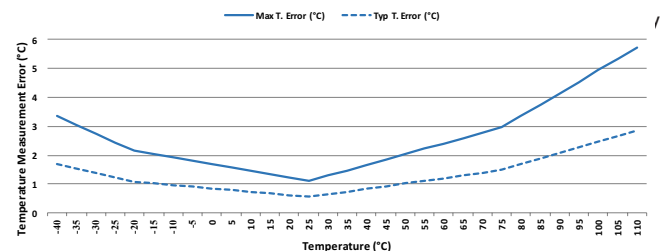
Pressure Sensors
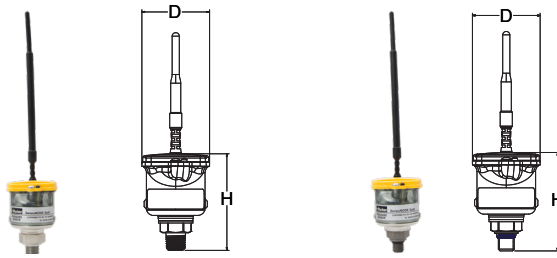
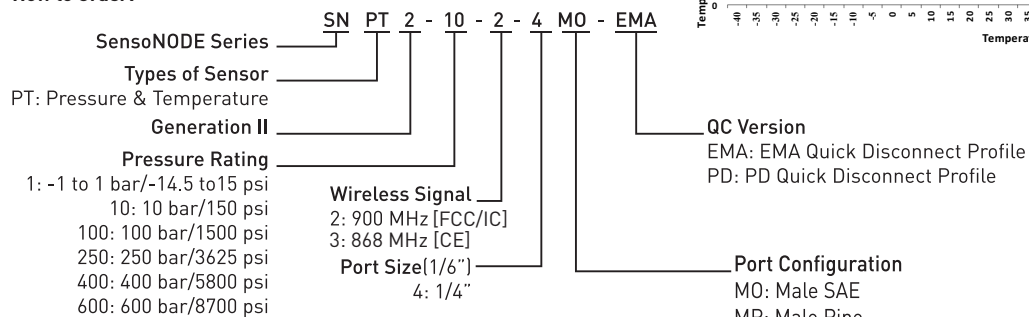| Part Number	Pressure Rating psi [bar]	Port	D	H
SNPT2-1-2-4MP	-14.5 to 14.5 [-1 to1]	¼" Male NPTF	ø1.88" [48mm]	2.66" [68mm]
SNPT2-10-2-4MP	0-150 [10]	¼" Male NPTF	ø1.88" [48mm]	2.66" [68mm]
SNPT2-100-2-4MO	0-1500 [100]	-4 SAE	ø1.88" [48mm]	2.72" [69mm]
SNPT2-250-2-4MO	0-3625 [250]	-4 SAE	ø1.88" [48mm]	2.72" [69mm]
SNPT2-400-2-4MO	0-5800 [400]	-4 SAE	ø1.88" [48mm]	2.72" [69mm]
SNPT2-600-2-4MO	0-8700 [600]	-4 SAE	ø1.88" [48mm]	2.72" [69mm]

Quick Couplers
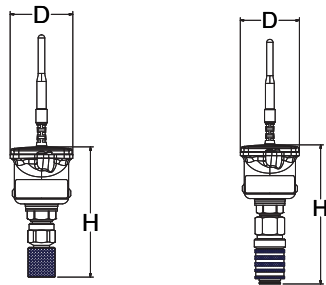
Part Number	Pressure Rating psi [bar]	Port	D	H
SNPT2-100-2-4MO-EMA	0-1500 [100]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-250-2-4MO-EMA	0-3625 [250]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-400-2-4MO-EMA	0-5800 [400]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-600-2-4MO-EMA	0-8700 [600]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-100-2-4MO-PD	0-1500 [100]	PD	ø1.88" [48mm]	4.40" [112mm]
SNPT2-250-2-4MO-PD	0-3625 [250]	PD	ø1.88" [48mm]	4.40" [112mm]
SNPT2-400-2-4MO-PD	0-5800 [400]	PD	ø1.88" [48mm]	4.40" [112mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe. For sales information outside of these regions, please contact your Parker representative.

How to Order:

SN PT 2 - 10 - 2 - 4 MO - EMA

SensoNODE Series

Types of Sensor
PT: Pressure & Temperature

Generation II

Pressure Rating
1: -1 to 1 bar/-14.5 to15 psi
10: 10 bar/150 psi
100: 100 bar/1500 psi
250: 250 bar/3625 psi
400: 400 bar/5800 psi
600: 600 bar/8700 psi

Wireless Signal
2: 900 MHz [FCC/IC]
3: 868 MHz [CE]

Port Size (1/6")
4: 1/4"

Port Configuration
MO: Male SAE
MP: Male Pipe

QC Version
EMA: EMA Quick Disconnect Profile
PD: PD Quick Disconnect Profile

⚠ **WARNING** The products listed can expose you to chemicals including Lead, which is known to the State of California to cause cancer, and to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

SensoNODE™ Gold   Temperature

Features:

- User-definable measurement units (F°/C°) for convenient and familiar data readings.
- Port Options: Male NPTF and SAE
- Corrosion-resistant materials for challenging environments.
- Configurable measurement and broadcast intervals*. Refer to Voice of the Machine Cloud for more information about capabilities and modalities.
- Available in unique foot design for quick attachment to pipe or hard tubing.

Sensor Technical Data

Housing Material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate
Port	1/4˝ Male NPTF	-4 SAE	1/4˝ Male NPTF	-4 SAE	Foot
Wetted Parts Material	17-4 Stainless	17-4 Stainless and Nitrile	17-4 Stainless	17-4 Stainless and Nitrile	Stainless
Measurement Range (Fluid Temperature)	-40°F to 230°F [-40°C to 110°C]	-40°F to 230°F [-40°C to 110°C]	-40°F to 230°F [-40°C to 110°C]	-40°F to 230°F [-40°C to 110°C]	-40°F to 257°F [-40°C to 125°C]
Working Pressure	0-10k psi [0-700 bar]	0-9k psi [0-630 bar]	0-1500 psi [0-100 bar]	0-1500 psi [0-100 bar]	N/A
Max. Overload Pressure	3x	3x	2x	2x	N/A
Burst Pressure	4x	4x	3x	3x	N/A
Accuracy (at 77°F/ 25°C)	±3.0%	±3.0%	±3.0%	±3.0%	±5.0%
Resolution (from 14°F to 120°F)[-10°C to 44.8°C]	1°F [.56°C]	1°F [.56°C]	1°F [.56°C]	1°F [.56°C]	2°F [1.12°C]
Response Time (minimum)	1 sec	1 sec	1 sec	1 sec	1 sec
Ambient Temperature (battery limited**	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]	-4°F to 158°F [-20°C to 70°C]
Full Range Life Cycles	> 1 million	> 1 million	> 1 million	> 1 million	> 1 million
Certifications	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A	CR123A	CR123A	CR123A	CR2450
IP Rating	IP65	IP65	IP65	IP65	IP65

Note: Consult QCD for other port options, pressure ratings, and port seal materials.
*Consult Subscription Agreement and Order Form or Parker QCD for any changes regarding data rates.
**Ambient temperature range can be broadened by installing Wired Power Adapter (SNWP2-2)
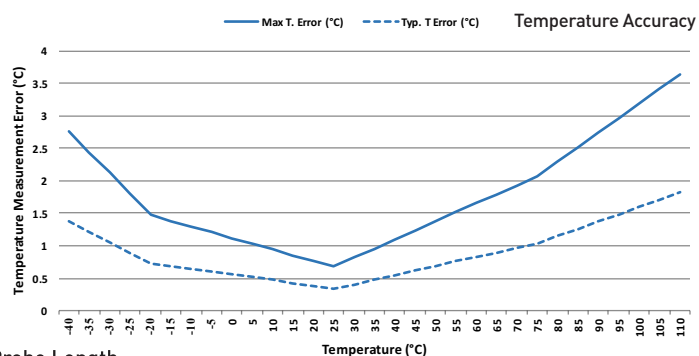
Temperature Sensors – Ported
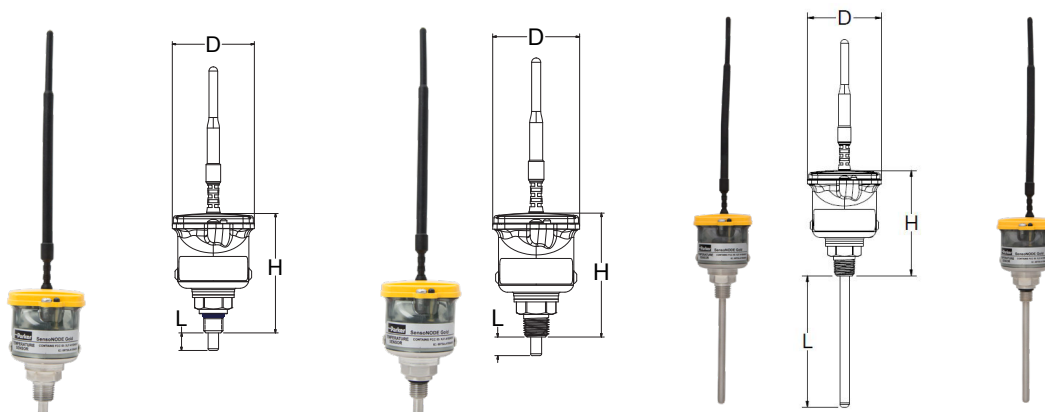
Part Number	Fluid Temperature Range	Port	D	H	L
SNT2-700-2-4MO	-40°F to 230°F [-40°C to 110°C]	-4 SAE	ø1.88″ [48mm]	2.72″ [69mm]	0.40″ [10.16mm]
SNT2-700-2-4MP	-40°F to 230°F [-40°C to 110°C]	1/4″ Male NPTF	ø1.88″ [48mm]	2.66″ [68mm]	0.40″ [10.16mm]
SNT2-100-2-4MO-0335	-40°F to 230°F [-40°C to 110°C]	-4 SAE/Probe	ø1.88″ [48mm]	2.72″ [69mm]	3.35″ [85mm]
SNT2-100-2-4MP-0335	-40°F to 230°F [-40°C to 110°C]	1/4″ Male NPTF/Probe	ø1.88″ [48mm]	2.66″ [68mm]	3.35″ [85mm]

Temperature Sensors – Foot
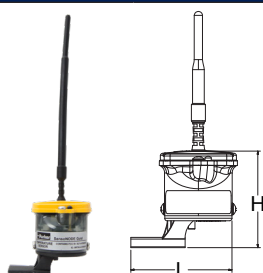
Part Number	Fluid Temperature Range	L	H	Optimal Clamping
SNT2-0-2-FT	-40°F to 257°F [-40°C to 125°C]	2.42″ [61.5mm]	2.31″ [58.7mm]	> ∅.25″+ [>∅6.4mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe. For sales information outside of these regions, please contact your Parker representative.

Temperature Accuracy

How to Order:

SN T 2 - 100 - 2 - 4 MP - 0335

- SensoNODE Series
- Types of Sensor
  - T: Temperature
- Generation II
- Pressure Rating
  - 0: 0 psi = Clamp
  - 0: 0 psi = Foot
  - 700: 700 bar/10k psi
  - 100: 0-100 bar/0-1500 psi
- Wireless Signal
  - 2: 900 MHz [FCC/IC]
  - 3: 868 MHz [CE]
- Port Size(1/6″)
  - 4: 1/4″
- Port Configuration
  - CL: Clamp
  - FT: Foot
  - MO: Male SAE
  - MP: Male Pipe
- Probe Length
  - No Length Listed: 0.40″
  - 0335: 3.35″

⚠ **WARNING**

The products listed can expose you to chemicals including Lead, which is known to the State of California to cause cancer, and to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
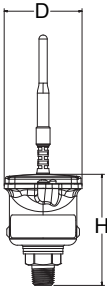
SensoNODE™ Gold   Humidity

Features:
- 0-100% relative humidity.
- Ideal for ambient condition and inert compressed gas monitoring applications.
- NPTF port to make plumbing and connecting easier and faster.
- Optimal mounting orientation is vertical with port facing down to prevent moisture collection.
- Sensor also provides temperature values.
- Configurable measurement and broadcast intervals*. Refer to the Voice of the Machine Cloud for more information about capabilities and modalities.

Sensor Technical Data	
Housing Material	Polycarbonate
Port	1/4˝ Male NPTF
Wetted Parts Material	Brass, Nitrile, Urethane, and GORE-TEX®
Measurement Range (Humidity)	0-100% RH
Working Pressure	0-150 psi [10 bar]
Max. Overload Pressure	150 psi Max [10 bar]
Burst Pressure	4x
Accuracy (77°F/25°C, 20% RH to 80% RH, at ambient pressure)	±5% RH Max
Resolution (at 77°F/25°C)	0.1% RH
Response Time (from 33% to 75% RH)	10 secs
Ambient Temperature (battery limited)**	-4°F to 158°F [-20°C to 70°C]
Temperature Accuracy (from 14°F to 185°F [-10°C to 85°C])	±1.0°F [±0.5°C]
Full Range Life Cycles	> 1 million
Certifications	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A
IP Rating	IP65

*Consult Subscription Agreement and Order Form or Parker QCD for any changes regarding data rates.
**Ambient temperature range can be broadened by installing Wired Power Adapter (SNWP2-2)

Humidity Sensors

Part Number	RH Range	Port	D	H
SNHT2-10-2-4MP	0-100%	¼" Male NPTF	ø1.88" [48mm]	2.66" [68mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe. For sales information outside of these regions, please contact your Parker representative.

RH Accuracy

Temperature Accuracy
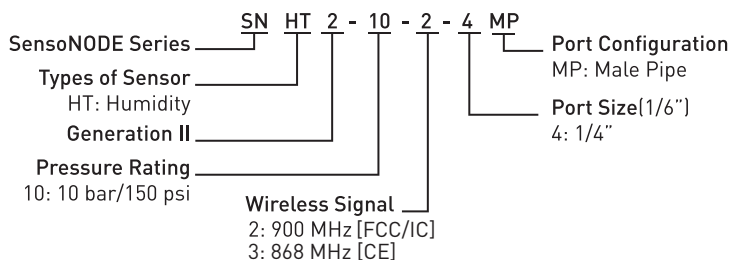
How to Order:

SN HT 2 - 10 - 2 - 4 MP

SensoNODE Series
Types of Sensor
HT: Humidity
Generation II
Pressure Rating
10: 10 bar/150 psi
Wireless Signal
2: 900 MHz [FCC/IC]
3: 868 MHz [CE]
Port Configuration
MP: Male Pipe
Port Size(1/6")
4: 1/4"

Features:

- Fast installation over a variety of power lead diameters.
- Easy installation with 1/2" conduit threaded nipple mount.
- Standard CT opening width is 1.25" for 50A through 600A service.
- CT with 0.75" opening width is available for 50A through 200A service by request.
- Configurable measurement and broadcast intervals*. Refer to the Voice of the Machine Cloud for more information about capabilities and modalities.

Sensor Technical Data	
Base Material	Aluminum
Housing Material	Polycarbonate
Port	1/2-14 NPSM Thread
Measurement Range (Amperes)	50-600
Accuracy	5% (Full Span)
Resolution	0.1% (Full Span)
Ambient Temperature (battery limited)**	-4°F to 158°F [-20°C to 70°C]
Full Range Life Cycles	> 1 million
Certifications	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A
IP Rating	IP65

*Consult Subscription Agreement and Order Form or Parker QCD for any changes regarding data rates.
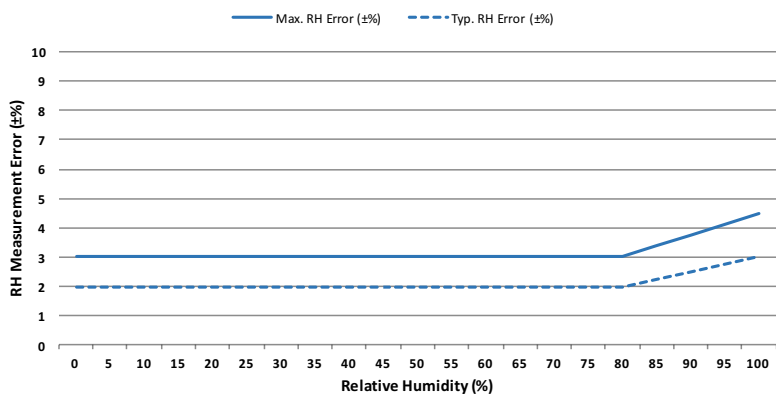
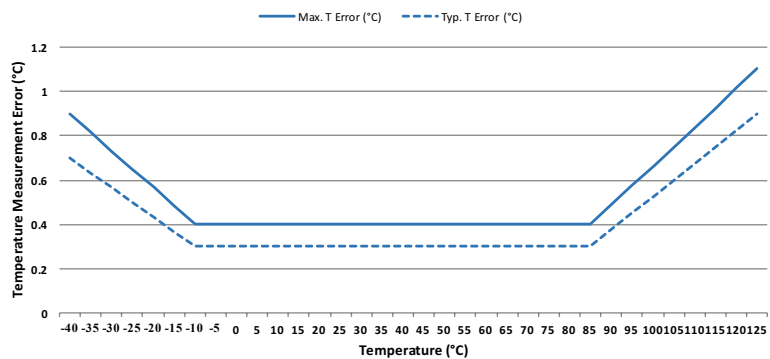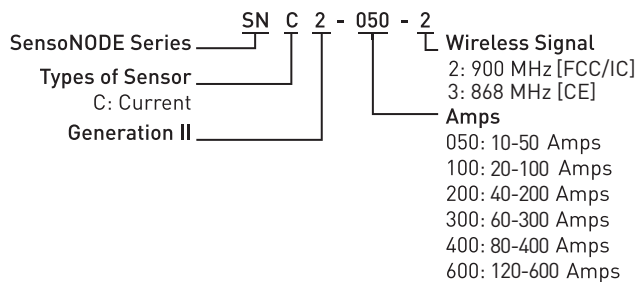**Ambient temperature range can be broadened by installing Wired Power Adapter (SNWP2-2)

Current

Part Number	Measurement Range	Port	D	H	W	L
SNC2-050-2	10-50 Amps	1/2-14 NPSM	2.11" [54mm]	2.67" [68mm]	1.86" [47mm]	.44" [11mm]
SNC2-100-2	20-100 Amps	1/2-14 NPSM	2.11" [54mm]	2.67" [68mm]	1.86" [47mm]	.44" [11mm]
SNC2-200-2	40-200 Amps	1/2-14 NPSM	2.11" [54mm]	2.67" [68mm]	1.86" [47mm]	.44" [11mm]
SNC2-300-2	60-300 Amps	1/2-14 NPSM	2.11" [54mm]	2.67" [68mm]	1.86" [47mm]	.44" [11mm]
SNC2-400-2	80-400 Amps	1/2-14 NPSM	2.11" [54mm]	2.67" [68mm]	1.86" [47mm]	.44" [11mm]
SNC2-600-2	120-600 Amps	1/2-14 NPSM	2.11" [54mm]	2.67" [68mm]	1.86" [47mm]	.44" [11mm]

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How to Order:

SN C 2 - 050 - 2

SensoNODE Series
Types of Sensor
  C: Current
Generation II

Wireless Signal
2: 900 MHz [FCC/IC]
3: 868 MHz [CE]
Amps
050: 10-50 Amps
100: 20-100 Amps
200: 40-200 Amps
300: 60-300 Amps
400: 80-400 Amps
600: 120-600 Amps

Features:

- Magnetic base for tool free mounting.
- Threaded stud port provides alternative mounting option where magnetic base is not suitable.
- Soft, thin and conformable sensors.
- Reliable accurate measurements while being strained up to 100% for millions of cycles.
- Resilient silicone rubber that can withstand harsh environments.

Sensor Technical Data		
Active Area Dimensions	50mm x 14mm	100mm x 14mm
Maximum Extension	100mm	200mm
Resolution	±0.1% strain FS (±50µm)	±0.1% strain FS (±100µm)
Sensitivity	0.026% strain FS (13µm)	0.026% strain FS (26µm)
Linearity	±1% FS	±1% FS
Hysteresis	±1% FS	±1% FS
Stiffness	0.15 N/mm	0.15 N/mm
Measurement Outputs	Percent strain in 100ths of a percent of length of active area; temperature in °C or °F	Percent strain in 100ths of a percent of length of active area; temperature in °C or °F
Sampling Rate	1Hz for standard configuration	1Hz for standard configuration
Ambient Temperatures	-40°F to +185°F, [-40°C to +85°C]	-40°F to +185°F, [-40°C to +85°C]
Full Range Life Cycles	> 5 million	> 5 million
IP Rating	IP67	IP67

| Transmitter Technical Data	
Base Material	Aluminum
Housing Material	Polycarbonate
Temperature Range with Wired Power	-40˚F-185˚F
Temperature Range with Battery	-4˚F-158˚F
Certifications	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A
IP Rating	IP65

SensoNODE™ Gold — Flexible Displacement

strain
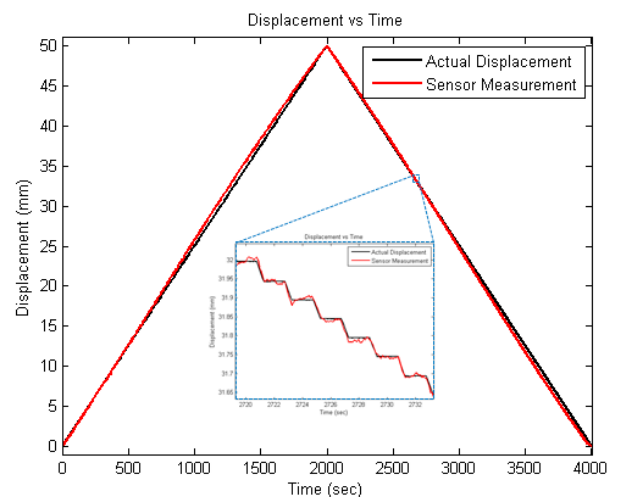
Sensor Kit

Part Number	Transmitter	Sensors
SNES2-KIT-2-50	(1) SNES2-2	(2) 50mm

Sensors
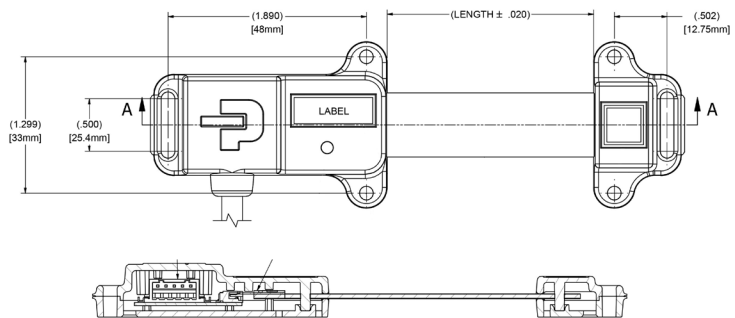
Part Number	Sensor Length (L)	Sensor Width (W)	Cable Length
EAPS-50HD	1.97" [50mm]	0.67" [17mm]	18" [457.2mm]
EAPS-100HD	3.94" [100mm]	0.67" [17mm]	18" [457.2mm]

Transmitter
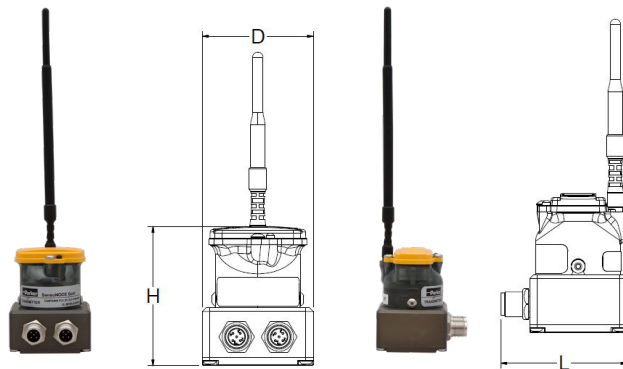
Part Number	Base Mounting Thread	D	H	L
SNES2-2	1/4-28 UNF x 0.45" [11mm]	2.11" [54mm]	2.67" [68mm]	2.41" [61mm]

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How to Order:

EAP S - 50 HD

Material
EAP: Electroactive Polymer

Types of Sensor
S: Strain

Length of Active Area
50: 50mm
100: 100mm

Sensor Type
HD: Heavy Duty

SensoNODE™ Gold

Vibration Sensor
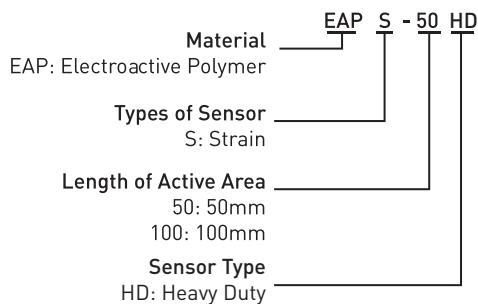
Features:
- Configurable acceleration amplitude
- +/- 2g, 4g, 8g or 16g
- 6.4 Khz sampling frequency
- 3 axis measurement
- RMS & Peak acceleration or velocity
- Temperature

Sensor Technical Data	
Housing Material	Polycarbonate
Base Material	Aluminum
Mounting Options	Magnet, 1/4-28 stud, Epoxy
Certifications	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A
IP Rating	IP65

Acceleration Technical Data	
Acceleration Range	+/-2,+/-4, +/-8, +/-16 g absolute [configurable]
Frequency Range	1 Hz to 3200hz
Sampling Frequency	6.4 KHz
Measurement Output	Peak & RMS acceleration over frequency range; Temperature
Measurement Axes	X,Y, Z
Resolution (Peak)	+/- 2 g range = 1 mg, +/-4 g range = 2mg, +/-8 g range = 4mg, +/-16 g range = 8mg
Temperature Sensor	-40 to +85 C
Samples Per Acquisition	800 samples
Filter Specs	DC offset removal

Velocity Technical Data	
Velocity Range	0 - 327 mm/sec
Frequency Range	7.5 Hz to 3200 Hz
Sampling Frequency	6.4 KHz
Measurement Output	Peak & RMS velocity over frequency range; Temperature
Measurement Axes	X, Y, Z
Resolution	0.01 mm/sec
Temperature Sensor	-40 to +85 C
Samples Per Acquisition	2200 samples
Filter Specs	7th order butterworth digital high pass filter, 60 dB down at 3 Hz, 3 db down at 7.5 Hz.

Transmitter

Part Number	Base Mounting Thread	D	H
SNVT2-1632-2	1/4-28 UNF	1.88" [48mm]	2.05" [52mm]

Measurement Axes

X
Y
Z

How to Order:

SN V T 2 - 16 32 - 2

SensoNODE Series ⎯⎯ SN

Types of Sensor
  V: Vibration ⎯⎯ V

T: Temperature ⎯⎯ T

Generation II ⎯⎯ 2

Max Configurable Amplitude
  16: ±16g Amplitude

Effective Measurement Frequency Range
  32: 3200kHz

Wireless Signal
  2: 900 MHz [FCC/IC]
  3: 868 MHz [CE]

SensoNODE™ Gold

Transmitter Technical Data
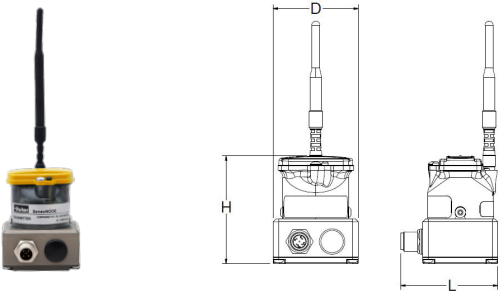
Base Material	Aluminum
Housing Material	Polycarbonate
Accuracy	0.5% (additive to source)
Resolution	0.1%
Temperature Range with Wired Power	-40˚F-185˚F
Temperature Range with Battery	-4˚F-158˚F
Full Range Life Cycles	> 1 million
Certifications	FCC, IC, CE
Battery (Panasonic is recommended brand)	CR123A
IP Rating	IP65

Features:

- Connects inline with any 4-20mA Sensor
- Integrates hard wired sensors into wireless Voice of the Machine Software
- Does not require reprogramming of existing control system
- Definable mapping feature in Cloud to present 4-20mA signal in user defined units
- Magnetic base for tool free mounting
- Threaded stud port provides alternative mounting options where magnetic base is not suitable
- Requires connection cable SCK-400-xx-xx in conjunction with transmitter and 4-20mA Sensor
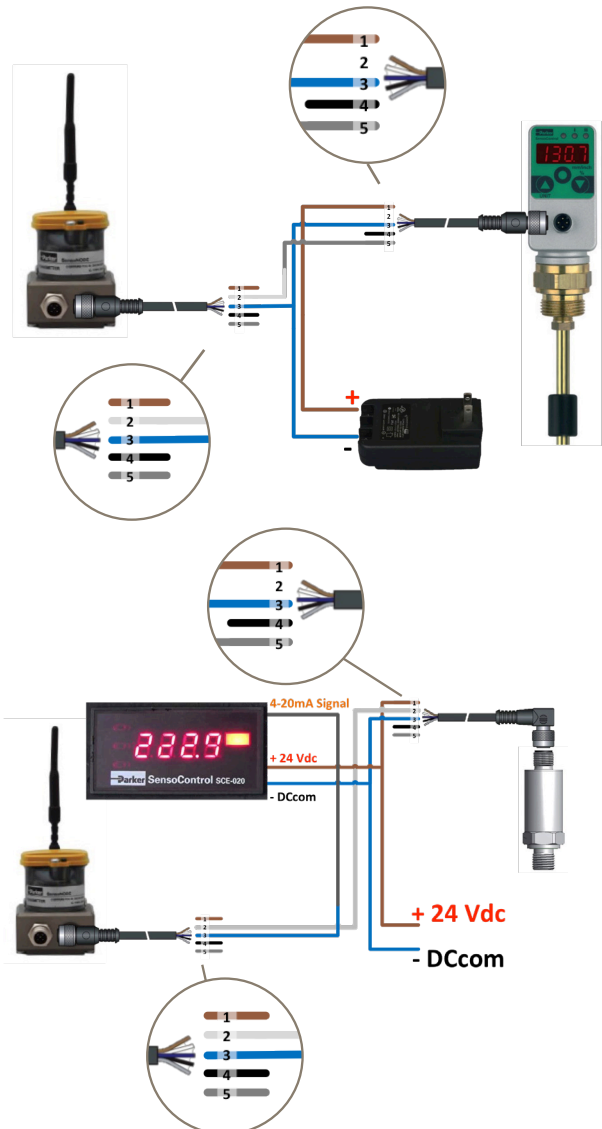
4-20mA Transmitter (Battery Powered)
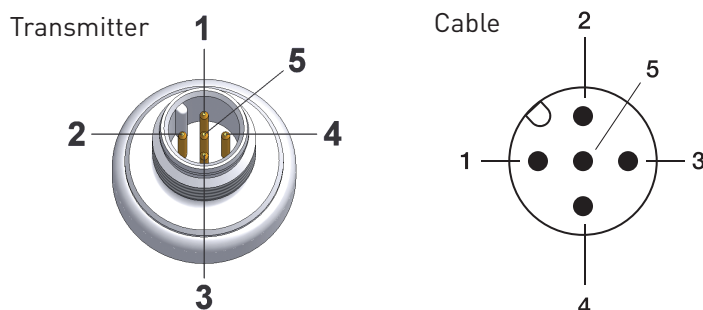
Part Number	Base Mounting Thread	D	H	L
SN322-2	1/4-28 UNF x0.45" [11mm]	2.11" [54mm]	2.67" [68mm]	2.41" [61mm]

Note: Products in catalog are currently only for sale in the U.S., Canada and Europe.
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Pin Assignment

PIN	Connection	Wire Color
1	No Connection	Brown
2	4-20mA Signal In	White
3	4-20mA Signal Out	Blue
4	No Connection	Black
5	No Connection	Gray

M12 Connection Cable

Part Number	Cable Length	Plug-in Connector
SCK-400-02-45	6.5 ft [2m]	M12 socket, straight
SCK-400-02-55	6.5 ft [2m]	M12 socket, 90°
SCK-400-05-45	16 ft [5m]	M12 socket, straight
SCK-400-05-55	16 ft [5m]	M12 socket, 90°
SCK-400-10-45	32.5 ft [10m]	M12 socket, straight
SCK-400-10-55	32.5 ft [10m]	M12 socket, 90°

SCK-400-XX-45   1.6 (41.5)   0.6 (14.5) DIA

SCK-400-XX-55   1.5 (38.5)   1.04 (26.5)   0.6 (14.5) DIA
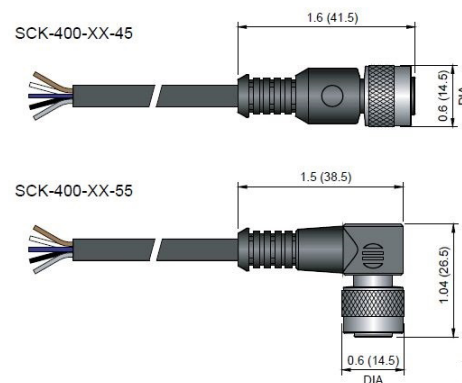
Part Number	Communication	Connectors	Compliance
SN-CS-5	LTE (AT&T), Ethernet, WiFi	RS232, RS485, GPIO, CAN, USB, LAN	FCC, IC, PTCRB
SN-CS-6	LTE (VZW), Ethernet, WiFi	RS232, RS485, GPIO, CAN, USB, LAN	FCC, IC, PTCRB

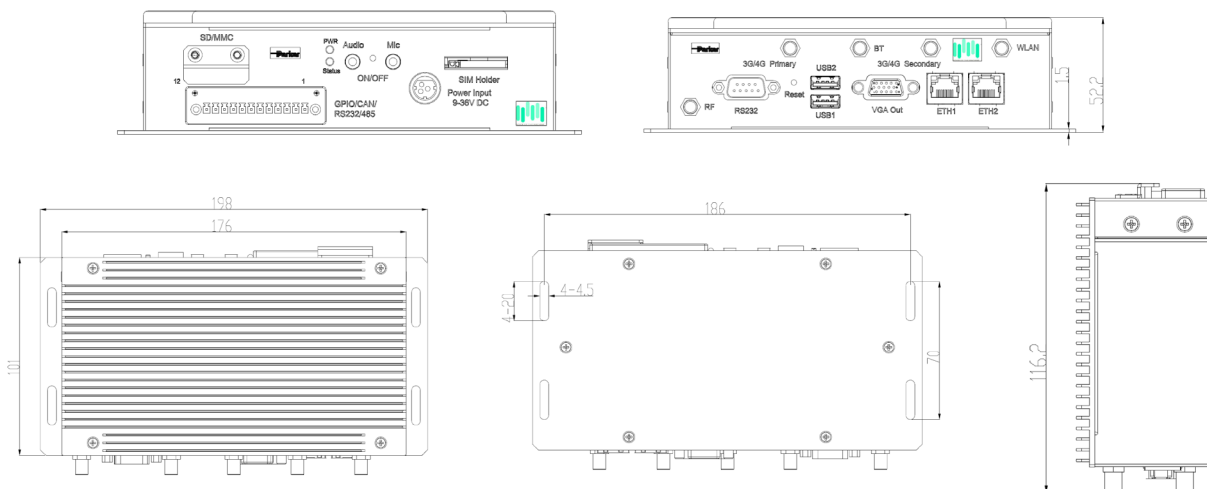| Specifications	Description
System	
Processor	Intel® ATOM™, E3815/1.46GHz, Single-core processor
On Board RAM	DDR3L 2GB
SSD Internal	Half-Slim SATA SSD Module Internal (16GB)
Display	
Resolution	2560x1600 @ 60Hz for VGA
Interface	1xVGA (DB15)
Wireless Communication	
WLAN	802.11 b/g/n Wireless Module, external antenna
Bluetooth	Bluetooth 4.0 module, with external antenna
Cellular Data Module	4G/LTE CAT1 Cellular Module with SIM slot and two external antennas
RF Module	Parker SensoNODE Low Power Wireless Module with external antenna
I/O	
Ethernet	2x10/100/1000-BaseT(RJ45)
USB	2xUSB2.0 Host (Type A)
Audio	HD Audio, 1xMIC in 3.5mm, 1xline Out 3.5mm
COM Port	1xRS232/422/485 (Full Function, DB9); 1xRS232/485 (2 wires on Green Terminal)
CAN	1xCAN 2.0b
Alarm	Buzzer Out
SD card	1xSD card Slot
RTC	Supported
Control	Reset Button on the top
GPIO	Reserved GPIO (terminal)
UART	1x full function UART use DB9
Accelerometer	On Board Accelerometer, 3-Axis

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SensoNODE™ Gold — Gateway System

Specifications	Description
Security	
Security	TPM module
Software	
OS	Secured Embedded Linux
Applications	Parker Voice of the Machine Edge software
Power	
Input	DC12 / 24V(9-36V), Locked Power Jack
Consumption	6W (Pulse8W), Sleep 2W. (without LTE,GPS,WLAN)
Mechanical	
Dimensions	176x101x52mm (Box)
Install Brackets	198x101x52mm
Weight	0.6Kg (1.2Kg package Kit)
Enclosure	Aluminum Alloy with Black Color
Environment Condition	
Temperature	Operating: -20°C ~ +60°C, Storage:-40°C ~ +85°C
Humidity	5-95%RH at 25-35 (Non-Condensation)
Cooling Mode	Fan less, Heat Sink
Approvals	UL, FCC Class B, CE, RoHS, and PTCRB Compliance

Repeater

- Primary use as a network repeater (range extender) for all sensors connected to mCard PRN
- Connects to gateway or power source via 2 meter USB cable
- Support for up to 500 sensors at one hop each
- Robust overmolded design for harsh environments

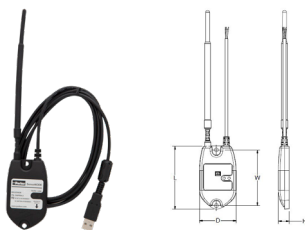| Part Number	W	D	H	L
SNPRN-2	2.75" [70mm]	1.81" [46mm]	.53" [13mm]	3.12" [79mm]

⚠️ **WARNING** The products listed can expose you to chemicals including Lead, which is known to the State of California to cause cancer, and to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Features:

- Supplies continuous power to sensors.
- Used with IEC/UL 508 Class 2 power supply.
- Easy upgrade eliminates the need for battery replacement.
- Extends temperature range over batteries.
- FCC, IC, and CE certified when used with SensoNODE products.

Technical Data	
Part Number	SNWP2-2
Wire Length	9.8 ft [3m]
Temperature Range	-40˚F-185˚F
Input Power	5-36 Volts DC
Output Power	3 Volts DC
Connection	Flying lead 24 AWG Wires
Form	CR123A Battery

Voice of the Machine Cloud Software

The Cloud interface is used for continuous remote monitoring for long-term condition monitoring applications. The web-based interface allows users to remotely retrieve data.

SensoNODE Gold Sensors integrated into assets or production lines collect the data and send it to the on-site collection server, which pushes the data to the cloud. Users access that data by logging into the software via their desktop anywhere they have an internet connection. The interface lets users monitor and collect data from multiple assets and receive alerts of deviations.

With increased awareness of processes and assets, users don't have to be on-site to review data to optimize machine performance, extend service life, maintain production quality and reduce downtime.

Capabilities:
- Monitor multiple assets in multiple facilities anywhere, anytime
- Connect with and display SensoNODE Gold Sensors

Features:
- Easy to use web-based interface
- No software to download or update
- Receive alert notifications via email, text, or in-system
- Visualize data in a way that makes most sense
- Customize alerts, trend charts, and dashboards
- View measurement anomalies easily
- Support continuous improvement efforts with trend data
- Multiple user access levels
- Remotely monitor multiple sites and sensors
- Easily export data
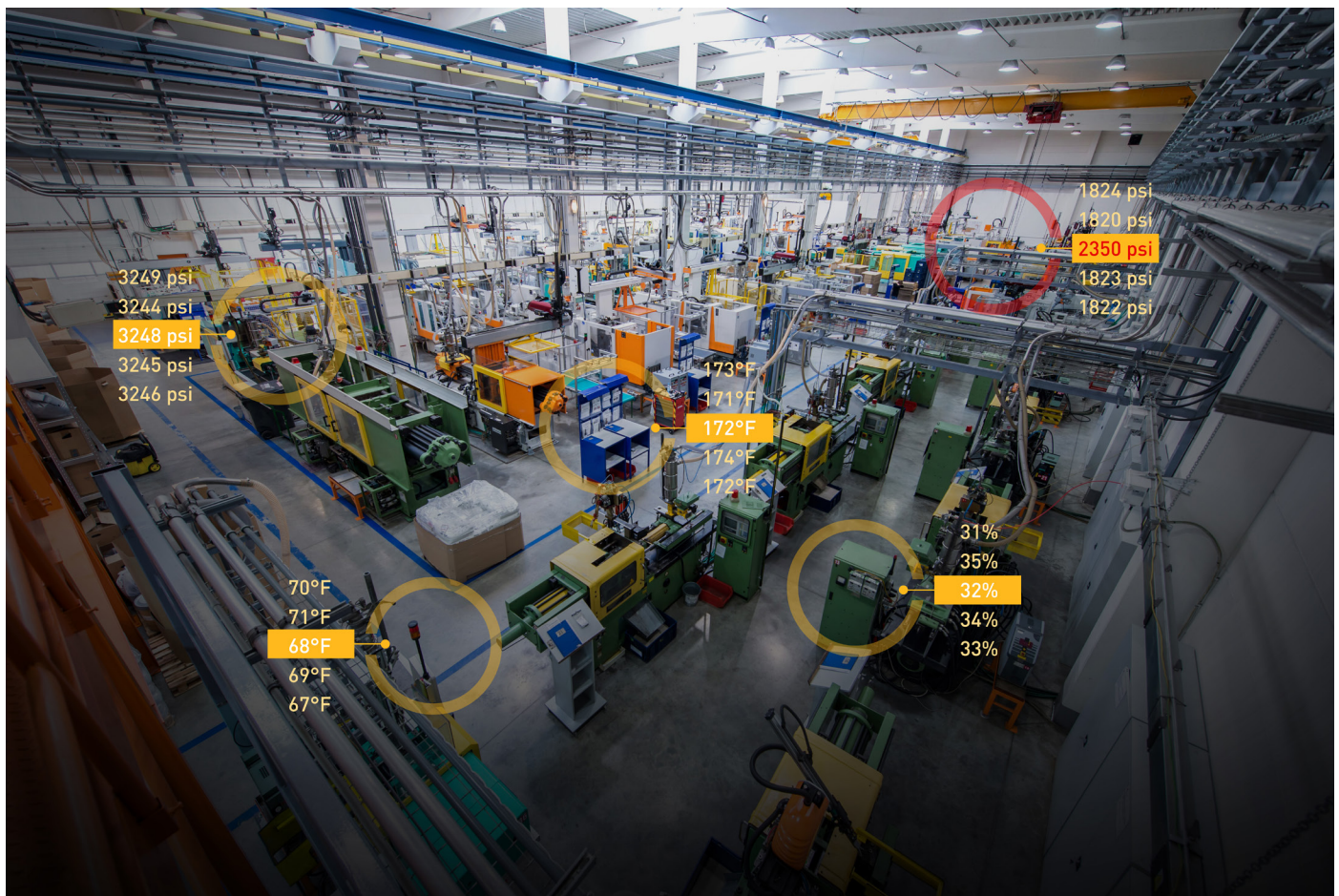
Edge Software

The industry's most secure Edge-level solution. Seamlessly connect to nearly all industrial devices and systems, liberating, processing, and integrating the data from the factory floor into Cloud or on-premise, enterprise systems.

Key Benefits & Overview:

The Edge interface is designed to work seamlessly with a web browser based user interface. Data is ingested from virtually any industrial asset. The software allows you to run various applications utilizing your data at the Edge, or send it securely to the Cloud for seamless enterprise integration.

- **App & Industrial Driver Marketplace**
  Get started with free drivers such as Ethernet/IP, Modbus RTU, TCP, RS232, RS485, and more.
- **Security Monitoring**
  Instantly find anomalies in access, external hacking, and non-permitted data transmission.
- **Remote Device Management**
  Gateways are capable of being provisioned to software or other system.
- **3rd Party Cloud Integration**
  Send your processed and filtered data to the cloud interface or other 3rd party Cloud connectors to enable end-to-end solution creation.
- **Private Marketplace**
  Edge provides OEMs and System Integrators with the ability to host a private marketplace of applications and drivers for their customers.
- **Easy to Use Graphical Programming Interface**
  An extensive UI and flow-based configurations make solution building simple and easy.
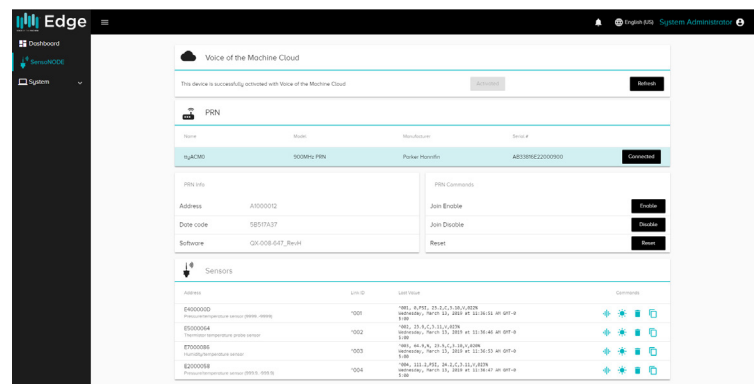
Features:

Edge provides several key functionalities that are necessary for any IoT deployment. Using a management UI, Edge enables the distribution of drivers at the gateway level to collect data from almost all legacy industrial protocols. Run applications locally (at the Edge) for quick and effective processing, so you don't bombard your Cloud infrastructure with unnecessary data.

Industrial Device Connectivity
Using a simple drag and drop interface, collect data from many different types of legacy or modern systems with Flows. Many downloadable drivers are available for free.

Application Deployment
Includes an application marketplace where you can effortlessly deploy and run applications at the Edge. Applications include: data filtering, analytics, CEP, data enrichment, rules and alerts engine, and more.

Secure Access
Login/password protected access to gateway with the ability to setup multiple levels of permissions.

SCC-255

SCC-260

SensoNODE Accessory Case

Part Number	L	W	D	Case
SCC-255*	14"	11.5"	5"	Blow Molded Case
SCC-260*	16.5"	13"	7"	Ruggedized Case with Room for Tablet

*Sensor products not included.

Battery (CR123A)

Part Number	Technology	Voltage
QX-008-121	Lithium Ion	3.00V

EMA3 Series – Test Port Couplings

Male Pipe Thread

Part Number	Port Thread Size	Wrench Flats	Interface Thread Size	Overall Length	Weight
EMA3/1/8NPT	1/8-27NPT	17	M16X2.0	1.81" [46mm]	0.15lb [.07kg]
EMA3/1/4NPT	1/4-18NPT	17	M16X2.0	1.98" [50.3mm]	0.16lb [.07kg]

SAE Straight Thread

Part Number	Port Thread Size	Wrench Flats	Interface Thread Size	Overall Length	Weight
EMA3/7/16-20UNF-2A*	7/16-20UNF	17	M16X2.0	1.88" [47.8mm]	0.15lb [.07kg]
EMA3/9/16-18UNF-2A*	9/16-18UNF	19	M16X2.0	1.88" [47.8mm]	0.17lb [.08kg]

*O-Ring seal on port

EMA Gauge Adapter

Part Number	Port Thread Size	Wrench Flats	Interface Thread Size	Overall Length	Weight
MAVMD1/4NPT-MA3	1/4-18NPT	19mm	M16X2.0	2.22" [56.4mm]	0.18lb [.08kg]
SCA-7/16-EMA-3	7/6-20	19mm	M16X2.0	1.60" [40.64mm]	0.15lb [.45kg]

Note: Consult QCD or Catalog #3800 for additional accessories and port options.

PD Couplings

Couplers- Female Thread

Body Size	Part Number	Thread Size	Overall Length	Wrench Flats	Largest Diameter	Weight
1/8	PD240	7/16-20 UNF	2.12"	0.8"	0.96"	0.26lb
1/8	PD242	1/4-18 NPTF	2.12"	0.8"	0.96"	0.25lb

Nipples- Female Pipe Thread

Body Size	Part Number	Thread Size	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	PD322	1/8-27 NPTF	1.48"	0.78"	0.56"	0.65"	0.06lb
1/8	PD342	1/4-18 NPTF	1.63"	0.93"	0.75"	0.87"	0.12lb

Nipples- Male Pipe Thread

Body Size	Part Number	Thread Size	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	PD323	1/8-27 NPTF	1.55"	0.85"	0.69"	0.79"	0.17lb
1/8	PD343	1/4-18 NPTF	1.48"	0.78"	0.69"	0.79"	0.06lb
1/8	PD363	3/8-18 NPTF	1.50"	1.13"	0.81"	0.96"	0.09lb

Nipples- Male Straight Thread

Body Size	Part Number	Thread Size ORB	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	PD341	7/16-20 UNF	1.60"	0.90"	0.69"	0.79"	0.08lb
1/8	PD361	9/16-18 UNF	1.32"	0.62"	0.69"	0.79"	0.06lb

Note: Consult QCD or Catalog #3800 for additional accessories and port options.

Notes

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