

## Condition Monitoring and Diagnostic Solutions SenseNODE™ Sensors and Software

Sensors, Software, and Accessories  
Catalog 3864 USA | April 2020



ENGINEERING YOUR SUCCESS.

# Quick Coupling Division Locations



Minneapolis, MN



Grantsburg, WI



Chetek, WI



Union City, PA

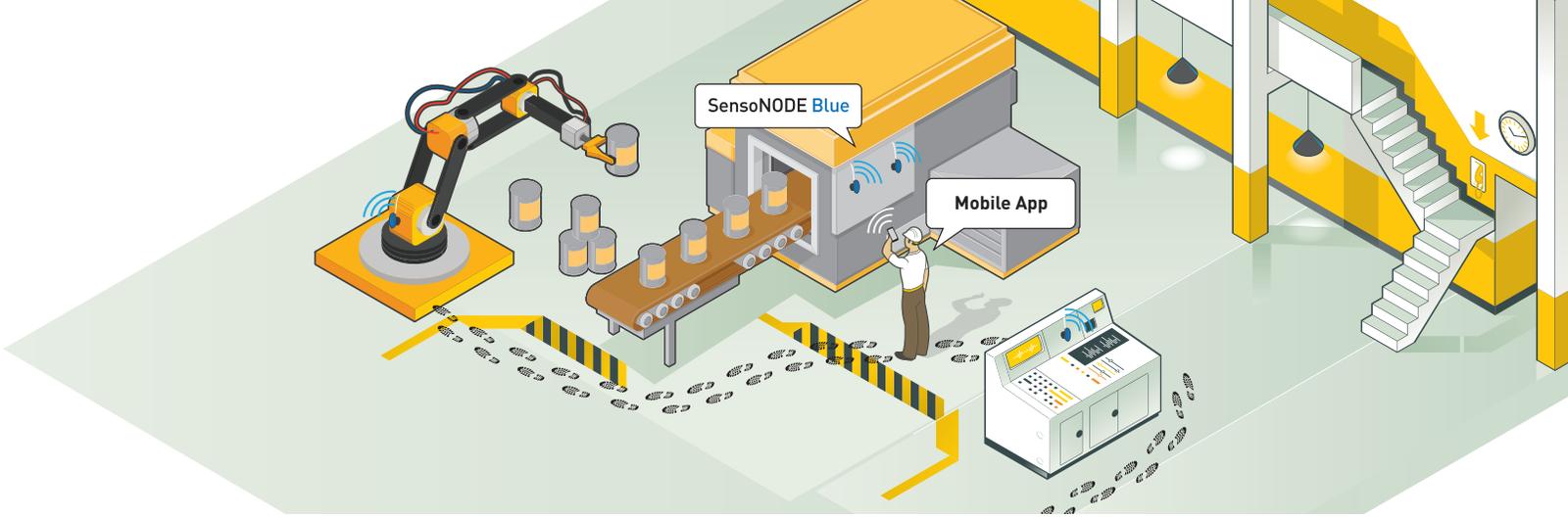
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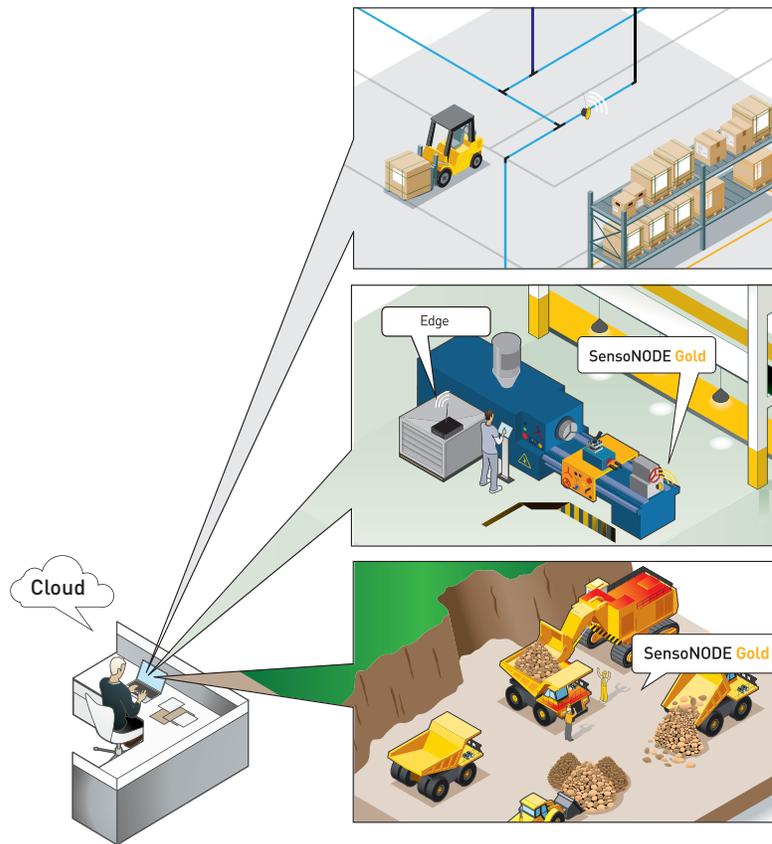
### **Offer of Sale**

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# 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 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

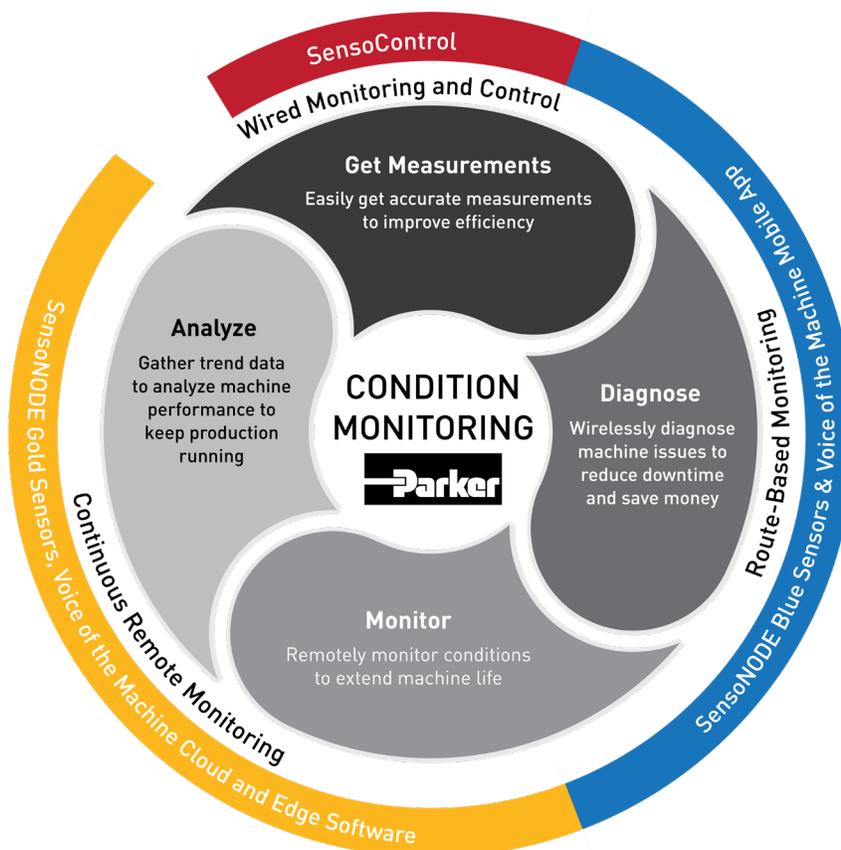
When used together, SensoNODE Sensors and Voice of the Machine Software create an advanced condition monitoring solution that delivers vital measurement data to help drive optimal tactical, operational, and strategic decisions, leading to maximum uptime.

## 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



# Condition Monitoring Solutions

	SensoControl	SensoNODE Blue and Mobile App	SensoNODE Gold and Edge	SensoNODE Gold and Cloud
<b>Primary Application</b>				
Wireless Continuous Remote Monitoring			√	√
Wireless Route-Based Monitoring		√		
Diagnostics	√	√		
<b>Communication Method</b>				
Sub-GHz Wireless			√	√
Bluetooth Low Energy (BLE)		√		
Wires	√			
<b>Key Features</b>				
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	750 milliseconds	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	√	√	√	√
Sensor IP Rating	IP67/IP64/IP65***	IP65	See Product Technical Data	See Product Technical Data
<b>Data Storage</b>				
Cloud			√	√
Local Server			√	
Mobile Device		√		
Handheld Meter	√			
<b>Interface</b>				
Desktop/Laptop	√		√	√
Mobile App		√		
Handheld Meter	√			
<b>Other</b>				
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



# 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



### 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	Polycarbonate
Port	1/4" Male NPT	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	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]	0-232 psi [16 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	350 psi	2250 psi	5440 psi	8700 psi	13,050 psi
Burst Pressure	3x	4x	4x	4x	4x	4x	4x
Accuracy (at 77°F/ 25°C)	1.5%	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	1 psi
Measurement and Broadcast Interval	User Selectable	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	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]	-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]	-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	> 1 million
Certifications	FCC, IC, CE	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	CR123A
IP Rating	IP65	IP65	IP65	IP65	IP65	IP65	IP65

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

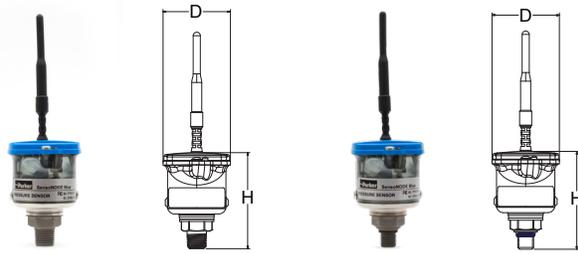
\*Ambient temperature range can be broadened by installing Wired Power Adapter (SNWP2-B)



# SensoNODE™ Blue

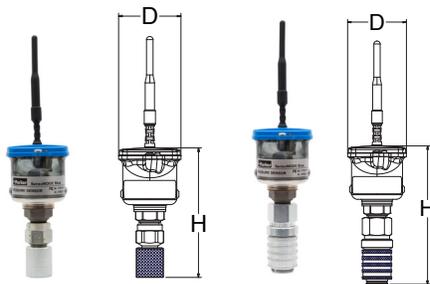
# Pressure

## Pressure Sensors



Part Number	Pressure Rating psi [bar]	Port	D	H
SNPT2-1-B-4MP	-14.5 to 14.5 [-1 to 1]	1/4" Male NPTF	ø1.88" [48mm]	2.66" [68mm]
SNPT2-10-B-4MP	0-150 [10]	1/4" Male NPTF	ø1.88" [48mm]	2.66" [68mm]
SNPT2-16-B-4MP	0-232 [16]	1/4" 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]

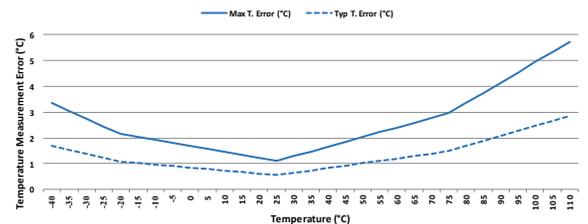
## Quick Couplers



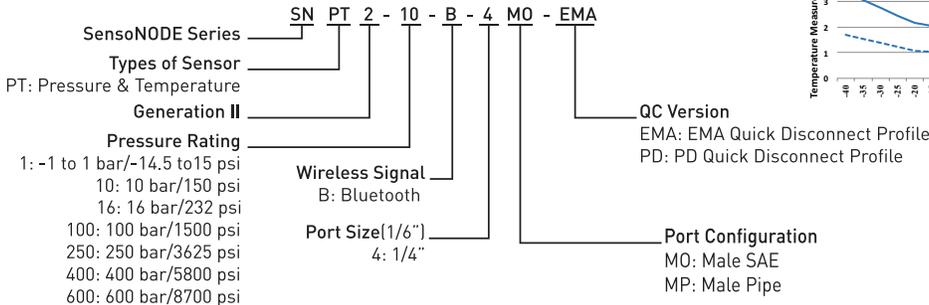
Part Number	Pressure Rating psi [bar]	Port	D	H
SNPT2-100-B-4MO-EMA	0-1500 [100]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-250-B-4MO-EMA	0-3625 [250]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-400-B-4MO-EMA	0-5800 [400]	EMA	ø1.88" [48mm]	4.00" [101mm]
SNPT2-600-B-4MO-EMA	0-8700 [600]	EMA	ø1.88" [48mm]	4.00" [101mm]
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 U.S., Canada, and Europe except where stated otherwise.

### Temperature Accuracy



### How to Order:



**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](http://www.P65Warnings.ca.gov)





### 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

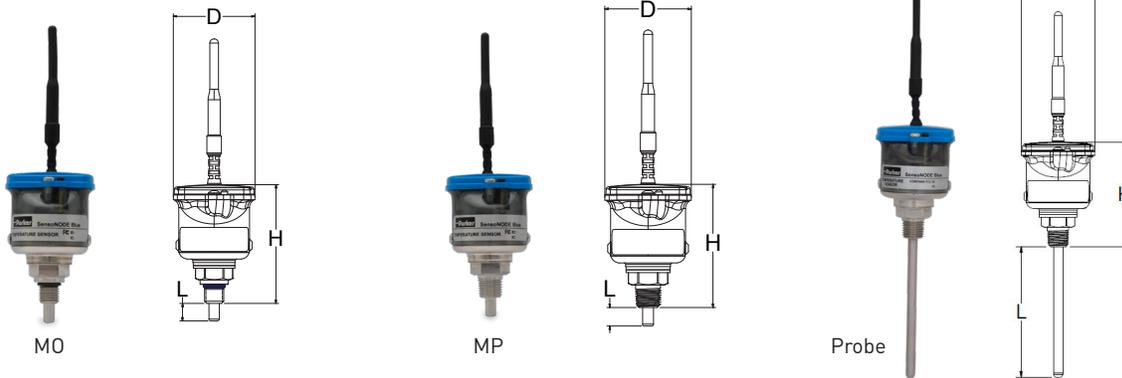
						
Housing Material	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Nylon
Port	1/4" Male NPTF	-4 SAE	1/4" Male NPTF	-4 SAE	Foot	Clamp
Wetted Parts Material	17-4 Stainless	17-4 Stainless and Nitrile	17-4 Stainless	17-4 Stainless and Nitrile	Stainless	Stainless
Measurement Range (Fluid Temperature)	-40°F to 230°F [-40°C to 110°C]	-40°F to 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]			
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



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]

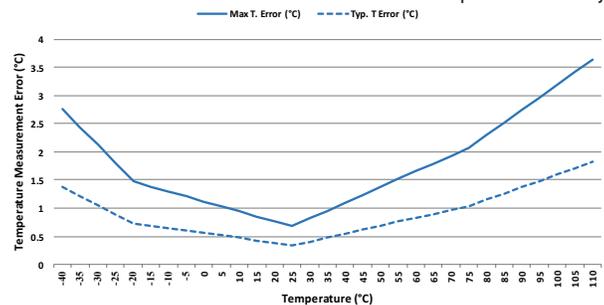
## Temperature Sensors – Foot and Clamp



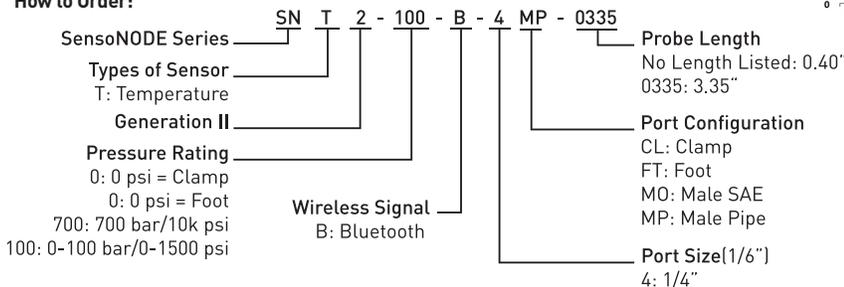
Part Number	Fluid Temperature Range	L	H	Optimal Clamping
SNT2-0-B-FT	-40°F to 257°F [-40°C to 125°C]	2.42" [61.5mm]	2.31" [58.7mm]	> ø.25" + [>ø6.4mm]
SNT-0-B-CL-KB	-40°F to 257°F [-40°C to 125°C]	5.24" [133.1mm]	3.06" [77.7mm]	ø.25" to ø1.5" [ø6.4mm-ø38.1mm]

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Temperature Accuracy



### How to Order:



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### 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 gas 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)



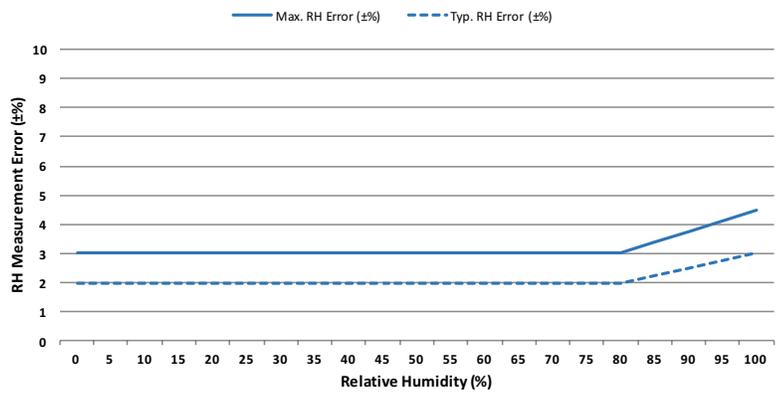
## Humidity Sensors



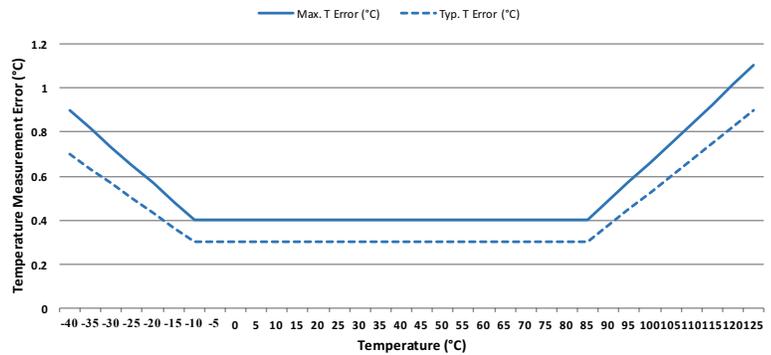
Part Number	RH Range	Port	D	H
SNHT2-10-B-4MP	0-100%	1/4" Male NPTF	ø1.88" [48mm]	2.66" [68mm]

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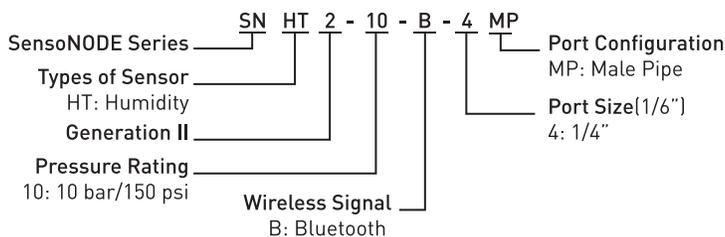
### RH Accuracy



### Temperature Accuracy



### How to Order:



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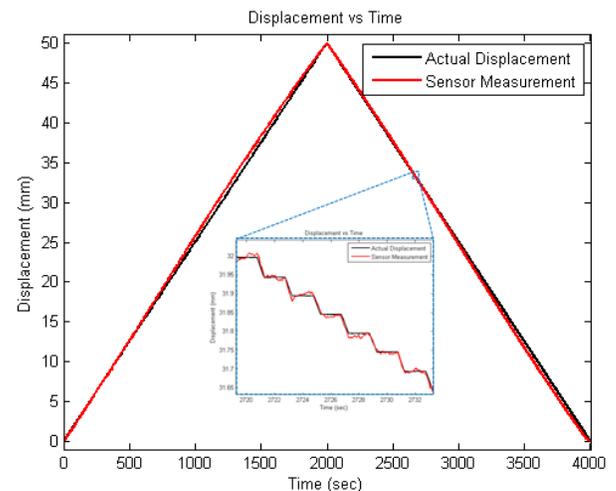


### Features:

- 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





### Sensor Kit

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

### Sensors

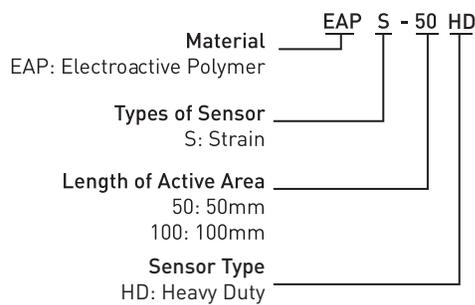
Part Number	Sensor Length (L)	Sensor Width (W)	Cable Length
EAPS-50HD	1.97" [50mm]	0.67" [17mm]	18" [457.2mm]
EAPS-100HD	3.94" [100mm]	0.67" [17mm]	18" [457.2mm]

### 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 U.S., Canada, and Europe except where stated otherwise.

#### How to Order:



**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](http://www.P65Warnings.ca.gov)

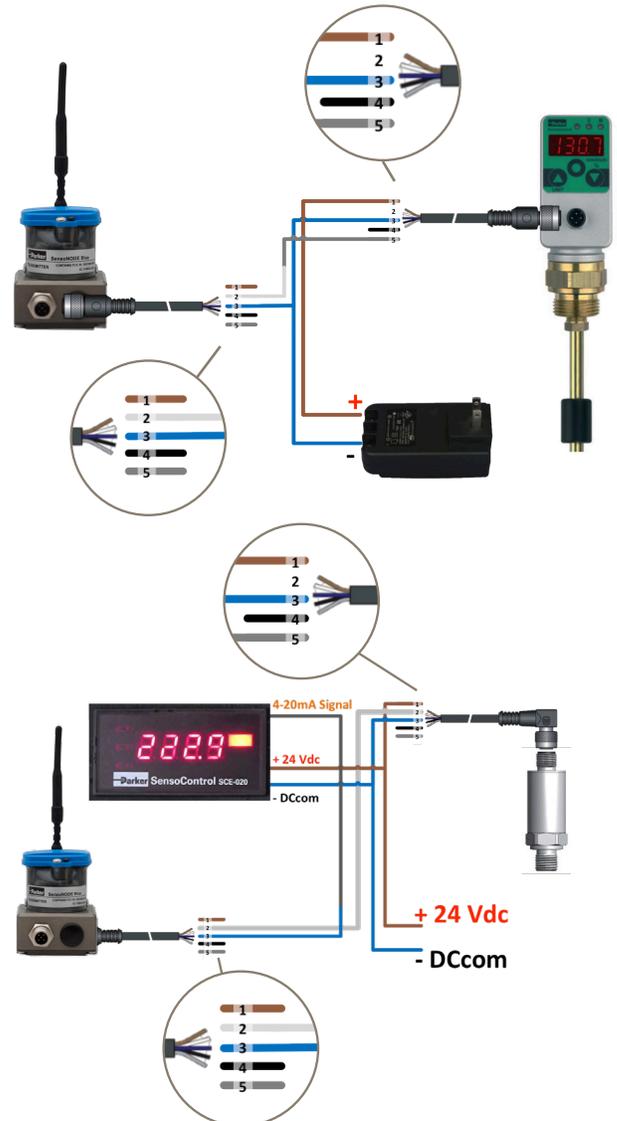




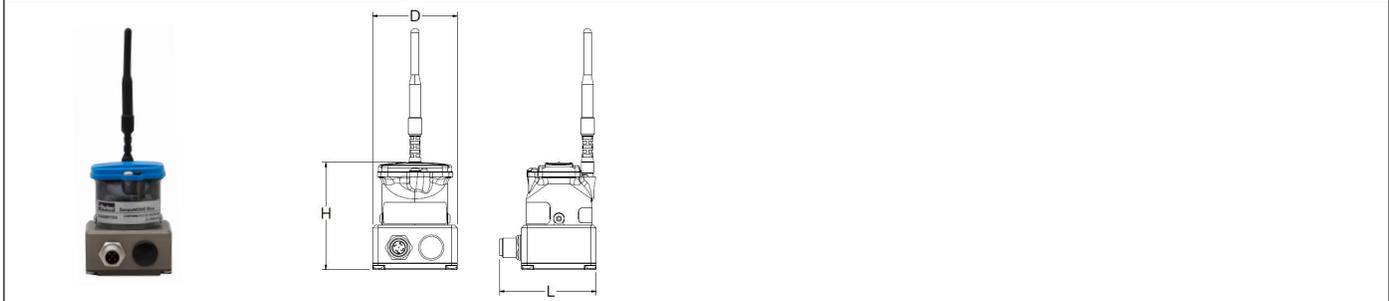
Transmitter Technical Data	
Base Material	Aluminum
Housing Material	Polycarbonate
Accuracy	0.5% (additive to source)
Resolution	0.1%
Temperature Range with Wired Power	-40° F-185° F
Temperature Range with Battery	-4° F-158° F
Measurement and Broadcast Interval	User Selectable
Full Range Life Cycles	>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

### 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.



## 4-20mA Transmitter

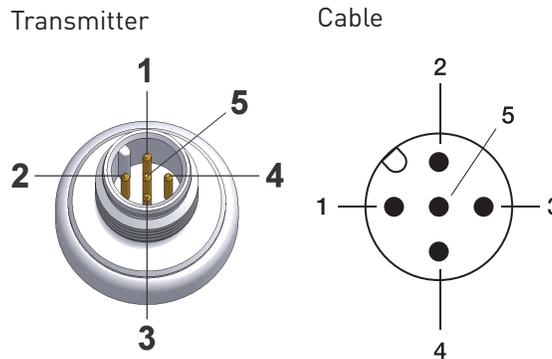


Part Number	Base Mounting Thread	D	H	L
SN422-B	1/4-28 UNF x0.45" [11mm]	2.11" [54mm]	2.67" [68mm]	2.41" [61mm]

Note: Products in catalog are currently only for sale in U.S., Canada, and Europe except where stated otherwise.

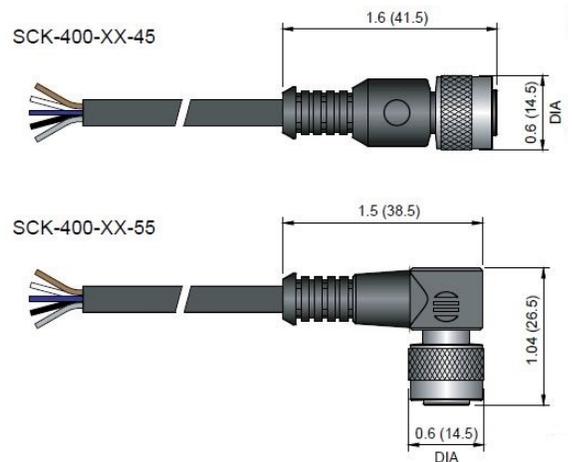
## Pin Assignment

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°



**WARNING**

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### Features:

- Enables local wireless monitoring of fluid level
- Integrates seamlessly with Voice of the Machine Mobile software
- Eliminates necessity for communication cabling
- High visibility level display
- No surge pipe necessary
- Two switching outputs for independent process control

Kit Technical Data <sup>1</sup>					
SNCLSD2-KIT-	250	370	520	800	1000
Sensor length measurement range [inches (mm)]	9.8 (250)	14.6 (370)	20.5 (520)	31.5 (800)	39.4 (1000)
Active range [inches (mm)]	1.6 to 8.3 (40 to 210)	1.6 to 13 (40 to 330)	1.6 to 18.9 (40 to 480)	1.6 to 30 (40 to 760)	1.6 to 37.8 (40 to 960)
Increment size [inches (mm)]	0.2 (5)	0.2 (5)	0.2 (5)	0.4 (10)	0.4(10)
Lowest reset point RSP [inches (mm)]	1.6 (40)	1.6 (40)	1.6 (40)	1.6 (40)	1.6 (40)
Largest switching value SP [inches (mm)]	8.3 (210)	13 (330)	18.9 (480)	30 (760)	37.8 (960)

Level Controller Technical Data <sup>1</sup>	
<b>Input Parameters</b>	
Measuring Component	Resistance reed chain with float
Connector thread	G3/4 BSPP; nickel-plated brass: ED soft seal NBR <sup>2</sup>
Wetted Parts	Brass; nickel-plated brass, NBR <sup>2</sup>
Fluid temperature range	-4 to 185°F
Media compatibility	Water; lubricating oil; hydraulic oil
<b>Output Values</b>	
Switching point accuracy	±1% FS at 77°F
Controller Display accuracy	±1% FS ±1 digit at 77°F
Response speed	≤700 ms
Controller resolution	0.3 inches
<b>Float</b>	
Material	NBR
Dimensions	Ø 0.7 inches, length 1.4 inches
<b>Level Rod</b>	
Material	Stainless Steel
Dimensions	Ø 0.3 inches
Operating pressure	14.5 psi

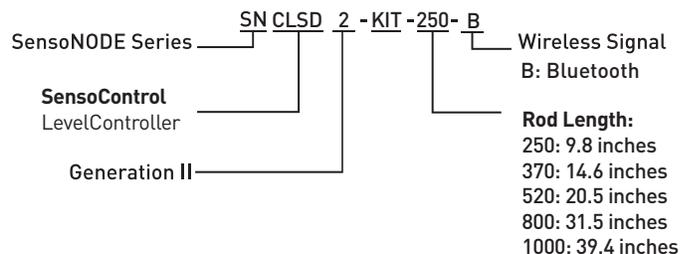
Transmitter Technical Data <sup>3</sup>	
Base Material	Aluminum
Housing Material	Polycarbonate
Accuracy	0.5% (additive to source)
Resolution	0.1%
Ambient temperature (battery limited)	-4 to +158°F
Radio Certifications	FCC, IC, CE
Battery [Panasonic is recommended]	CR123A
IP Rating (Transmitter only)	IP65

<sup>1</sup>Consult Parker Catalog 4083 for additional level controller details & data

<sup>2</sup>Different sealing material (FKM, EPDM, etc) upon request

<sup>3</sup>Consult Analog Transmitter portion of Parker Catalog 3864 for additional details

### How to Order:

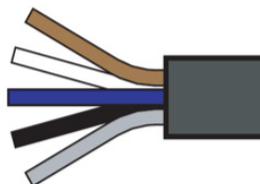




Technical Data	
	<p><b>Analog Transmitter (SN322-x)</b></p> <p>The transmitter wirelessly communicates the analog signal output from the controller to the gateway receiver for monitoring the fluid level of common tanks.</p>
	<p><b>Level Controller (SCLSD-xxx-10-05)</b></p> <p>The LevelController combines the functions of a level switch, a level sensor and a level display. The LevelController is ideal for the monitoring of fluid level contents. The parameters are set using the keys or over a programming module.</p>
	<p><b>Mating Cable (SCK-WH-02-45-02)</b></p> <p>This connection cable (2 meter length) is uniquely designed to connect the analog signals from the controller to the wireless transmitter and switching outputs while also allowing the supply of sufficient voltage needed to power the controller.</p>
	<p><b>Power Lead (SCK-400-02-45)</b></p> <p>Connect this cable (2 meter length) via M12 plug to the mating cable to supply voltage to the system. A 15 to 30Vdc supply is required, and can be provided via flying leads from the factory DC power or the included 24Vdc power supply included within kit.</p>
	<p><b>Power Supply (SCSN-240)</b></p> <p>Provided as an easy solution to supply the appropriate voltage to the wireless kit system. Connect the appropriate Power Leads to corresponding terminals of power supply.                      Input Voltage: 90~264 VAC                      Output Voltage: 24Vdc</p>

## Flying Lead Wire Diagram for Level Kit (SCK-400-02-45)

PIN	Connection	Wire Color
1	V Supply	Brown
2	S2 out	White
3	0 V/GND	Blue
4	S1 out	Black
5	No Connection	Gray



**WARNING**

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### Features:

- Enables local wireless monitoring of hydraulic flow
- Integrates seamlessly with Voice of the Machine Mobile software
- Eliminates necessity for communication cabling
- Turbine based measurement
- Measurement range 4 to 210 gpm
- Low flow resistance
- Capable of reverse flow measurement

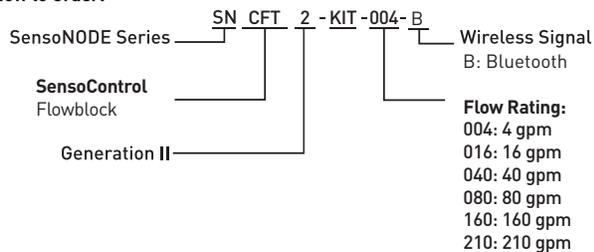
Kit Technical Data <sup>1</sup>						
SNCFT2-KIT-	004	016	040	080	160	210
Flow measuring range Qn [gpm (l/min)]	0.25 to 4 [1 to 15]	0.8 to 16 [3 to 60]	1.3 to 40 [5 to 150]	2 to 80 [8 to 300]	4 to 160 [15 to 600]	5 to 210 [20 to 800]
Accuracy (±%) FS/IR @ 21cSt.	± 1 % FS	± 1 % IR	± 1 % IR	± 1 % IR	± 1 % IR	± 1 % IR
Operating Pressure Pn [psi (bar)]	5000 (350)	5000 (350)	5000 (350)	5000 (350)	4200 (290)	5800 (400)
Ports (A-B)	3/4"-16UN #8 SAE ORB	1-1/16"-12UN #12 SAE ORB	1-1/16"-UN #12 SAE ORB	1-5/16"-12UN #16 SAE ORB	1-5/8"-12UN #20 SAE ORB	1-7/8"-12UN #24 SAE ORB
Pressure Drop ΔP [psi (bar)] @ (FS)	21 (1.5)	21 (1.5)	21 (1.5)	58 (4)	58 (4)	72 (5)
Weight [lbs (g)]	1.5 (700)	3.5 (1600)	3.5 (1600)	3.7 (1700)	6 (2700)	11 (5000)

Flow Turbine Technical Data <sup>1</sup>	
Accuracy	
Response time	50 ms
Thermal drift	±0.05 % FS/°C
Repeat accuracy	±0.5 % FS
Resistance to pressure	
Qmax (gpm)	Qn × 1.1
Overload pressure Pmax	Pn × 1.2
Material	
Flow Turbine Housing	Aluminum
Seal	FKM
Wetted Path	Aluminum, steel, FKM
Ambient Conditions	
Ambient temperature	+50 to +122°F
Storage temperature	-4 to +176°F
Tmax Fluid	-4 to +176°F
Filtration	25 μm (10 μm for SNCFT2-004)
Viscosity	15 to 100 cSt.
Protection Class	IP66

Transmitter Technical Data <sup>2</sup>	
Base Material	Aluminum
Housing Material	Polycarbonate
Accuracy	0.5% (additive to source)
Resolution	0.1%
Ambient temperature (battery limited)	-4 to +158°F
Radio Certifications	FCC, IC, CE
Battery [Panasonic is recommended]	CR123A
IP Rating (Transmitter only)	IP65

<sup>1</sup>Consult Parker Catalog 4083 for additional flow block details & data  
<sup>2</sup>Consult Analog Transmitter portion of Parker Catalog 3864 for additional details

### How to Order:



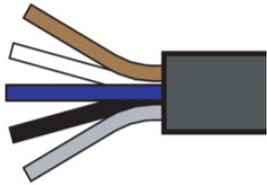
Consult Analog Transmitter portion of Parker Catalog 3864 for additional details



Technical Data	
	<p><b>Analog Transmitter (SN322-x)</b></p> <p>The transmitter wirelessly communicates the analog signal output from the flow turbine to the gateway receiver for monitoring the condition of common hydraulic systems.</p>
	<p><b>Flow Turbine (SCFT-xxx-02-02-UNF)</b></p> <p>The turbine wheel is driven by the oil flow. The generated frequencies are processed through the digital electronics and influences from the disturbing flow effects are compensated for. Because of the low flow resistance <math>Q_R</math>, the hydraulic circuit operates with very low losses.</p> <p>Reverse operation is also possible because the special vane (winged) design – so the turbine can be operated in both directions.</p> <p>The turbine casing also includes two plugged 7/16-20UN SAE ORB ports to add additional wireless pressure or temperature sensors directly in the oil flow. Please contact division for more detail.</p>
	<p><b>Mating Cable (SCK-WH-02-45-01)</b></p> <p>This connection cable (2 meter length) is uniquely designed to connect the analog signals from the flow turbine to the wireless transmitter while also allowing the supply of sufficient voltage needed to power the flow block.</p>
	<p><b>Power Lead (SCK-400-02-45)</b></p> <p>Connect this cable (2 meter length) via M12 plug to the mating cable to supply voltage to the system. An 18 to 30Vdc supply is required, and can be provided via flying leads from the factory DC power or the included 24Vdc power supply within kit.</p>
	<p><b>Power Supply (SCSN-240)</b></p> <p>Provided as an easy solution to supply the appropriate voltage to the wireless kit system. Connect the appropriate power leads to corresponding terminals of power supply.</p> <p>Input Voltage: 90~264 VAC Output Voltage: 24Vdc</p>

**Flying Lead Wire Diagram for Flow Kit (SCK-400-02-45)**

PIN	Connection	Wire Color
1	V Supply	Brown
2	No Connection	White
3	0 V/GND	Blue
4	No Connection	Black
5	No Connection	Gray



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**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

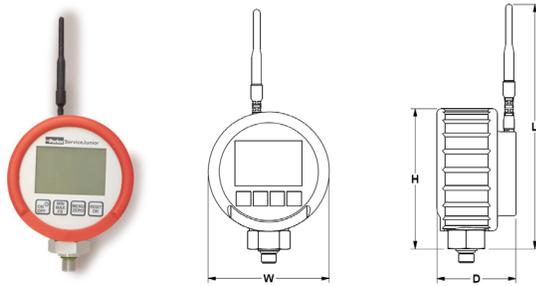
**Scalable and expandable**

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





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 U.S., Canada, and Europe except where stated otherwise.

**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



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### 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

### WARNING

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## 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:

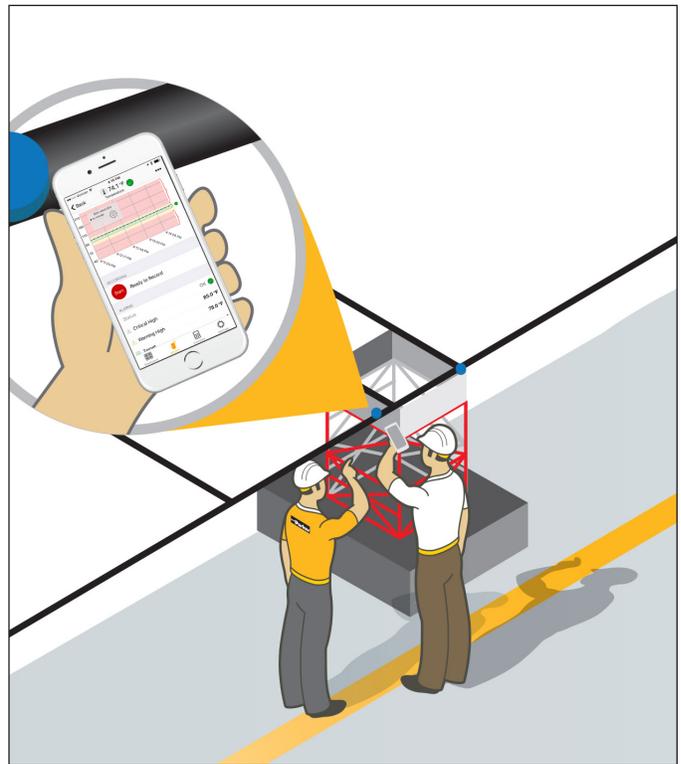
- Requires iOS 9 or newer/Android 4.4 or newer

## 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



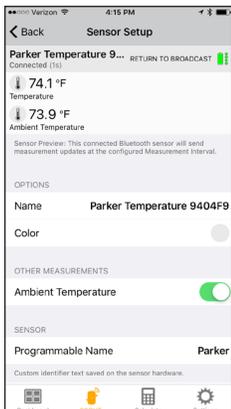
One touch access to sensors that have been added to your mobile device with their latest measurements, alarm status, and sensor mode - broadcasting or connected.

## Measurement Detail



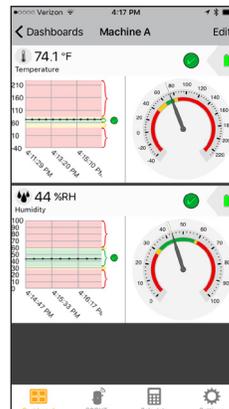
Focus on a single measurement with trend charts, digital gauge, alarm thresholds and other useful features for the operational professional.

## Sensor Setup



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

## Dashboard



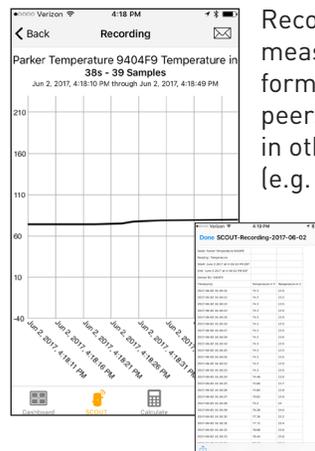
Simplify monitoring activities by grouping measurements that belong together and compare the group's trends and gauges.

## 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).

# Continuous Remote Monitoring



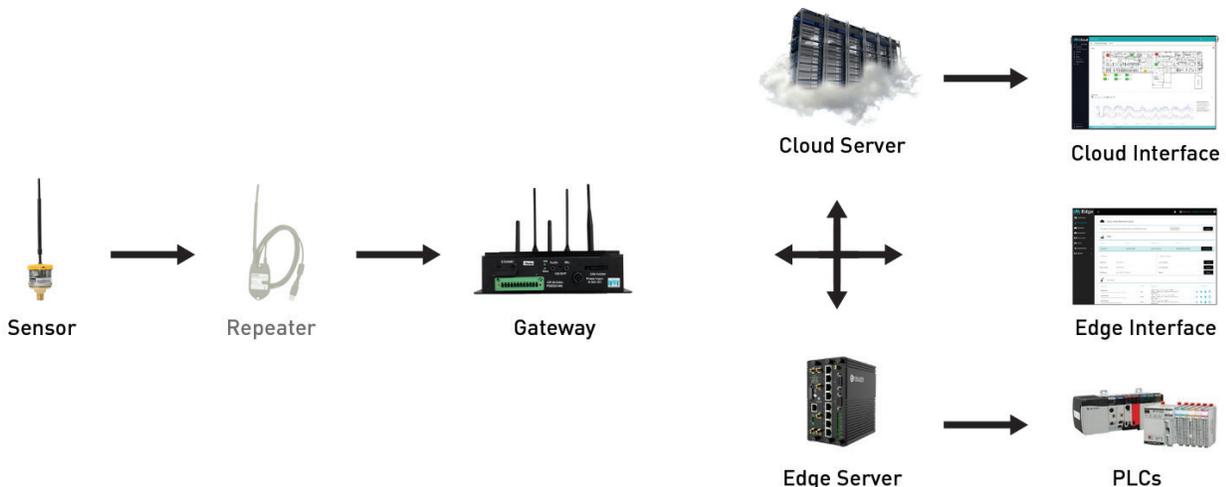
Eliminating the downtime of value-generating assets is the most productive method for increasing profit margins. This simplistic concept is the greatest challenge facing manufacturers in the age of Factory of the Future. Freeing labor resources to perform tasks which require a human touch is vital to maintain a competitive edge.

Accessing machine data through live dashboards, receiving alerts of impending failures, performing triage through historical data inspection are high-value actions made possible through cloud computing.

Communicating bi-directionally with controls network devices, customized cloud interfaces, and time series databases through a vast choice of communication protocols is how further integration and value are derived from edge computing.

Wireless communication has made collecting machine data significantly more cost effective. Without the need to run cables and conduit, budgetary resources can be allocated to data collection hardware, further increasing the intelligence of facility operations. Secure data transmission is capable via a rapid installation process which creates minimal demand on maintenance and engineering departments.

## SensoNODE Gold and Voice of the Machine Software



# SensoNODE™ Gold Sensors and Voice of the Machine™ Software

## Voice of the Machine Cloud

Cloud-based software interface provides flexible organizational structure. Easy enough to visualize a single sensor. Robust enough to present unlimited customers, locations, assets, sensors, and signals in an easily digestible format.

- Customizable dashboards
- Email / SMS alerts
- Gateway statistics
- Historical graphing
- Kiosk display mode
- Live measurements
- OEM cloud instances
- Sensor battery levels
- Templating capabilities
- Wireless signal strengths

## Voice of the Machine Edge

Gateway software which speaks numerous IoT protocols to communicate with existing in-plant infrastructure using a topic structures. Node-RED style graphical programming interface enables sophisticated data manipulation and formatting.

- 3rd party cloud connectivity
- 3rd party controller connectivity
- Easily scalable
- FTP server
- JSON configurable functions
- Marketplace for 3rd party applications
- No internet connection needed
- OPC server and client
- Parsable data strings
- Remotely accessible

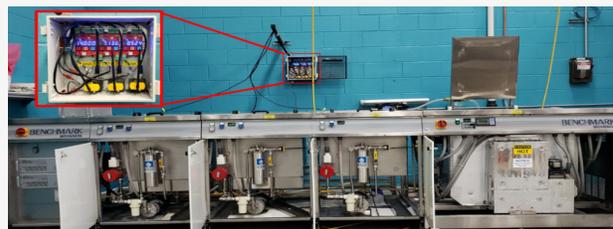
## SensoNODE™ Gold

Our wireless sensors talk with our (required) gateway to collate measurements and send the data to the desired location. Our gateway can receive data from any SensoNODE Gold sensor, most third-party wired sensors with a 4-20mA or a 0-24V output with the help of our transmitters, or other controls network equipment (e.g. Programmable Logic Controllers (PLCs)) via TCP, RTU, or other communication protocols. Each gateway can communicate with up to 250 of our sensors wirelessly.

The wireless sensors (centered at 908MHz) communicate directly to the gateway only. The sensors are IP65 rated. They require a CR123A battery, which typically last 3-5 years, dependent on report rate and environmental conditions. Their wireless range is up to 1,000 ft (line of sight). The antenna emits a omni-directional signal, in the shape of a donut.

Repeaters may be inserted into the system to extend the range of the sensors. The repeaters can operate in parallel, but not in series with each other. Repeaters require a 120V / 60Hz power supply. Repeaters can extend the range of up to 500 sensors.

Should you not see a pressure range which satisfies your needs, do not see a port configuration which you require, or foresee a unique use-case which requires insight and experience to achieve success, please contact us. We are happy to work with your team to create custom configurations.



## Voice of the Machine Cloud Interface

The cloud interface is ideal for continuously remotely monitoring crucial applications for long-periods of time. The web-based console allows users to remotely retrieve data from anywhere. Dashboards with live and historical data provide insight into previously hidden processes, and staff can be alerted to impending failure events.

Wireless sensors integrated into assets collect vital measurement data and send it to the on-site gateway, which pushes the desirable data to the cloud. Users access that data by logging in through a web browser anywhere they have an internet connection. The interface allows users to monitor and collect data from multiple assets and receive alerts of predetermined deviations.

Increased awareness of processes and assets, frees users from being on-site to review data to optimize machine performance, extend service life, maintain production quality and reduce downtime.

### Applications:

- Robot joints (vibration)
- Baghouse filters (differential pressure)
- Material conveyance motors (current)
- Material conveyance feeders (proximity)
- Facility ambient conditions (temperature)
- Process gasses (pressure)
- Accumulators (pressure)
- Raw material hoppers (humidity)
- Compressed air systems (various)
- Existing wired sensors (4-20mA, 0-24V)
- Fluid condition monitoring (4-20mA)
- Particle counting (4-20mA)
- Hydraulic power units (various)
- Rotational equipment (vibration)
- PLC integration (gateway)
- 55 gallon, non-metallic drums (level)
- Intermediate bulk containers (level)



Voice of the Machine Edge
East IT Gateway (18:9b:a5:10:1f:60) English (US)

- Info
- Certificates
- Network
- Wi-Fi
- Remote Access
- Device Management
- OPC
- LDAP/AD Auth
- Users
- API Tokens
- FTP Server
- External Storage
- License
- Status
- Backup/Restore

## Voice of the Machine 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.

### 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.

### 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

### User Defined Workflow

An extensive graphical user interface and flow-based configurations make solution building simplistic. Customize workflows to process and configure data flows internally or push data to external systems.

### Data Flow

Integrate Operational Technologies (OT) with Information Technologies (IT) by sharing data throughout your organization. Data can be analyzed at the Edge, pushed to the Cloud, into data lakes, or integrated into most enterprise applications to meet numerous business needs.

### Connectivity

Hundreds of pre-loaded drivers and protocols can connect to any modern (or legacy) data source. Automatic discovery of devices with no coding required.

#### Common Protocols:

- Ethernet/IP
- Modbus RTU/TCP
- OPCUA
- RS 232/485

#### Common Drivers:

- ABB
- Allen-Bradley
- Backnet
- Beckhoff
- Cutler-Hammer
- Danfoss
- Delta
- Emerson
- Ethernet
- GE
- Koyo
- LS
- Mitsubishi
- Modbus
- Omron
- OPCUA
- Opto22
- Panasonic
- Schneider
- Sick
- Siemens
- Yaskawa
- Yokogawa



### 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	Polycarbonate
Port	1/4" Male NPT	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	17-4 Stainless and Nitrile			
Measurement Range (pressure)	-14.5 to 14.5 psi [-1 to 1 bar]	0-150 psi [10 bar]	0-232 psi [16 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	350 psi	2250 psi	5440 psi	8700 psi	13,050 psi
Burst Pressure	3x	4x	4x	4x	4x	4x	4x
Accuracy (at 77°F/ 25°C)	1.5%	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	1 psi
Response Time (min)	1 sec	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]	-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]	-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	> 1 million
Certifications	FCC, IC, CE	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	CR123A
IP Rating	IP65	IP65	IP65	IP65	IP65	IP65	IP65

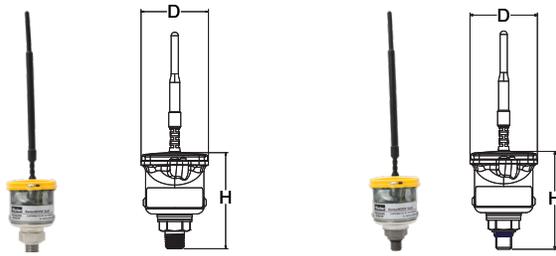
Note: Consult QCD for other port options, pressure ratings, and port seal materials.  
 \*Consult Subscription Agreement and Order Form or Parker QCD for any changes regarding data rates.  
 \*\*Ambient temperature range can be broadened by installing Wired Power Adapter (SNWP2-2)



# SensoNODE™ Gold

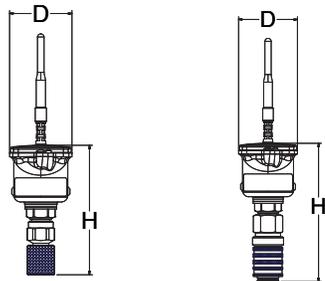
# Pressure

## Pressure Sensors



Part Number	Pressure Rating psi [bar]	Port	D	H
SNPT2-1-2-4MP	-14.5 to 14.5 [-1 to 1]	1/4" Male NPTF	ø1.88" [48mm]	2.66" [68mm]
SNPT2-10-2-4MP	0-150 [10]	1/4" Male NPTF	ø1.88" [48mm]	2.66" [68mm]
SNPT2-16-2-4MP	0-232 [16]	1/4" 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]

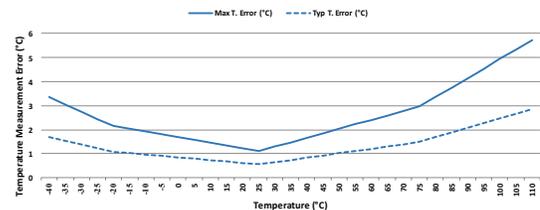
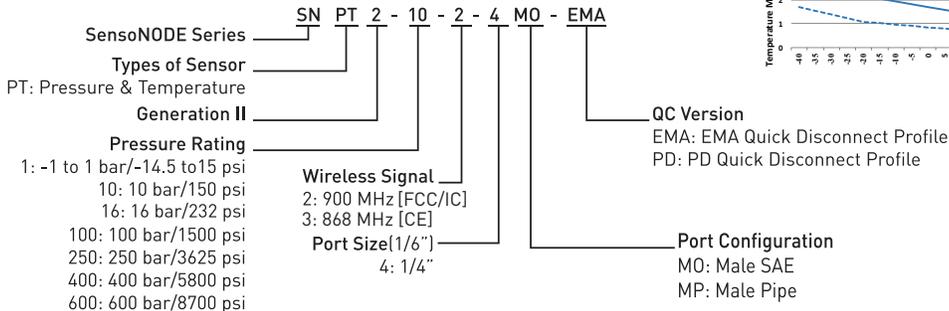
## Quick Couplers



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 U.S., Canada, and Europe except where stated otherwise.

### How to Order:



**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](http://www.P65Warnings.ca.gov)





### 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 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]			
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

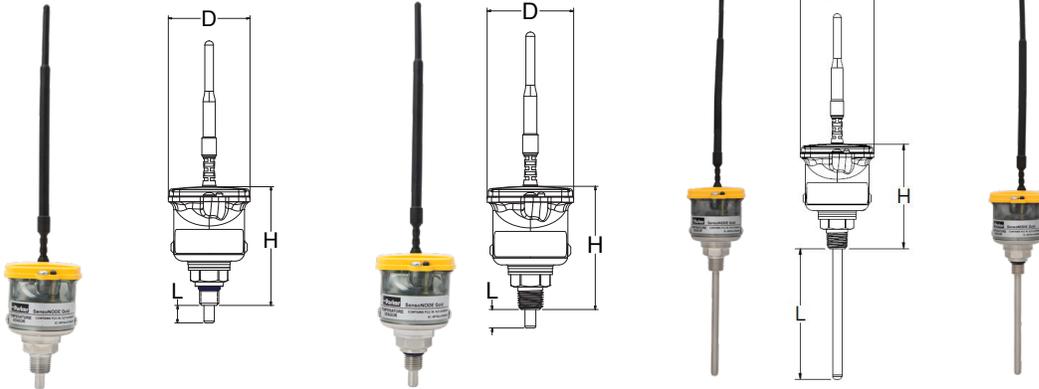
Note: Consult QCD for other port options, pressure ratings, and port seal materials.

\*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



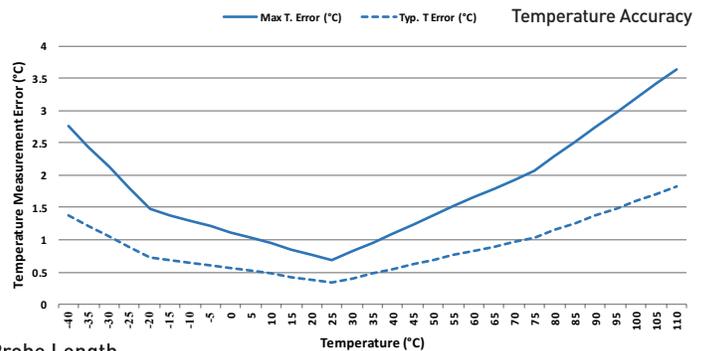
Part Number	Fluid Temperature Range	Port	D	H	L
SNT2-700-2-4M0	-40°F to 230°F [-40°C to 110°C]	-4 SAE	ø1.88" [48mm]	2.72" [69mm]	0.40" [10.16mm]
SNT2-700-2-4MP	-40°F to 230°F [-40°C to 110°C]	1/4" Male NPTF	ø1.88" [48mm]	2.66" [68mm]	0.40" [10.16mm]
SNT2-100-2-4M0-0335	-40°F to 230°F [-40°C to 110°C]	-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

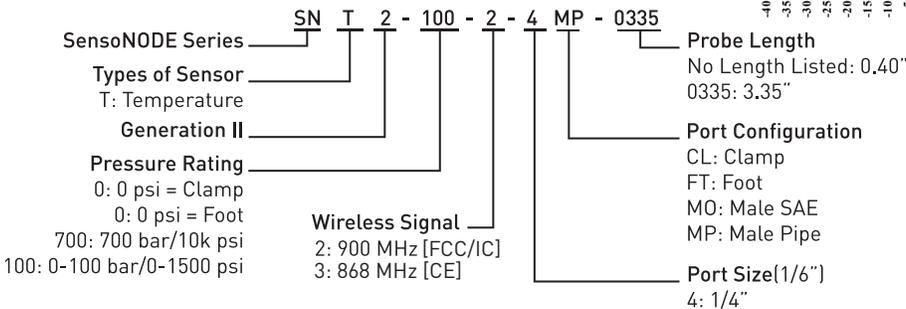


Part Number	Fluid Temperature Range	L	H	Optimal Clamping
SNT2-0-2-FT	-40°F to 257°F [-40°C to 125°C]	2.42" [61.5mm]	2.31" [58.7mm]	> 0.25" + [> 6.4mm]

Note: Products in catalog are currently only for sale in U.S., Canada, and Europe except where stated otherwise.



### How to Order:



### 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](http://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 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)



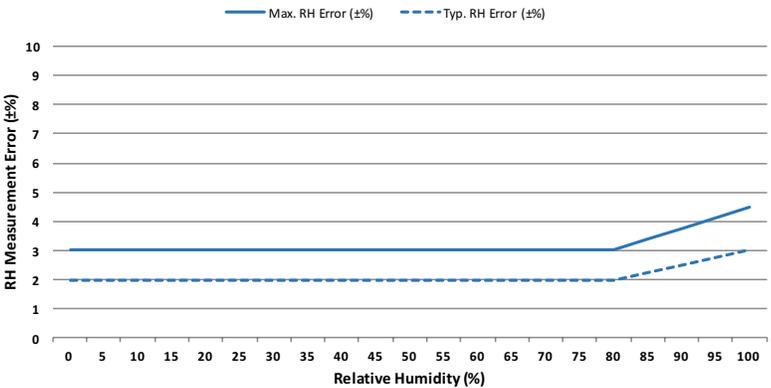
## Humidity Sensors



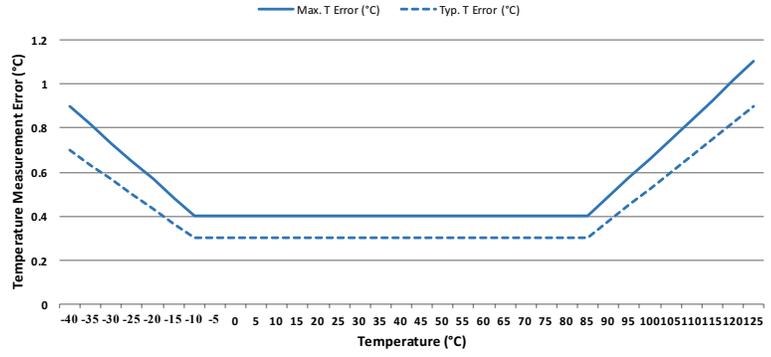
Part Number	RH Range	Port	D	H
SNHT2-10-2-4MP	0-100%	1/4" Male NPTF	ø1.88" [48mm]	2.66" [68mm]

Note: Products in catalog are currently only for sale in U.S., Canada, and Europe except where stated otherwise.

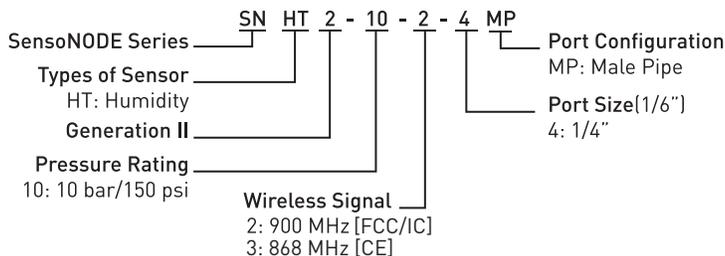
**RH Accuracy**



**Temperature Accuracy**



**How to Order:**



**WARNING**

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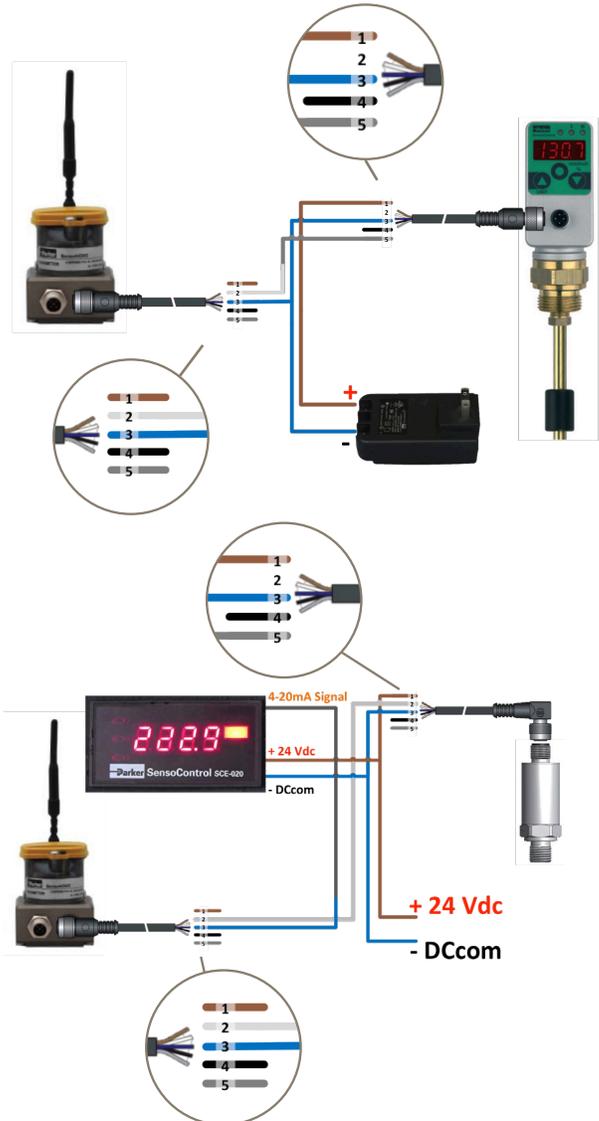


### Transmitter Technical Data

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

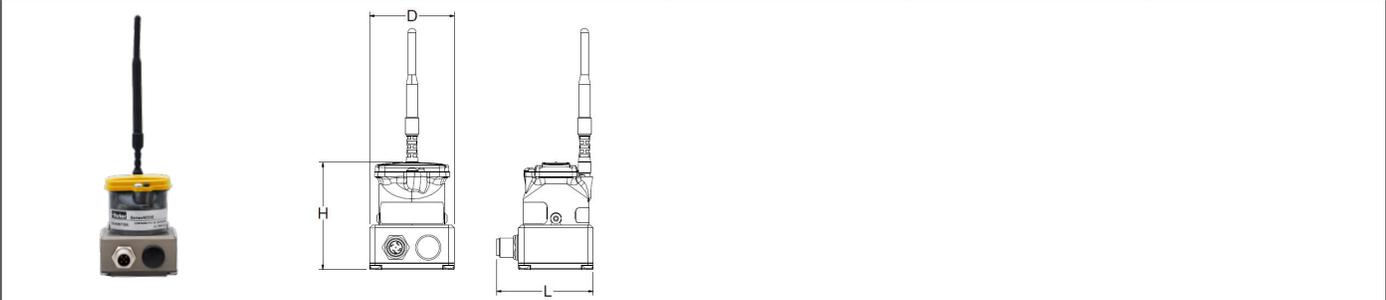
### Features:

- 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]



### 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](http://www.P65Warnings.ca.gov)





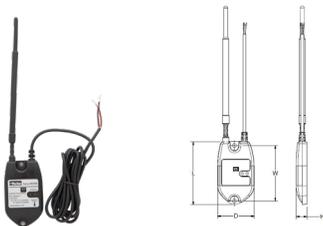
### Features:

- 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 analog signal in user defined units
- Powered by current loop eliminating need for battery
- Robust overmolded construction

### Transmitter Technical Data

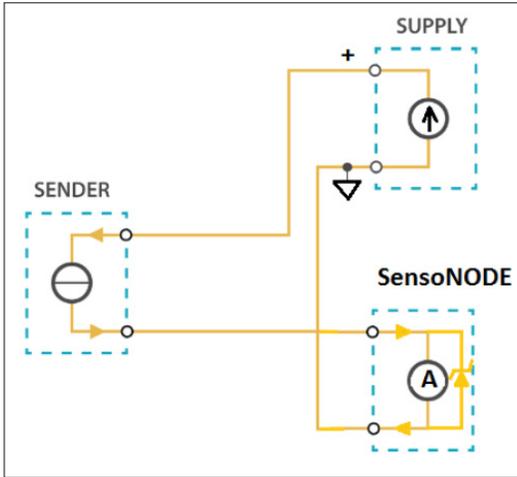
Material	Polyamide Thermoplastic
Cable Length	6'
Accuracy	±1% (additive to source)
Resolution	0.03%
Minimum Supply Voltage	10V
Maximum Inputs	20mA (@ 15V)
Temperature Range	-40°F to 185°F
Certifications	FCC & IC

### Loop Analog Connector

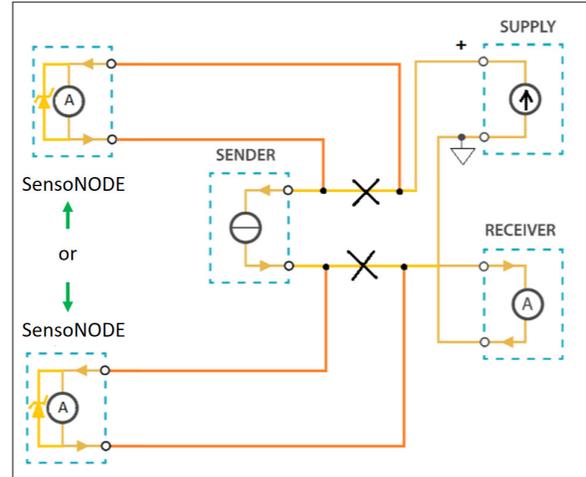


Part Number	W	D	H	L
SN422-2	2.75" [70mm]	1.81" [46mm]	.53" [13mm]	3.12" [79mm]

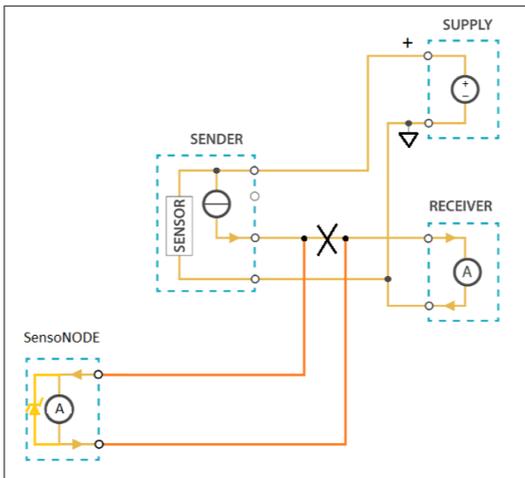
## SensoNODE Only Configuration



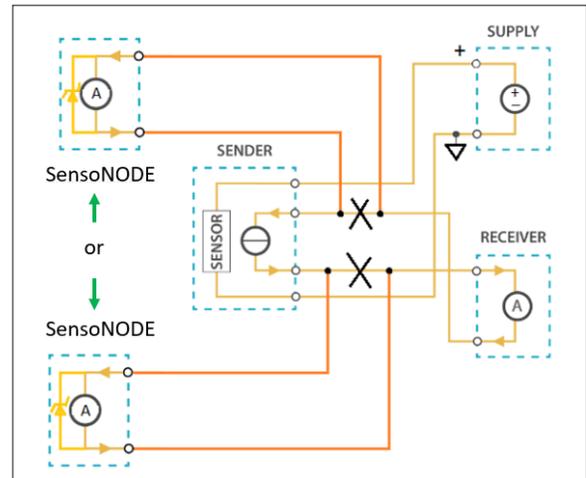
## 2 Wire Configuration



## 3 Wire Configuration



## 4 Wire Configuration

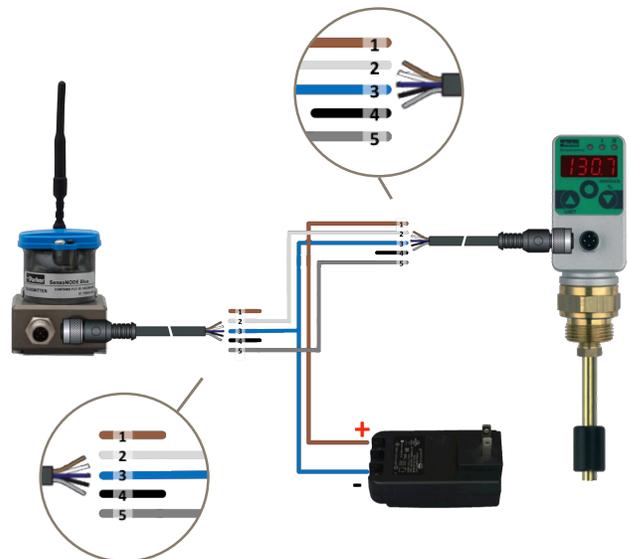




### Features:

- Connects inline with common Voltage Sensors
- Dual channels offer connection with two Voltage Sensors
- Integrates hard wired sensors into wireless Voice of the Machine Edge software only
- 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
- Requires connection cable SCK-400-xx-xx in conjunction with transmitter and Voltage Sensor

Technical Data	
Base Material	Aluminum
Housing Material	Polycarbonate
Analog Voltage Range	0-10VDC; 0-24VDC
Digital Voltage Range	0-2VDC = 0; +8VDC = 1
Accuracy	±2.0% for 0-10VDC (additive to source) ±3.0% for 0-24VDC (additive to source)
Resolution	0.03%
Max rated input voltage	32V (24VDC input, digital input) 16V (10VDC input)
Temperature Range with Wired Power	-40°F to 185°F
Temperature Range with Battery	-4°F to 158°F
Certifications	FCC & IC
Battery (Panasonic is recommended brand)	CR123A
IP Rating	IP65



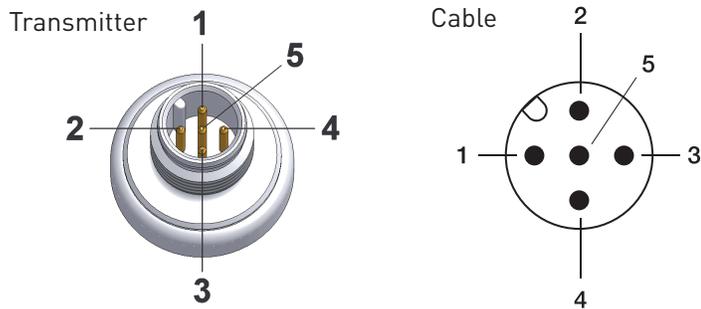
**Transmitter**

Part Number	Base Mounting Thread	D	H	L
SNDV2-2	1/4-28 UNF x 0.45" [11mm]	2.11" [54mm]	2.67" [68mm]	2.41" [61mm]

## Pin Assignment

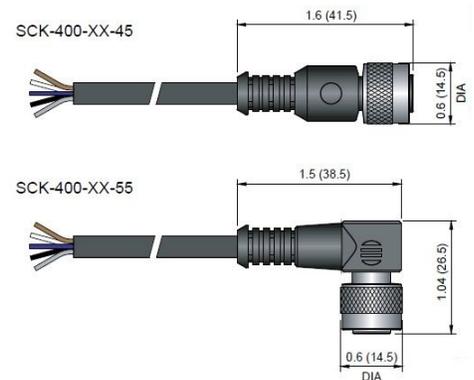
PIN	Connection	Wire Color
1	No Connection	Brown
2	Digital Input	White
3	0V/GND	Blue
4	10V Input	Black
5	24V Input	Gray

Technical Note: Only one voltage and one digital signal can be used concurrently per channel



## 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°



**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](http://www.P65Warnings.ca.gov)



### 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.
- Other CT sizes available upon request.
- Configurable measurement and broadcast intervals\*. Refer to the Voice of the Machine Cloud for more information about capabilities and modalities.

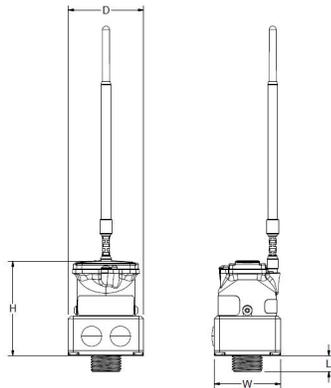
Sensor Technical Data	
Base Material	Aluminum
Housing Material	Polycarbonate
Port	1/2-14 NPSM Thread
Measurement Range (Amperes)	50-600
Accuracy	5% (Full Span)
Resolution	0.1% (Full Span)
Ambient Temperature (battery limited)**	-4°F to 158°F [-20°C to 70°C]
Full Range Life Cycles	> 1 million
Certifications	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)



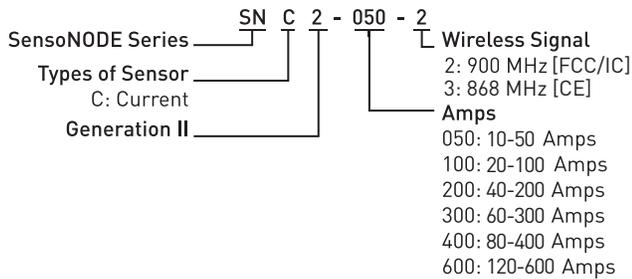
## Current



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]

Note: Products in catalog are currently only for sale in U.S., Canada, and Europe except where stated otherwise.

### How to Order:



### WARNING

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### 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.

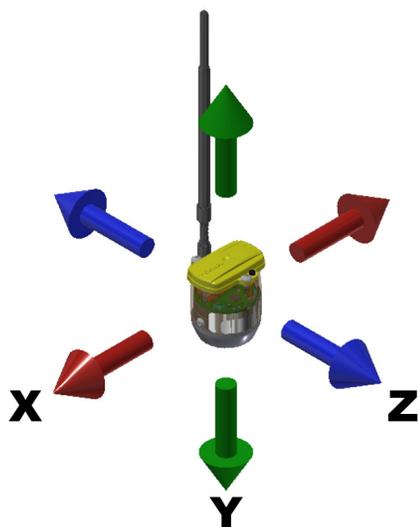


**Transmitter**

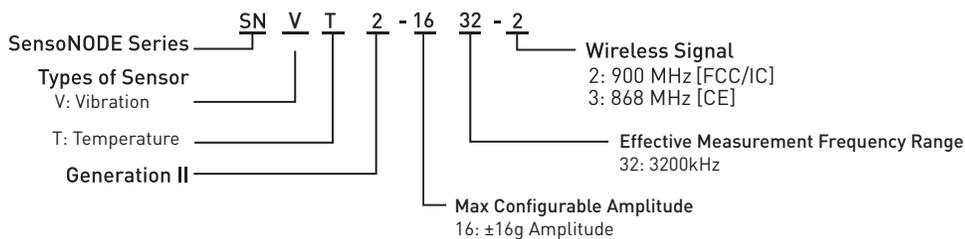


Part Number	Base Mounting Thread	D	H
SNVT2-1632-2	1/4-28 UNF	1.88" [48mm]	2.05" [52mm]

## Measurement Axes



### How to Order:



### WARNING

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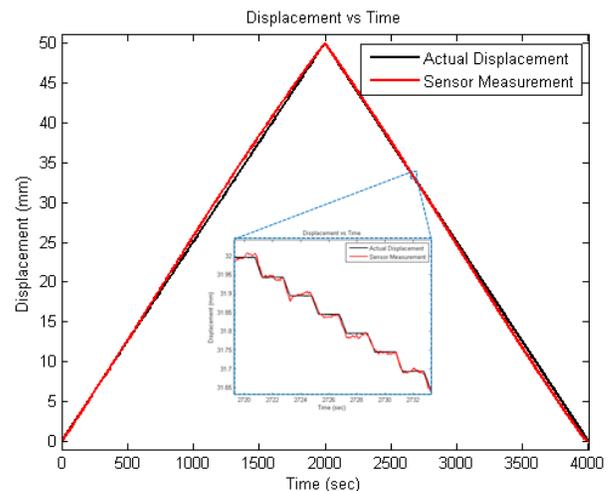


### Features:

- 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





### Sensor Kit

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

### Sensors

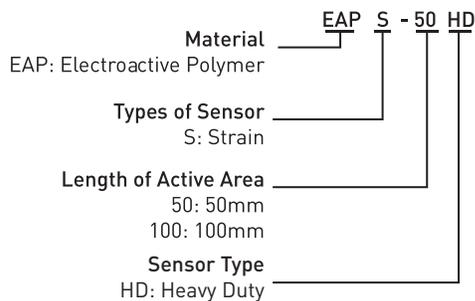
Part Number	Sensor Length (L)	Sensor Width (W)	Cable Length
EAPS-50HD	1.97" [50mm]	0.67" [17mm]	18" [457.2mm]
EAPS-100HD	3.94" [100mm]	0.67" [17mm]	18" [457.2mm]

### 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]

Note: Products in catalog are currently only for sale in U.S., Canada, and Europe except where stated otherwise.

#### How to Order:



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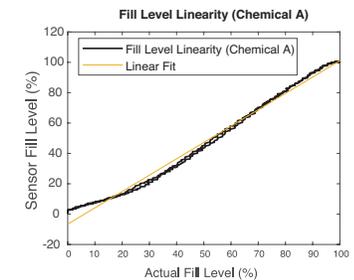
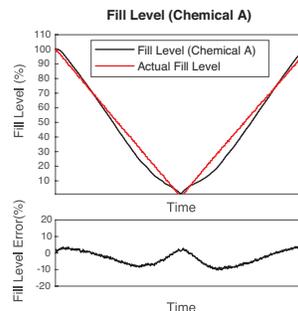
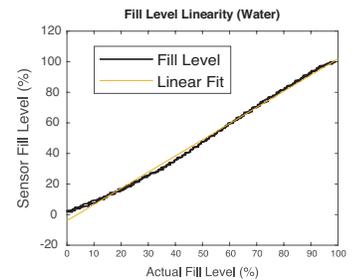
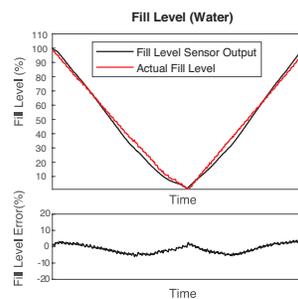


### Features:

- Enables remote wireless monitoring of material levels within non-metallic 55gal drums
- Integrates seamlessly with Voice of the Machine software
- Non-invasive measurement technology
- Recommended for indoor use only
- Replaceable sensor allows reuse of transmitter if damage or barrel exchange occurs

Sensor Technical Data		Water (1 cSt)	Chemical A (> 15 cSt)
Range	Height of sensor active area [inches (mm)]	26 [660]	26 [660]
Sensor Output	Percent of height (%)	0 to 100	0 to 100
Resolution	[inches (mm)]	0.65 [17]	1.3 [33]
Accuracy*	See Accuracy chart below	±1.5% for 50 to 100% range ±2.5% for 0 to 50% range	±2.5% for 50 to 100% range ±5% for 0 to 50% range
Linearity	See Linearity chart below	2%	5%
Hysteresis		1%	2%
Application Temperature		+40 to +120°F	
Sample Rate		1 sample/min (default settings)	

Transmitter Technical Data	
Base Material	Brass and Steel
Housing Material	Polycarbonate
Ambient temperature (battery limited)	-4 to +158°F
Radio Certifications	FCC & IC
Battery [Panasonic is recommended]	CR123A
IP Rating (Transmitter Only)	IP65



### Important Technical Notes:

All data derived from testing that utilized non-metallic 55 gal barrels calibrated at Full.  
\*Factors that may affect accuracy and linearity of measurements:

- Viscosity and consumption rate of substance
- Environmental factors such as EMI and physical contact of chemicals or equipment



**Sensor Kit**

Part Number	Transmitter	Sensor
SNLT2-KIT-2-26	(1) SNLT2-2	1) FLS-26

**Sensors**

Part Number	Sensor Length	Sensor Width	Cable length
FLS-26	26.4" [671 mm]	2.75" [70 mm]	7.43" [189 mm]

**Transmitter**

Part Number	Base Mounting	D	H	L
SNLT2-2	BARREL CLAMP & SET SCREW	ø1.88" [48 mm]	3.44" [87 mm]	1.50" [38mm]

Note: Products in catalog are currently only for sale in U.S., Canada, and Europe except where stated otherwise.



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### Features:

- Enables remote wireless monitoring of fluid level
- Integrates seamlessly with Voice of the Machine software
- Eliminates necessity for communication cabling
- High visibility level display
- No surge pipe necessary
- Two switching outputs for independent process control

Kit Technical Data <sup>1</sup>					
SNCLSD2-KIT-	250	370	520	800	1000
Sensor length measurement range [inches (mm)]	9.8 (250)	14.6 (370)	20.5 (520)	31.5 (800)	39.4 (1000)
Active range [inches (mm)]	1.6 to 8.3 (40 to 210)	1.6 to 13 (40 to 330)	1.6 to 18.9 (40 to 480)	1.6 to 30 (40 to 760)	1.6 to 37.8 (40 to 960)
Increment size [inches (mm)]	0.2 (5)	0.2 (5)	0.2 (5)	0.4 (10)	0.4 (10)
Lowest reset point RSP [inches (mm)]	1.6 (40)	1.6 (40)	1.6 (40)	1.6 (40)	1.6 (40)
Largest switching value SP [inches (mm)]	8.3 (210)	13 (330)	18.9 (480)	30 (760)	37.8 (960)

Level Controller Technical Data <sup>1</sup>	
<b>Input Parameters</b>	
Measuring Component	Resistance reed chain with float
Connector thread	G3/4 BSPP; nickel-plated brass: ED soft seal NBR <sup>2</sup>
Wetted Parts	Brass; nickel-plated brass, NBR <sup>2</sup>
Fluid temperature range	-4 to 185°F
Media compatibility	Water; lubricating oil; hydraulic oil
<b>Output Values</b>	
Switching point accuracy	±1% FS at 77°F
Controller Display accuracy	±1% FS ±1 digit at 77°F
Response speed	≤700 ms
Controller resolution	0.3 inches
<b>Float</b>	
Material	NBR
Dimensions	Ø 0.7 inches, length 1.4 inches
<b>Level Rod</b>	
Material	Stainless Steel
Dimensions	Ø 0.3 inches
Operating pressure	14.5 psi

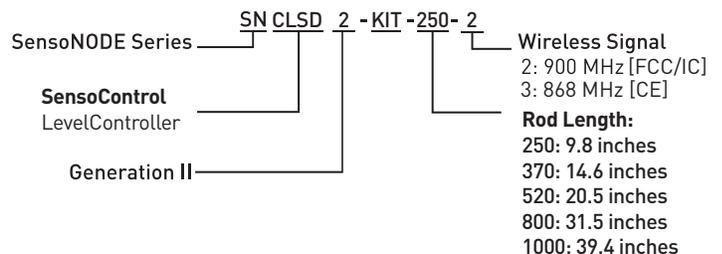
Transmitter Technical Data <sup>3</sup>	
Base Material	Aluminum
Housing Material	Polycarbonate
Accuracy	0.5% (additive to source)
Resolution	0.1%
Ambient temperature (battery limited)	-4 to +158°F
Radio Certifications	FCC, IC, CE
Battery [Panasonic is recommended]	CR123A
IP Rating (Transmitter only)	IP65

<sup>1</sup>Consult Parker Catalog 4083 for additional flow block details & data

<sup>2</sup>Different sealing material (FKM, EPDM, etc) upon request

<sup>3</sup>Consult Analog Transmitter portion of Parker Catalog 3864 for additional details

### How to Order:

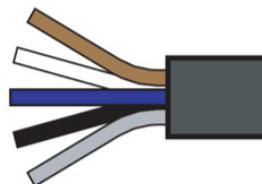




Technical Data	
	<p><b>Analog Transmitter (SN322-x)</b></p> <p>The transmitter wirelessly communicates the analog signal output from the controller to the gateway receiver for monitoring the fluid level of common tanks.</p>
	<p><b>Level Controller (SCLSD-xxx-10-05)</b></p> <p>The LevelController combines the functions of a level switch, a level sensor and a level display. The LevelController is ideal for the monitoring of fluid level contents. The parameters are set using the keys or over a programming module.</p>
	<p><b>Mating Cable (SCK-WH-02-45-02)</b></p> <p>This connection cable (2 meter length) is uniquely designed to connect the analog signals from the controller to the wireless transmitter and switching outputs while also allowing the supply of sufficient voltage needed to power the controller.</p>
	<p><b>Power Lead (SCK-400-02-45)</b></p> <p>Connect this cable (2 meter length) via M12 plug to the mating cable to supply voltage to the system. A 15 to 30Vdc supply is required, and can be provided via flying leads from the factory DC power or the included 24Vdc power supply included within kit.</p>
	<p><b>Power Supply (SCSN-240)</b></p> <p>Provided as an easy solution to supply the appropriate voltage to the wireless kit system. Connect the appropriate Power Leads to corresponding terminals of power supply.                      Input Voltage: 90~264 VAC                      Output Voltage: 24Vdc</p>

## Flying Lead Wire Diagram for Level Kit (SCK-400-02-45)

PIN	Connection	Wire Color
1	V Supply	Brown
2	S2 out	White
3	0 V/GND	Blue
4	S1 out	Black
5	No Connection	Gray



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### Features:

- Enables remote wireless monitoring of hydraulic flow
- Integrates seamlessly with Voice of the Machine software
- Eliminates necessity for communication cabling
- Turbine based measurement
- Measurement range 4 to 210 gpm
- Low flow resistance
- Capable of reverse flow measurement

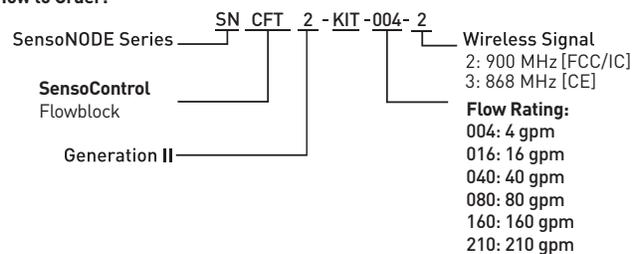
Kit Technical Data <sup>1</sup>						
SNCFT2-KIT-	004	016	040	080	160	210
Flow measuring range Qn [gpm (l/min)]	0.25 to 4 [1 to 15]	0.8 to 16 [3 to 60]	1.3 to 40 [5 to 150]	2 to 80 [8 to 300]	4 to 160 [15 to 600]	5 to 210 [20 to 800]
Accuracy (±%) FS/IR @ 21cSt.	± 1 % FS	± 1 % IR	± 1 % IR	± 1 % IR	± 1 % IR	± 1 % IR
Operating Pressure Pn [psi (bar)]	5000 (350)	5000 (350)	5000 (350)	5000 (350)	4200 (290)	5800 (400)
Ports (A-B)	3/4"-16UN #8 SAE ORB	1-1/16"-12UN #12 SAE ORB	1-1/16"-UN #12 SAE ORB	1-5/16"-12UN #16 SAE ORB	1-5/8"-12UN #20 SAE ORB	1-7/8"-12UN #24 SAE ORB
Pressure Drop ΔP [psi (bar)] @ (FS)	21 (1.5)	21 (1.5)	21 (1.5)	58 (4)	58 (4)	72 (5)
Weight [lbs (g)]	1.5 (700)	3.5 (1600)	3.5 (1600)	3.7 (1700)	6 (2700)	11 (5000)

Flow Turbine Technical Data <sup>1</sup>	
Accuracy	
Response time	50 ms
Thermal drift	±0.05 % FS/°C
Repeat accuracy	±0.5 % FS
Resistance to pressure	
Qmax (gpm)	Qn × 1.1
Overload pressure Pmax	Pn × 1.2
Material	
Flow Turbine Housing	Aluminum
Seal	FKM
Wetted Path	Aluminum, steel, FKM
Ambient Conditions	
Ambient temperature	+50 to +122°F
Storage temperature	-4 to +176°F
Tmax Fluid	-4 to +176°F
Filtration	25 μm (10 μm for SNCFT2-004)
Viscosity	15 to 100 cSt.
Protection Class	IP66

Transmitter Technical Data <sup>2</sup>	
Base Material	Aluminum
Housing Material	Polycarbonate
Accuracy	0.5% (additive to source)
Resolution	0.1%
Ambient temperature (battery limited)	-4 to +158°F
Radio Certifications	FCC, IC, CE
Battery [Panasonic is recommended]	CR123A
IP Rating (Transmitter only)	IP65

<sup>1</sup>Consult Parker Catalog 4083 for additional flow block details & data  
<sup>2</sup>Consult Analog Transmitter portion of Parker Catalog 3864 for additional details

### How to Order:



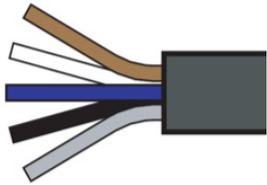
Consult Analog Transmitter portion of Parker Catalog 3864 for additional details



Technical Data	
	<p><b>Analog Transmitter (SN322-x)</b></p> <p>The transmitter wirelessly communicates the analog signal output from the flow turbine to the gateway receiver for monitoring the condition of common hydraulic systems.</p>
	<p><b>Flow Turbine (SCFT-xxx-02-02-UNF)</b></p> <p>The turbine wheel is driven by the oil flow. The generated frequencies are processed through the digital electronics and influences from the disturbing flow effects are compensated for. Because of the low flow resistance <math>Q_R</math>, the hydraulic circuit operates with very low losses.</p> <p>Reverse operation is also possible because the special vane (winged) design – so the turbine can be operated in both directions.</p> <p>The turbine casing also includes two plugged 7/16-20UN SAE ORB ports to add additional wireless pressure or temperature sensors directly in the oil flow. Please contact division for more detail.</p>
	<p><b>Mating Cable (SCK-WH-02-45-01)</b></p> <p>This connection cable (2 meter length) is uniquely designed to connect the analog signals from the flow turbine to the wireless transmitter while also allowing the supply of sufficient voltage needed to power the flow block.</p>
	<p><b>Power Lead (SCK-400-02-45)</b></p> <p>Connect this cable (2 meter length) via M12 plug to the mating cable to supply voltage to the system. An 18 to 30Vdc supply is required, and can be provided via flying leads from the factory DC power or the included 24Vdc power supply within kit.</p>
	<p><b>Power Supply (SCSN-240)</b></p> <p>Provided as an easy solution to supply the appropriate voltage to the wireless kit system. Connect the appropriate power leads to corresponding terminals of power supply.</p> <p>Input Voltage: 90~264 VAC Output Voltage: 24Vdc</p>

**Flying Lead Wire Diagram for Flow Kit (SCK-400-02-45)**

PIN	Connection	Wire Color
1	V Supply	Brown
2	No Connection	White
3	0 V/GND	Blue
4	No Connection	Black
5	No Connection	Gray



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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

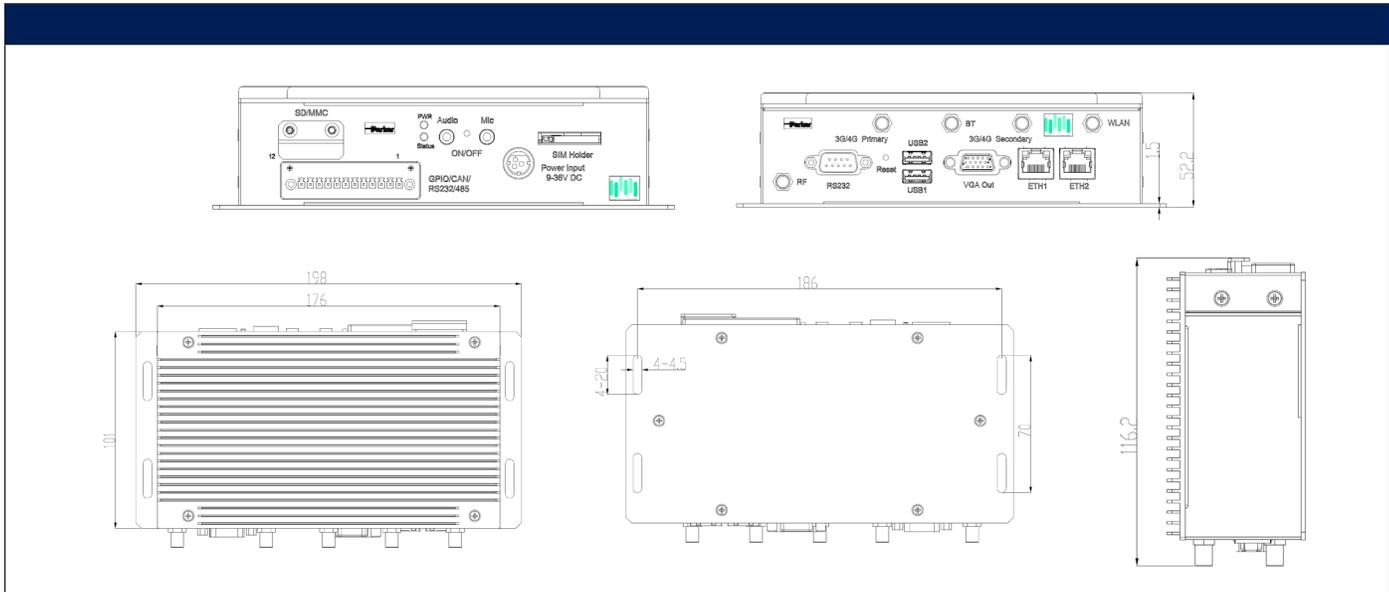
Specifications	Description
<b>System</b>	
Processor	Intel® ATOM™, E3815/1.46GHz, Single-core processor
On Board RAM	DDR3L 2GB
SSD Internal	Half-Slim SATA SSD Module Internal (16GB)
<b>Display</b>	
Resolution	2560x1600 @ 60Hz for VGA
Interface	1xVGA (DB15)
<b>Wireless Communication</b>	
WLAN	802.11 b/g/n 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
<b>I/O</b>	
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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Specifications	Description
<b>Security</b>	
Security	TPM module
<b>Software</b>	
OS	Secured Embedded Linux
Applications	Parker Voice of the Machine Edge software
<b>Power</b>	
Input	DC12 / 24V(9-36V), Locked Power Jack
Consumption	6W (Pulse8W), Sleep 2W. (without LTE,GPS,WLAN)
<b>Mechanical</b>	
Dimensions	176x101x52mm (Box)
Install Brackets	198x101x52mm
Weight	0.6Kg (1.2Kg package Kit)
Enclosure	Aluminum Alloy with Black Color
<b>Environment Condition</b>	
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 network repeater [range extender] for all sensors joined to gateway receiver
- Support for up to 250 sensors at one hop each
- Robust overmolded design for harsh environments

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



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### 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



### WARNING

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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.



**WARNING**

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## 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.



**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](http://www.P65Warnings.ca.gov)

# Notes

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# Notes

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# Parker Fluid Connectors Group

**Your complete source** for quality tube fittings, hose & hose fittings, brass & composite fittings, quick-disconnect couplings, valves, and assembly tools, locally available from a worldwide network of authorized distributors.

## **Fittings:**

Available in inch and metric sizes covering SAE, BSP, DIN, GAZ, JIS, and ISO thread configurations, manufactured from steel, stainless steel, brass, aluminum, nylon, and thermoplastic.

## **Hose, Tubing, and Bundles:**

Available in a wide variety of sizes and materials including rubber, wire-reinforced, thermoplastic, hybrid and custom compounds.

## **Worldwide Availability:**

Parker operates Fluid Connectors manufacturing locations and sales offices throughout North America, South America, Europe, and Asia-Pacific.

For more information on **SensoNODE** and **Voice of the Machine** products:

**Visit:** [Parker.com/ConditionMonitoring](http://Parker.com/ConditionMonitoring)

**Call:** (763) 544-7781

For more information on **SensoControl Wired Diagnostic** and **Control** products:

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