EcoStruxure™ Wireless Information Network Solutions

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Life Is On | Schneider Electric

Wireless Information Network Solutions

Wireless technology is a driving force in today's world of process automation. Whether it is the ability to monitor and control assets in remote locations or adding more measurement points within the plant, wireless technology enables manufacturers to gain actionable insights into process or production changes.

Schneider Electric's wireless information network solutions improve operational efficiency, increase profitability, and help achieve sustainable operations, while enabling plant and process managers to achieve their company goals, adhere to regulatory requirements, and ensure operational safety throughout their industrial systems.

Through our easiest to use, scalable, safe and cyber secure offerings, we remove the physical and economic barriers to wired devices, enabling plant managers to add more measurement points and accurately monitor their facilities' performance in real-time. By digitizing operations in new facilities or existing sensing networks, managers get an integrated view from the edge control layer in the field with DCS and SCADA systems, and can execute with our EcoStruxure Application and Analytics software.

With a common look and feel, and a rich user experience across our wireless portfolio along with safe and easy to deploy and use designs coupled with latest cyber security, our wireless information network solutions enable plant managers making their digital transformation goals a reality.

We are keeping safe and easy to use product designs at the forefront so that they are quick to install and commission, reducing the time spent in hazardous locations and high-risk areas to a minimum.

Data Logger 4G LTE

Data Logger 4G LTE is an ultra-low-power, fully-autonomous wireless telemetry device that operates best-of-class sensors. The sampled sensor data is collected, transmitted securely, and then stored on a private cloud server or a customer's on-premises server.

Process solutions (Instrument Area Network)

For short ranges (60 meters) our Instrument Area Network offering allows for wireless architecture with seamless integration into platforms, such as Wireless HART MESH, Ethernet/IP, PLCs, and RTU types of environments.

Remote monitoring solutions (Accutech)

For mid-range distances up to one and a half kilometers, the Accutech offering provides robust and reliable wireless communications. Most notably for the Oil & Gas and Water & Wastewater market but also applicable to many other industries requiring communications of an intermediate range.

Remote tank level monitoring

For applications requiring long range communications, the offering includes cellular 4G/5G capabilities as well as satellite devices measuring level with tracking capability. WebView, the data hub, provides cloud-based features for monitoring and enterprise applications.

Data Logger 4G LTE Remote Monitoring System

Schneider Electric is committed to providing a platform for wireless technology, offering products and complete systems utilizing the latest technology and continually developing and evolving our products to meet the needs of our customer base.

The Schneider Electric Data Logger 4G LTE is an ultra-low-power, fully autonomous wireless telemetry device that operates best-of-class sensors. The sampled sensor data is collected, transmitted securely, and then stored on a secure cloud-server or a customer's on-premises server. Data Loggers are remotely configurable, and data can be visualized and managed via a secure web based IIot Platform. Data can also be integrated into SCADA and other software systems; customers can choose from three unique architectures depending on customer needs or requirements.

Data Hub

Why Remote Monitoring

Lack of data equals lack of information for our customers and their operations resulting in loss of efficiencies and poor service to their customers. With the Data Logger 4G LTE wireless system, the issue of lack of data from remote assets is resolved and operations become more efficient, effective and customers are satisfied with the service they receive.

The Schneider Electric Data Logger is designed for compatibility and interoperability to connect the decision makers with critical remote assets. The information is then provided as required by the customer on a web-based platform or into other back office applications.

Through the creation and management of the data from field assets, the Schneider Electric Data Logger system, provides the tool to effectively manage new and existing infrastructure networks.

Experience the Benefits of the Data Logger 4G LTE System

Compatible – The data logger can connect to most sensors and SCADA systems on the market today.

Cost Effective – Save time and money with plug and play installation. The data logger is configured to your sensor at the factory and ready for connection in the field.

Cybersecure – Featuring TLS 1.2 protocol (AES-256). Know your connection and data is secure with encryption, authentication and security updates as available.

Comprehensive – The Schneider Electric Data Logger is all encompassing and includes the required equipment and services to monitor your remote assets.

Applications

- Water abstraction
- Water production
- Water distribution
- Revenue metering
- Irrigation
- Oil and Gas

Specifications (DLLTE-PR)

3 Port Premium Data Logger Data Logger, supporting up to 12 sensors utilizing splitters

Data and software	
Data hosting	Secure cloud or on-premises[1]
Cybersecurity	TLS 1.2 Protocol (AES-256 AES data encryption)
Software integration	REST API
SCADA integration	CSV, DNP3, OPC-UA
Management platform	Web-based from desktop, tablet, and mobile
Data export options	CSV (Excel Reports), FTP
Device memory	8 GB
Data communication	Two-way
Alarm threshold	Up to 4 per data stream
Alert notification	Email and / or SMS
System health check	Included

Power	
Primary power supply	Internal lithium battery (field-replaceable and non-rechargeable), 3.9 V DC 3 A
Internal battery capacity	32 Ah
Operational run time	Up to 5+ years[2]
Battery status notifications	Included
External power	Solar and line power; automatic power source switching (connected through M8 connector not included)
Voltage input	6-24 V DC

Sensor integration	
Sensor ports	3 ports; supports up to 12 sensors using cable splitters (not included ordered as accessory)
Sensor position	External Hard-Wired (connected through M12 Connectors, included)
Serial interfaces	RS485, RS232, SDI-12
Serial protocols	Modbus RTU, ASCII
Serial channels	Up to 16
Analog channels	Up to 4 (4-20 mA, 0-24 V)
Discrete channels	Dry contact, open collector Up to 5 total inputs (up to 2 pulse counting) 39 Hz max pulse frequency Up to 5 outputs, 0 V/2.8 V Maximum 3 outputs to be used at the same time.
Sensor power supply output	350 mA, 3.6 V/12 V
Data Transmission	Periodic optional plans available
Antenna	Internal (magnetic mount external antenna included) other options available for purchase
GPS	Included

[1] Pricing to be determined on a case by case basis.

[2] Battery lifetime depends on sensor power consumption and sampling and transmission frequency

Specifications (DLLTE-PR)

Connectivity	
Cellular	4G/3G/2G
SIM	Dual SIM (provided)
Cellular roaming	Global multi-network networks in 180+ countries
Configuration	OTA, Bluetooth (BLE with mobile app)

Mechanical enclosure	
Dimensions (W x H x D)	13.2cm x 15.5cm x 7.3cm, 5.2in x 6.5in x 2.9in
Weight	0.9 kg (2.0 lbs)
Enclosure material	Polycarbonate with ABS (UI 94V and UV resistant)
Ingress protection	IP 68/NEMA 6P
Operating temperature	-40 °C to 80 °C (-40 °F to 176 °F)
Storage temperature	-40 °C to 80 °C (-40 °F to 176 °F)

Certifications	
Safety	EN 61010-1 2010/IEC 61010-1
FCC	FCC Part 15 Subpart B
EMC	EN 301 489-1 V2.1.1 2017 / EN 301 489-7 V1.3.1 2005
Spurious emissions	EN 301 511 V12.5.1 2017
Radiated emissions	EN 301 908-1 V11.1.1 2016
Ingress Protection	EN 60529:1992+A2:2013 IEC 60529:1989/AM1:1999
CE	Approved

Specifications (DLLTE-LT)

3 Multi-Port Intrinsically Safe Data Logger, Class 1 Division 1 Zone 0

Data and software	
Data hosting	Secure cloud or on-premises[1]
Cybersecurity	TLS 1.2 Protocol (AES-256 AES data encryption)
Software integration	REST API
SCADA integration	CSV, DNP3, OPC-UA
Management platform	Web-based from desktop, tablet, and mobile
Data export options	CSV (Reports), FTP
Device memory	Up to 250,000 samples
Data communication	Two-way
Alarm threshold	Up to 4 per data stream
Alert notification	Email / SMS
System health check	Included

Power	
Primary power supply	Internal lithium battery (field-replaceable and non-rechargeable), 3.9 V DC 3 A
Internal battery capacity	32 Ah
Operational run time	Up to 5+ years[2]
Battery status notifications	Included
External power	Automatic power source switching (connected through M8 connector not included)
Voltage input	6-24 V DC

Sensor integration	
Sensor ports	1 port; supports up to 4 sensors using cable splitters (not included ordered as accessory)
Sensor position	External Hard-Wired, (Connected through M12 connectors included)
Serial interfaces	RS485, RS232
Serial protocols	Modbus RTU, ASCII
Serial channels	Up to 16
Analog channels	2 (4-20 mA, 0-24 V)
Discrete channels	2 Dry contact, open collector, pulse counting 39Hz max pulse frequency
Digital output channels	2 at 0V/2.8V
Sensor power supply output	350 mA, 3.6 V/12 V

[1] Pricing to be determined on a case by case basis.

[2] Battery lifetime depends on sensor power consumption and sampling and transmission frequency

Specifications (DLLTE-LT)

Connectivity	
Cellular	US: CAT-M (4G), EU: CAT-M & NB-IoT(4G) 2G, Rest of World 4G, 2G
SIM	Single SIM (provided)
Cellular roaming	Global multi-network networks in 180+ countries
Configuration	OTA, Bluetooth (BLE)
Data Transmission	Periodic optional plans available
Antenna	External (Included)

Mechanical enclosure	
Dimensions (W x H x D)	13.2cm x 15.5cm x 7.3cm, 5.2in x 6.5in x 2.9in
Weight	0.9kg, 2.0lbs
Enclosure Material	Polycarbonate with ABS (UI 94V and UV resistant
Ingress Protection	IP 68 / NEMA 6P
Operating Temperature	-40C to +80C, -40F to +176F
Storage Temperature	-40C to +80C, -40F to +176F

Certifications	
Safety	EN 61010-1 2010, IEC 61010-1
FCC	FCC Part 15 Subpart B
EMC	EN 301 489-1 V2.1.1 2017 / EN 301 489-7 V1.3.1 2005
Spurious Emissions	EN 301 511 V12.5.1 2017
Radiated Emissions	EN 301 908-1 V11.1.1 2016
Ingress Protection	EN 60529:1992+A2:2013 / IEC 60529:1989/AM1:1999
CE	Approved

Specifications (DLLTE-IS)

3 Multi-Port Intrinsically Safe Data Logger, Class 1 Division 1 Zone 0

Data and software	
Data hosting	Secure Cloud or On-Premises[1]
Cybersecurity	TLS 1.2 Protocol (AES-256 data encryption)
Software integration	REST API
SCADA integration	CSV, DNP3, OPC-UA
Management platform	Web-based from desktop, tablet, and mobile
Data export options	CSV (Reports)
Device memory	8 GB
Data communication	Two-way
Alarm threshold	Up to 4 per data stream
Alert notification	Email, SMS
System health check	Included

Power	
Primary power supply	Internal Lithium Battery (field-replaceable and non-rechargeable), 3.9V DC 3A
Internal battery capacity	32Ah
Operational run time	Up to 5+ years[2]
Battery status notifications	Included
External power	6 – 12VDC; automatic power source switching (connected through M8 connector not included)

Sensor integration	
Sensor ports	3 ports; supporting serial, analog and digital inputs
Sensor position	External Hard-Wired
Serial interfaces	RS485, RS232
Serial protocols	Modbus RTU, ASCII
Serial channels	Up to 16
Analog channels	3(4-20 mA, 0-24 V)
Discrete channels	3 Dry contact, open collector Up to 3 total inputs (up to 2 pulse counting) 39Hz max pulse frequency Up to 3 outputs, 0V/2.8V Maximum 3 outputs to be used at the same time.
Sensor power supply output	350mA, 12V

[1] Pricing to be determined on a case by case basis.

[2] Battery lifetime depends on sensor power consumption and sampling and transmission frequency

Specifications (DLLTE-IS)

Connectivity	
Cellular	4G/3G/2G
SIM	Dual SIM (provided)
Cellular roaming	Global multi-network networks in 180+ countries
Configuration	OTA, Bluetooth (BLE with mobile app)
Data Transmission	Periodic optional plans available
Antenna	Internal (magnetic mount external antenna included) other options available for purchase
GPS	Included

Mechanical enclosure	
Dimensions (W x H x D)	13.2cm x 15.5cm x 7.3cm, 5.2in x 6.5in x 2.9in
Weight	0.9kg, 2.0lbs
Enclosure Material	Polycarbonate with ABS (UI 94V and UV resistant
Ingress Protection	IP 68 / NEMA 6P
Operating Temperature	-40C to +80C, -40F to +176F
Storage Temperature	-40C to +80C, -40F to +176F

Certifications (EX approvals. Class 1 Div 1 Zone 0. ATEX Zone 0. IECEX)	
Safety	EN 61010-1 2010, IEC61010-1
FCC	FCC Part 15 Subpart B
EMC	EN 301 489-1 V2.1.1 2017 / EN 301 489-7 V1.3.1 2005
Spurious Emissions	EN 301 511 V12.5.1 2017
Radiated Emissions	EN 301 908-1 V11.1.1 2016
Ingress Protection	EN 60529:1992+A2:2013 / IEC 60529:1989/AM1:1999
CE	Approved

Instrument Area Network

Are you looking for the lowest cost and easiest-to-use industrial wireless solution with the longest battery life?

Wireless measurement is no longer just a novelty and has become a driving force for gathering information in a more cost-effective way. Wired solutions are inherently expensive to install and implement. Many desired measurement points are cost prohibitive when one considers a cabled solution. Wireless alleviates the need for copper wires, conduit, conduit racks and trenching which are costly and labor-intensive activities.

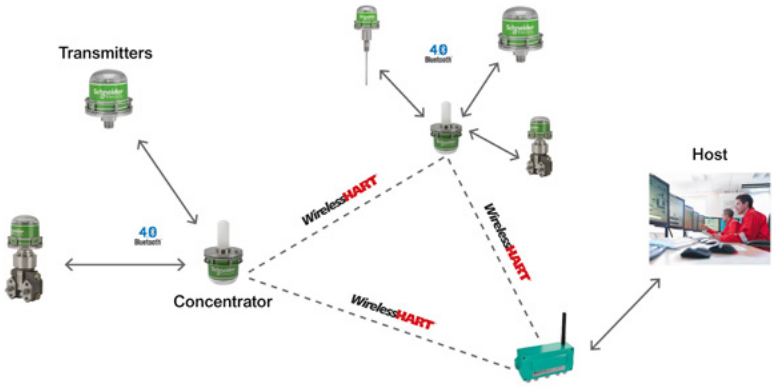
Customers want wireless instrumentation to be easy and simple. They do not want to change batteries every six months. They want good, reliable signal and reception without having to order special antennas. They want easy integration into their PLC, SCADA, and DCS systems at the lowest possible investment.

Instrument Area Network (IAN) is easy, simple and the most cost-effective reliable wireless sensing technology on the market today. IAN has an extremely long battery life of 10 years, which is guaranteed and warranted. Because IAN uses Bluetooth Low Energy technology, the radio is off 99.9% of the time which conserves battery life. When the BLE radio does wake up to communicate, it is sending very small packets of information. The transmission doesn't take that long and the chances of having to re-transmit are greatly reduced because of the small packet size. Small packet size also contributes to IAN's high reliability. IAN's ease of pairing devices makes installation and setup occur in a few minutes, the fastest set up in the market available!

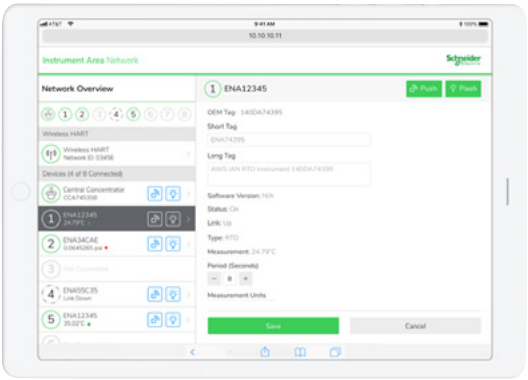
If you want to increase process operational efficiencies, increase worked productivity, maximize asset performance, improve plant and worker safety, monitor in-plant and outside-of- plant environmental parameters, and comply with regulatory requirements, using an open architecture that is easy to use for you as a customer, Instrument Area Network is the solution.

And with the built-in sensors for impact, vibration, humidity and temperature you can change your single measurement in a process analytical sensor providing you lots of information from just 1 End Node.

Our latest addition to the IAN family includes a non-intrusive temperature offering which is ideal for analyzing thermodynamic properties without have to penetrate your piping.



Instrument Area Network (IAN)



Instrument Area Network HMI

Selection guide

Instrument Area Network

Model	WRT10 (Wireless Temperature)
Communications protocols	Wireless BLE 4.0
RF characteristics	2.4 GHz spread spectrum, ISM license-free band 58 mW maximum operational RF transmit power BLE RF link margin: TX Power: +5dBm, RX Sensitivity: -97 dBm
Input types	RTD (Pt100, ASTM A, 4 Wire Thermocouple (Type J) Also available in non-intrusive offering
RTD range	-200 °C to +885 °C
Thermocouple range	-100 mV to +100 mV
Distance to concentrator	15 meters
Housing	Polycarbonate and 300 Series Stainless Steel
Display	Via WiFi Connection on Central Concentrator (CC)
Factory mounted thermowells and sensors	Yes
Sensor construction	Fixed ½" NPT, Spring-Loaded for Thermowell insertion
Configuration	Via WiFi Connection on Central Concentrator (CC), Web Page
Reporting updates	Selectable between 1 and 60 seconds Shipped at 16 seconds Corresponding to a report rate of 1/30 Hz
Accuracy	±1 °C for 0 °C to 100 °C
Diagnostics	Pairing LEDs, Status, Link, Sensor Type, Update
Battery warranty	10 year battery life per published specification
SIL2 certifications	None
Certifications and approvals	ATEX Intrinsically Safe Certified:II 1 G Ex ia IIC T4 Ga, II 1 D Ex ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54 North America Intrinsically Safe Certified: Canada: Ex ia IIC T4 Ga, Ex ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54 United States: Class I Zone 0 AEx ia IIC T4 Ga, Zone 20 AEx ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54
Specifications	PSS-2A-1B5 A

Model	WGP10 (Wireless Gauge Pressure)	WAP10 (Wireless Absolute Pressure)
Type/design	Gauge pressure in-line	Absolute pressure in-line
Communications protocols	Wireless BLE 4.0	Wireless BLE 4.0
RF characteristics	2.4 GHz spread spectrum, ISM license-free band 58 mW maximum operational RF transmit power BLE RF link margin: TX Power: +5 dBm, RX Sensitivity: -97 dBm	2.4 GHz spread spectrum, ISM license-free band 58 mW maximum operational RF transmit power BLE RF link margin: TX Power: +5 dBm, RX Sensitivity: -97 dBm
Reference accuracy	0.25% of Full Scale, across -40 °C to +80 °C	0.25% of Full Scale, across -40 °C to +80 °C
Distance to concentrator	15 meters	15 meters
Reporting updates	Selectable between 1 and 60 seconds Shipped at 16 seconds Corresponding to a report rate of 1/30 Hz	Selectable between 1 and 60 seconds Shipped at 16 seconds Corresponding to a report rate of 1/30 Hz
Upper range limits	0.21 MPa, 30 psi, 2.1 bar or kg/cm2 2.1 MPa, 300 psi, 21 bar or kg/cm2 7 MPa, 1000 psi, 70 bar or kg/cm2	0.21 MPa, 30 psia, 2.1 bar or kg/cm2
Temperature range	-40° and +80° C; -40° and +176 °F	-40° and +80° C; -40° and +176 °F
Fill fluid	Silicone Oil	N/A
Process temperature range	-46 °C to +121 °C, -51 °F to +250 °F	-46 °C to +121 °C, -51 °F to +250 °F
Process wetted materials	316L SS	N/A
Process connections	N/A	None, (Both covers tapped for ½ NPT) ¼" NPT, ½" NPT
Ingress protection rating	IP54 as defined by IEC60529	IP54 as defined by IEC60529
Housing	Polycarbonate and 300 Series Stainless Steel	Polycarbonate and 300 Series Stainless Steel
Vibration specification	1G constant acceleration input over a frequency range of 5 to 200 Hz	N/A
Certifications and approvals	ATEX Intrinsically Safe Certified:II 1 G Ex ia IIC T4 Ga, II 1 D Ex ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54; North America Intrinsically Safe Certified: Canada: Ex ia IIC T4 Ga, Ex ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54; United States: Class I Zone 0 AEx ia IIC T4 Ga, Zone 20 AEx ia IIIC T135°C Da, -40 °C ≤ Ta ≤ +80 °C, IP54	ATEX Intrinsically Safe Certified:II 1 G Ex ia IIC T4 Ga, II 1 D Ex ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54; North America Intrinsically Safe Certified: Canada: Ex ia IIC T4 Ga, Ex ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54; United States: Class I Zone 0 AEx ia IIC T4 Ga, Zone 20 AEx ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54
Battery warranty	10 year battery life per published specification	10 year battery life per published specification
Calibration certificate	Embedded in end node memory Accessed via WiFi on Central Concentrator (CC)	Embedded in end node memory Accessed via WiFi on Central Concentrator (CC)
Remote seals and closed-coupled seals	Yes	Yes
Diagnostics	Pairing LEDs, status, link, sensor type, update	Pairing LEDs, status, link, sensor type, update
Configuration	Via WiFi Connection on Central Concentrator (CC), Web Page	Via WiFi Connection on Central Concentrator (CC), Web Page
Specifications	PSS-2A-1B5 A	PSS-2A-1B5 A

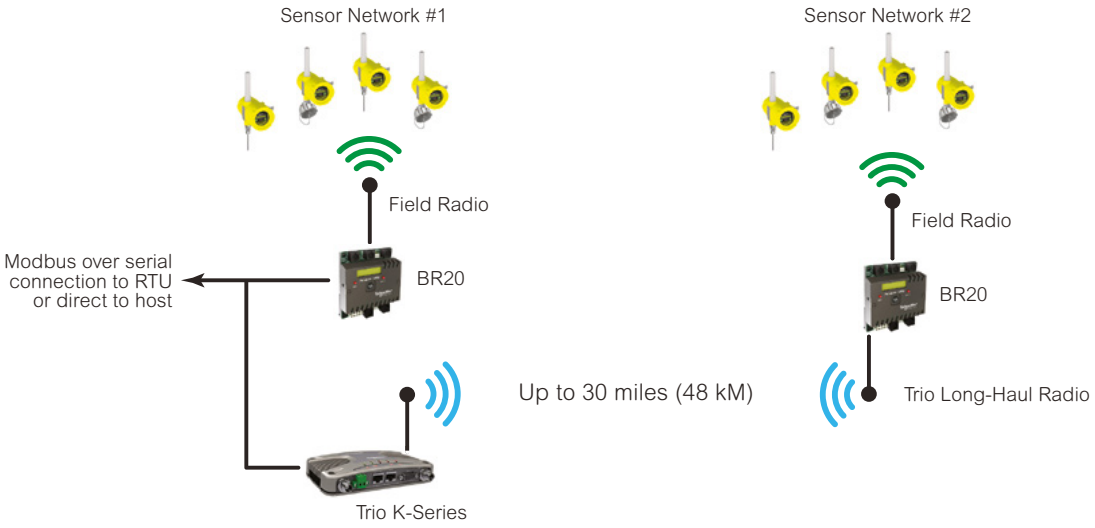
Model	WDP10 (Wireless Differential Pressure)
Type/design	Differential pressure
Communications protocols	Wireless BLE 4.0
RF characteristics	2.4 GHz spread spectrum, ISM license-free band 58 mW maximum operational RF transmit power BLE RF link margin: TX Power: +5dBm, RX Sensitivity: -97 dBm
Reference accuracy	0.25% of full scale, across -40 °C to +80 °C
Distance to concentrator	15 meters
Reporting updates	Selectable between 1 and 60 seconds Shipped at 16 seconds Corresponding to a report rate of 1/30 Hz
Upper range limits	50 kPA, 200 inH2O, 500 mbar 210 kPA, 30 psi, 2100 mbar 2.1 Mpa, 300 psi, 21 bar
Temperature range	-40° and +80 °C, -40° and +176 °F
Process temperature range	-46 °C to +121 °C, -51 °F to +250 °F
Ingress protection rating	IP54 as defined by IEC60529
Housing	Polycarbonate and 300 Series Stainless Steel
Certifications and approvals	ATEX Intrinsically Safe Certified:II 1 G Ex ia IIC T4 Ga, II 1 D Ex ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54 North America Intrinsically Safe Certified: Canada: Ex ia IIC T4 Ga, Ex ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54 United States: Class I Zone 0 AEx ia IIC T4 Ga, Zone 20 AEx ia IIIC T135 °C Da, -40 °C ≤ Ta ≤ +80 °C, IP54
Battery warranty	10 year battery life per published specification
Calibration certificate	Embedded in end node memory, accessed via WiFi on CC
Remote seals and closed-coupled seals	Yes
Diagnostics	Pairing LEDs, status, link, sensor type, update
Configuration	Via WiFi connection on CC web page
Specifications	PSS-2A-1B5 A

Model	WCC15
Communications protocols	BLE 4.0 to wireless HART central concentrator (CC)
End node capacity	8
Distance from end node to concentrator	15 meters
Distance from concentrator to wireless HART gateway	50+ meters
RF characteristics	2.4 GHz spread spectrum, ISM license-free band 58 mW maximum operational RF transmit power BLE RF link margin: TX Power: +5 dBm, RX Sensitivity: -97 dBm WiFi: TX Power: +15 dBm, RX Sensitivity: -90 dBm WHART: TX Power: +10 dBm, RX Sensitivity: -96 dBm
Housing	Polycarbonate and 300 Series Stainless Steel
Diagnostics	Pairing LEDs, status, link, sensor type, update
Configuration	Via WiFi connection on CC web page
Display	WiFi connection to smartphone or tablet web page Displays end nodes for push/flash OEM tag Short tag and long tag Software version Status and link Sensor type Period Measurement Engineering units Zero function
Battery warranty	5 year battery life per published specification
Certifications and approvals	EU Ex ec IIC T5 Gc Ex tc IIIC T100oC Dc CAN Ex ec IIC T5 Gc Ex tc IIIC T100oC Dc US Class 1 Zone 2 AEx ec IIC T5 Gc Zone 22 AEx tc IIIC T100oC Dc

Rapid deploy wireless instrumentation solutions for telemetry and remote SCADA

Accurate measurement is vital to gain process knowledge. Companies are increasingly forced to measure process variables that are difficult to reach and expensive to support. Distance, hazardous environments, and absence of power are just a few of the hurdles faced.

With operational efficiency as the primary goal, the deployment of self-powered wireless instrumentation provides the knowledge you need at an affordable price.



Where traditional instruments struggle with operation and budget goals, Accutech wireless instrumentation provides the solution.

With a wide range of available instruments for temperature, pressure, flow, level, and more, Accutech is suited to many industrial applications including wellhead optimization for upstream Oil & Gas, remote plant applications in Water & Wastewater, rotary kiln and dryer applications in Pulp & Paper, cement production and even pharmaceutical applications.

Accutech field instruments are self-contained with power, radio, and sensor making them easy to install. When faced with a situation where significant assets should be monitored and protected as quickly as possible, Accutech flourishes by providing means to deploy and commission multiple field units on the asset within minutes of being unpackaged from the box. The high-performance, license-free radio, and long-lasting battery reduce support costs while delivering your valuable data.

Take ownership of your field instrument network

Installation of a complete wireless instrument network cannot be easier, with push button configuration, integrated link tests, and rugged compact designs.

Reliable, self-powered, spread-spectrum radios (900 MHz and 2.4 GHz) provide effective network connectivity and long-term service. Tested for use in hazardous locations, Accutech field instruments can function in extreme temperatures.

Flexible wireless communication

Accutech networks use 900 MHz or 2.4 GHz license-free, frequency-hopping, spread-spectrum radios, offering superior ranges of up to 3,000 ft (~1,000 m) using standard integrated antennas. Extended-reach options include external directional antennas and an integrated Trio™ long-haul data radio that offers 256-bit AES encryption.

Easily configured, highly scalable deployment

Each Accutech base radio can support 100 field instruments with up to 1 sec sampling on instruments. For extended scalability 256 base radios can coexist. Push button configuration and simple link test features allow entire networks to be deployed in hours.

Ease of use, low maintenance

Standard Accutech field units include a single D Cell Lithium Thionyl battery that offers up to five years of service, depending on data rates and battery options. Advance notification is provided several weeks before a new field-replaceable battery is required.

Accutech instrumentation offers a versatile selection of instruments and base radios with performance-enhancing options that can satisfy any application.

A toolset for challenging applications

Accutech is available in a versatile selection of instruments and base radios with performance- enhancing options that can satisfy any application. Optional external sensor configurations allow installation in below-ground areas or on process equipment that is hard to reach. External high-gain antennas are available for complex environments where considerable obstructions require ultra-long reach.

With this kind of flexibility, Accutech becomes a key element in any challenging application:

Oil & Gas

- Wellhead monitoring, optimization and control (including plunger arrival)
- Tank level measurement (with dual float liquid interface option)
- Pressure measurement in any process, from 5 psi to 10,000 psi (0.3 bar to 689.5 bar)
- Monitoring remote sites with discrete input switches

Water & Wastewater

- Reservoir level monitoring
- Municipal storm water monitoring
- Environmental monitoring (storm water, irrigation, reservoirs)
- Delivering 4-20mA signals from third-party instruments such as pH or Dissolved Oxygen sensors
- Pressure monitoring in pump stations and distribution systems
- Level and pressure monitoring in storage tanks

Mining, Metals & Minerals

- Differential pressure monitoring in baghouses
- Water pressure on sprayer lines
- Flow measurement of liquids from leach piles
- Tailing pond level monitoring
- Signaling from mobile conveyers
- Backup to stop rope switch systems
- Door ajar signaling on safety fences
- Level monitoring of storage tanks in refineries.

Maximize return on investment while improving efficiency and safety

Engineered for challenging applications, Accutech networks help to reduce costs and lessen holes in your operational data monitoring.

Why do customers choose Accutech? Their decisions are always based on savings in time, effort and cost:

- Reducing installation costs: Reduce cabling, trenching, and conduit costs.
- Increased productivity: Monitor process variables you could not before. Quick configuration, instant connectivity, and little maintenance.
- Enhanced safety: Integrated field units tested for harsh locations enable data point monitoring in tough environments.
- Rapid Deployment: Reliable process monitoring within minutes and without comprehensive engineering.

A toolset for challenging applications (cont)

Industry standard connectivity

Accutech supports industry standard Modbus protocol and 4-20mA, providing interoperability with a wide range of industrial equipment and host systems.

Certified and durable

With NEMA 4X packaging, Accutech products are designed for demanding applications and are certified CSA Class 1, Div 1, and ATEX/IECEx (-ia and -d). A push button interface enables configuration in hazardous environments.

Configure and monitor from base radio

Accutech Manager configuration and management software provides a user-friendly commissioning interface for Accutech networks, offering remote configuration and firmware upgrades, enhanced diagnostics, field unit authentication to base radio, and trending/data collection.

Tested for use in harsh locations, Accutech field instruments can function in extreme environments of temperature and humidity and come with a two-year warranty.

Selection guide

Accutech

BR10

Base Radio

- Supports 100 field units with 915 MHz or 2.4 GHz radio
- Serial Modbus via RS-485
- Remote antenna option
- 10-30 V DC input power
- CSA Class 1, Div 1 (xp)
- ATEX/IECEx -d
- Data Sheet*: BR10

BR20

Base Radio

- DIN rail mount
- Supports 100 field units with 915MHz is available for NAM 2.4 GHz radio
- Optional Trio data radio for long-haul connectivity with host
- Serial Modbus via RS-485
- 11-30 V DC input power
- CSA Class 1, Div 2
- ATEX/IECEx -n
- Data Sheet*: BR20

BR21

Base Radio

- DIN rail mount
- Supports 100 field units with 915MHz is available for NAM 2.4 GHz radio
- Optional Trio data radio for long-haul connectivity with host
- Ethernet Modbus Port: 10/100 BASE-T LAN Ethernet
- 11-30 V DC input power
- CSA Class 1, Div 2
- ATEX/IECEx -n
- Data Sheet*: BR20

AI10/AV10

Current/Voltage Multi-Input Field Unit

- Accuracy: ±0.1% of full scale reading at reference conditions
- Dual current (4-20 mA) or voltage (0-10 V) analog inputs
- Includes dual contact closure inputs
- Remote antenna option
- NEMA 4X enclosure
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx -ia
- Data Sheet*: AI10/AV10

DP20

Differential Pressure Field Unit

- Accuracy: ±0.2% of URL
- Available in five different pressure ranges:
  - ±100 in H_2O
  - ±300 in H_2O
  - -25 psi to +25 psi (-1.7 bar to 1.7 bar)
  - -25 psi to +100 psi (-1.7 bar to 6.9 bar)
  - -25 psi to +300 psi (-1.7 bar to 20.7 bar)
- NEMA 4X housing
- Remote antenna option
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx -ia
- Data Sheet*: DP20

FL10

Float Level Field Unit

- For use with Siemens 2,000 series probes
- 1/4" and 1/2" (6.35 mm and 12.7 mm) resolution options
- Lengths up to 30' (9.1m)
- Single float or dual float for liquids interface
- NEMA 4X housing
- Remote antenna option
- CSA Class 1, Div 1 (IS)
- Available in North America only
- Data Sheet*: FL10

GL10

Gauge Level Field Unit

- Accuracy:
  - ±0.25% of full scale at 20 °C (68 °F)
  - ±0.5% of URL
- 15 psig and 30 psig (1 bar to 2 bar) max pressure options
- Specific gravity correction and multiple units of measure selection
- NEMA 4X housing
- Remote antenna option
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx -ia
- Data Sheet*: GL10

GP10

Gauge Pressure Field Unit

- Accuracy:
  - ±0.25% of full scale at 20 °C (68 °F)
  - ±0.25% of URL (15,000 psig; 1034 bar)
  - ±0.3% of URL (2,500 and 5,000 psig; 172 bar to 345 bar)
  - ±0.5% of URL (5, 15, 30, 100, 250, 1,000, and 10,000 psig; 0.3, 1.0, 2.1, 6.9, 17.2, 68.9, 689.5 bar)
- 5, 15, 30, 100, 250, 1,000, 2,500, 5,000, 10,000 psig (0.3, 1.0, 2.1, 6.9, 17.2, 68.9, 172.4, 344.7, 689.5 bar)
- NEMA 4X housing
- Remote antenna option
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx -ia
- Data Sheet*: GP10

RT10

RTD Temperature Field Unit

- Electronics accuracy: ±0.1% of reading
- 4-wire 100 or 1,000 ohm DIN RTD
- Integrated RTD or junction box option for customer-supplied RTD
- NEMA 4X housing
- Remote antenna and remote sensor option
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx -ia
- Data Sheet*: RT10

SI10

Switch Input Field Unit

- Dual contact closure switch input with counter function
- Counter frequency up to 5 Hz
- Optional dual switch dry contact outputs capable of switching 1 A @ 30 V
- Remote antenna option
- NEMA 4X housing
- CSA Class 1, Div 1 (IS) for models without outputs; Div 2 with outputs
- ATEX/IECEx -ia for models without outputs; IECEx -d for models with outputs
- Data Sheet*: SI10

SL10

Submersible Level Field Unit

- Submersible hydrostatic pressure sensor
- Accuracy: ±0.5% of URL
- Pressure ratings up to 30 psi (2 Bar), lengths to 15 m (75')
- Vent to atmosphere or to tank
- Remote antenna option
- NEMA 4X housing
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx -ia
- Data Sheet*: SL10

TC10

Thermocouple Temperature Field Unit

- Types B, C, E, J, K, L, N, S, T, U
- Electronics accuracy: ±0.1% of full scale reading
- Integrated single T/C or junction box option that supports dual customer supplied T/Cs
- NEMA 4X housing
- Remote antenna option
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx -ia
- Data Sheet*: TC10

TM10

Turbine Meter totalizer Field Unit

- Interfaces many 2-wire magnetic pickups
- Instantaneous flow and totalized values
- Frequency 1 Hz to 10 KHz
- NEMA 4X housing
- Remote antenna option
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx -ia
- Data Sheet*: TM10

* Please use this term in our search window on www.schneider-electric.com to access more product details.

Wireless tank monitoring solutions

Stay connected to your customer's inventory

Imagine this: your delivery operation is running at maximum efficiency. Run outs are eliminated, emergency runs are a thing of the past, and your trucks deliver more product in less time — and they always come home empty. Now imagine automatically generated orders and the efficiently loaded trucks are routed and dispatched in minutes.

When you rely on Schneider Electric's powerful suite of tools, these scenarios become reality. Our tank monitoring products enable you to stay connected to your customers inventory by instantly providing tank-level information when you need it.

Tank monitoring

Schneider Electric's tank monitoring fuels your decisions by creating a central point for your data. It includes powerful tools, targeted information, and sophisticated analytics that allow you to increase your efficiencies. You can even generate reports that show you the key performance indicator of percentage of tank filled by customer by regions, and more. Your managers can easily evaluate and track your delivery items performance over time, quickly comparing various performance measurements.

By logging into WebView, you can easily review current and historical tank level information as well as track your progress towards achieving a more efficient delivery operation. The systems' various reports and alerts keep you up to date on changing tank levels so you can eliminate run outs and schedule deliveries only when it's efficient to do so.

We offer a wide change or wireless tank monitors and communication tools that support monitoring of lube oils, gasoline, diesel, waste oil, propane, chemicals, and water-based products. Our system communicates data via cellular, satellites or ethernet technology so even your most remote locations are always accessible. These choices offer maximum flexibility so you can choose the perfect balance of cost and performance for your business.

Industries that we operate in

- Fuels
- Lubricants
- Oil & gas production
- Propane
- Heating oil
- Wastewater
- Agriculture
- Chemicals

Improve your operational efficiencies by monitoring bulk tanks with the Encompass System

Encompass

With Encompass™, you can better manage and maximize your resources. You'll know when to deliver and when to pick up — avoiding costly run outs, lost business, emergency deliveries, and short fills. It allows you to increase your profitability through more efficient operations and better forecasting, with greater insight into production changes. The bottom line: it can help you be more proactive instead of reactive, allowing you to protect, even grow, your business.

Schneider Electric's Encompass uses RF tank monitors and gateways to track your tank levels at bulk facilities or multi-tank sites and provide immediate readings, letting you know exactly when and where to make deliveries. This helps eliminate inefficient partial fills, costly emergency deliveries, and much-dreaded run outs.

Our solution includes a mobile app for Apple® and Android™ devices. The app taps into detailed data for each of your sites through WebView in a summary form.

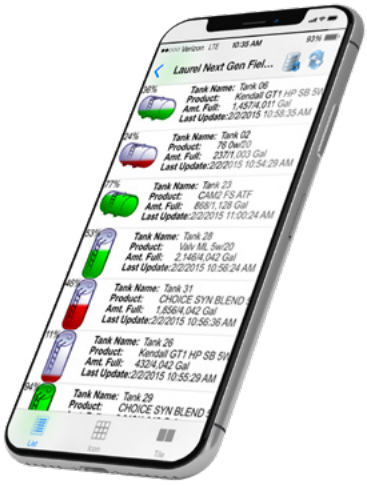
You can select a site and drill down through its hierarchy, similar to how you would in WebView. Each tank has its own summary data, including tank name, current fill level for a product, average daily usage, and days remaining. There is also a useful real-time mode for more frequent reporting, allowing you to get an updated reading while you are on-site. This is particularly useful for before and after delivery for a specific tank.

Our free mobile app provides fast access to key tank-level data and supports the "poll now" feature in Encompass monitors.

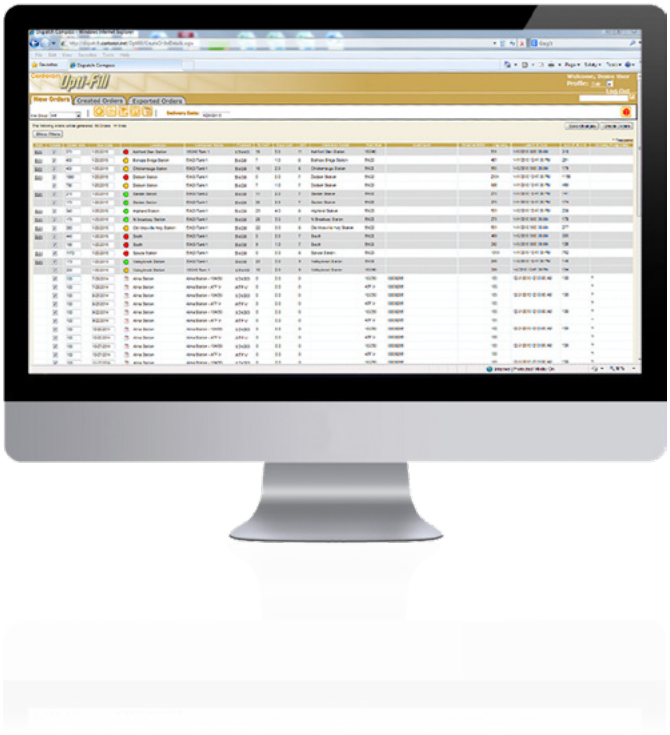
Increase capacity, compound your results

	Actual	OptiFill	Improvement
Number of site stops	900	538	362 fewer stops
Total tanks filled	1317	847	470 fewer tank fills
Average % delivered	47%	75%	60% increase in average fill amount

470 fewer fills x 263 average gallons delivered/filled =
123,610 gallons of additional capacity
Total delivered: 347,000 gallons over a one-year comparison period of 96 tanks.



Instantly know the answer to this common daily question:
"Which tanks do I fill at which sites?"



OptiFill

OptiFill's delivery optimizer unlocks the true power of your tank monitoring system. It processes tank level data collected from your monitored tanks using a sophisticated algorithm to determine which tanks need to be filled now, and which can wait until later. With OptiFill, your tank fills are maximized, allowing you to make 50 percent fewer stops while delivering the same amount of product.

Delivery optimization is especially crucial for multi-tank sites. If you have a single tank at a single site, it is easy to plan delivery when the tank reaches 20 percent, but what if you have four tanks at a site? What if you have 700 four-tank sites? How do you determine which tanks at which sites to fill now, and which to fill later, all while achieving minimal total cost and maximum asset utilization?

In the past, dispatchers spent hours making educated guesses to do the same work that OptiFill does accurately and automatically, all in less than 10 minutes.

What OptiFill means to your business:

- Efficient deliveries: increase the amount delivered per tank by up to 50 percent.
- Better capacity utilization: increase your fleet's delivery capacity by up to 50 percent.
- Lower dispatching costs: complete daily dispatching faster and more effectively.
- Increased revenue: turn increased fleet capacity into additional revenue and lower costs.

Measuring up to the future

Schneider Electric instruments offer complete, bi-directional communications in multiple protocols, including fieldbus. You receive a seamless integration of our world-renowned systems and services into a single, unified automation and information platform that covers all facets of your field and plant operations.

The result: significant increases in utilization and productivity of your people, equipment, energy use, and inventory; powerful new functionality; and major savings in time and costs for commissioning, startup, operations, and maintenance.

The story of Schneider Electric is never-ending. So, no matter what challenges your future may bring, our commitment to excellence and ongoing innovation means you can trust that Schneider Electric instrumentation will measure up.

Wireless tank level solutions

Cellular monitors

Digital Cellular
Residential Propane

4G LTE
Industrial Gauge

4G LTE Internal and
External Pressure

4G LTE Radar

4G LTE Cellular Float

Encompass monitors

Float

Radar

Pressure

Propane

Encompass gateways

Ethernet Gateway

4G LTE Gateway

Satellite monitor

Level Track
Satellite Monitor

Modem

UST-V Verizon LTE Modem Kit for
underground storage tank monitoring

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