Self-powered wireless instrumentation

Accutech rapid-deploy wireless instrumentation solutions for telemetry and remote SCADA

www.schneider-electric.com
Cost-effective solutions for challenging applications

Knowledge of your process is valuable, but without measurement there is no knowledge. Companies are increasingly forced to measure process variables that are difficult to reach and expensive to support. Distance, harsh 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 a price you can handle.

With a wide range of available instruments for temperature, pressure, flow, level, and more, Accutech™ instrumentation is suited to many industrial applications, including upstream Oil & Gas and remote plant applications in Waste and Wastewater.

Accutech field instruments are easy to install being self-contained with power, radio, and sensor. The high-performance, license-free radio and long-lasting battery reduce support costs while delivering your valuable data.
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With a wide range of available instruments for temperature, pressure, flow, level, and more, Accutech™ instrumentation is suited to many industrial applications, including upstream Oil & Gas and remote plant applications in Water and Wastewater. Accutech field instruments are easy to install being self-contained with power, radio, and sensor. 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 than using Accutech instruments, with push button configuration, integrated link tests, and rugged compact designs. Dependable, self-powered, spread-spectrum radios (900 MHz and 2.4 GHz) provide effective network connectivity and long-term service. Tested for use in harsh locations, Accutech field instruments can function in extreme environments of temperature and humidity and come with a three-year warranty.

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; 256-base radios can coexist for extended scalability. 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 10 years of service, depending on data rates and battery options. Advance notification provides indication before a new field-replaceable battery is required.

Maximize ROI, improve efficiency, and help ensure safety
Engineered for challenging applications, Accutech networks help to reduce costs and lessen holes in your operational data monitoring.

- **Reducing installation costs:** Reduce cabling, trenching, and conduit costs. Self-powered means no regenerative power systems.
- **Increased productivity:** Monitor process variables you could not before. Quick configuration, instant connectivity, and little maintenance.
- **Help ensure safety:** Integrated field units tested for harsh locations enable data point monitoring in tough environments.

Industry standard connectivity
Accutech instrumentation supports industry-standard modbus protocol, providing interoperability with a wide range of industrial equipment and host systems.

Certified and durable
With NEMA4X packaging, Accutech wireless products are designed for demanding applications and are certified CSA Class 1, Div 1 and ATEX/IECEx (-a1 and -d). A push button interface enables configuration in harsh 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.
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Where traditional instruments struggle with operational and budget goals, Accutech wireless instrumentation provides the solution.
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A toolset for challenging applications

Accutech instrumentation offers 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 hi-gain antennas are available for complex environments where considerable obstructions and ultralong reach are required.

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

- Wireless wellhead monitoring and control (including plunger arrival)
- Tank level measurement (with dual float liquid interface option)
- Environmental monitoring (storm water, irrigation, reservoirs, etc.)
- Pressure measurement in any process, from 5 psi to 15,000 psi
- Monitoring remote sites with discrete input switches
- Delivering 4 – 20 mA signals from third-party instruments
- More ... limited only by imagination

**Product overview**

- **Base radio**
  - BR10, Dir I, Zone 1
  - BR20, Dir 2, Zone 2

- **Level**
  - GL10, Gauge level
  - SL10, Submersible level
  - FL10, Float level

- **I/O**
  - A10/AV10, Analog input
  - S10, Switch input/output

- **Pressure**
  - AP10, Absolute pressure
  - GP10, Gauge pressure
  - DP20, Differential pressure

- **Temperature**
  - RT10, RTD temperature
  - TC10, Thermocouple temperature

- **Flow**
  - TM10, Turbine meter totalizer

- **Output modules**
  - 4AO-8SW

Life is On Schneider Electric
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- **Base radio**
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  - BR20, Div 2, Zone 2

- **Level**
  - GL10, Gauge level
  - SL10, Submersible level
  - SI10, Switch input/output
  - FL10, Float level
  - VC10, Valve control

- **I/O**
  - AV10, Analog input
  - SI10, Switch input/output
  - 4AO, 8SW
  - 4AO-8SW

- **Pressure**
  - AP10, Absolute pressure
  - GP10, Gauge pressure
  - DP20, Differential pressure
  - 4AQ, 8SW
  - 4AQ-8SW

- **Temperature**
  - RT10, RTD temperature
  - TC10, Thermocouple temperature
  - TM10, Turbine meter totalizer
Specifications

**BR10**
- Base radio: Supports 100 field units with 915 MHz or 2.4 GHz radio
- NEMA 4X housing
- Remote antenna option
- 10 – 30 VDC input power
- ATEX/IECEx –ia

**BR20**
- Base radio: DIN rail mount
- NEMA 4X housing
- Remote antenna option
- 10 – 30 VDC input power
- ATEX/IECEx –ia

**A10 | 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)

**AP10**
- Absolute pressure field unit
- Accuracy: ± 0.25% of full-scale at 20 °C (68 °F)
- ± 0.5% of URL
- ± 0.3% of URL
- ± 0.25% of full scale at 20 °C (68 °F)
- ± 0.25% of URL
- ± 0.3% of URL
- ± 0.25% of URL

**GP10**
- Gauge pressure field unit
- Accuracy: ± 0.3% of full-scale at 20 °C (68 °F)
- ± 0.5% of URL
- ± 0.3% of URL
- ± 0.25% of URL
- ± 0.3% of URL
- ± 0.25% of URL
- ± 0.25% of URL
- ± 0.25% of URL
- ± 0.25% of URL

**GL10**
- Gauge level field unit
- For use with Siemens 2000 series probes
- 1/2” and 1/4” resolution options
- Lengths up to 37’
- 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

**TM10**
- Turbine meter totalizer field unit
- Interfaces many 2-wire magnetic packages
- 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

**RT10**
- RTD temperature field unit
- Electronics accuracy: ± 0.1% of reading
- ± 0.25% of full-scale at 20 °C (68 °F)
- ± 0.5% of URL
- ± 0.3% of URL
- ± 0.3% of URL
- ± 0.25% of URL
- ± 0.1% of full-scale at 20 °C (68 °F)
- ± 0.25% of full-scale at 20 °C (68 °F)
- ± 0.5% of URL
- ± 0.3% of URL
- ± 0.3% of URL
- ± 0.25% of URL
- ± 0.1% of full-scale at 20 °C (68 °F)
- ± 0.25% of full-scale at 20 °C (68 °F)

**SI10**
- Switch input field unit
- Dual contact closure switch input with counter function
- Counter frequency up to 5 kHz
- Optional dual switch dry contact output capable of switching 1A (8 V, 30 V)
- Remote antenna option
- NEMA 4X housing
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx –ia

**SL10**
- Submersible level field unit
- Submersible hydraulic pressure sensor
- Accuracy: ± 0.5% of full-scale reading
- Pressure ratings up to 30 psi (2 Bar), lengths to 75’ (15 m)
- Vent to atmosphere or to tank
- Remote antenna option
- Remote antenna and remote sensor option
- NEMA 4X housing
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx –ia

**TC10**
- Thermocouple temperature field unit
- Electronics accuracy: ± 0.1% of full-scale reading
- Optional single 1/4” or junction box option that supports dual customer supplied TCs
- NEMA 4X housing
- Remote antenna option
- Remote antenna option
- CSA Class 1, Div 1 (IS)
- ATEX/IECEx –ia

**VA10, 85W, VA10-85W**
- Valve controller field unit
- Accuracy: ± 0.25% of full-scale reading
- Sales valve actuation and control
- Control and monitoring of plunger W systems
- Start-up and default configuration options
- Integrated pressure sensor for active control of scienctific pulse width
- Two digital inputs, for plunger arrival and discrete input applications
- CSA Class 1, Div 1, harsh location certified

**Output modules**
- Direct connection between AccuTech base radio and DCS or process control systems
- Provides analog and discreet outputs from associated field units
- DIN rail mounted
- Stackable (25 max, 103 AO, 200 DO)
- Three models available
  - 4 channel analog output
  - 8 point contact closure
  - Combination of 4 ch analog/8 contact
Specifications

**BR10**
- Base radio
  - Supports 100 field units with 915 MHz or 2.4 GHz radio
  - Supports 10 field units with 2.4 GHz radio
  - Optional Ethernet data radio for long haul connectivity with host
  - Serial modbus via RS-485
  - CSA Class 1, Div 1 (xp)
  - ATEX/IECEx –d

**BR20**
- Base radio
  - DIN rail mount
  - Supports 100 field units with 915 MHz or 2.4 GHz radio
  - Optional Ethernet data radio for long haul connectivity with host
  - Serial modbus via RS-485
  - CSA Class 1, Div 2
  - ATEX/IECEx –r

**A10 | 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

**AP10**
- Absolute pressure field unit
  - Accuracy:
    - ± 0.02% of full-scale at 20 °C (68 °F)
    - ± 0.03% of full-scale at 25 °C (77 °F)
    - ± 0.05% of full-scale at other temperatures
  - Remote antenna option
  - NEMA 4X enclosure
  - CSA Class 1, Div 1 (IS)
  - ATEX/IECEx –ia

**RTD temperature field unit**
- Electronics accuracy: ± 0.1% of reading
- 4 wire 100 or 1000 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

**DM20**
- Differential pressure field unit
  - Accuracy: ± 0.2% of URL
  - Available in five different pressure ranges:
    - ± 1000 psi (69 bar)
    - ± 10000 psi (690 bar)
    - ± 25 psi to ± 100 psi
    - ± 25 psi to ± 300 psi
  - Overload test: 1000 psi
  - NEMA 4X housing
  - Remote antenna option
  - CSA Class 1, Div 1 (IS)
  - ATEX/IECEx –ia

**GL10**
- Gauge level field unit
  - For use with Siemens 2000 series probes
  - 3/4” and 1” resolution options
  - Lengths up to 37’
  - Single float or dual float for liquids interface
  - NEMA 4X housing
  - Remote antenna option
  - Remote antenna and remote sensor option
  - CSA Class 1, Div 1 (IS)
  - Available in North America only
  - ATEX/IECEx –ia

**GP10**
- Gauge pressure field unit
  - Accuracy:
    - ± 0.025% of full-scale at 20 °C (68 °F)
    - ± 0.05% of URL
  - 15 psig and 30 psig max pressure options
  - Specific gravity correction and multiple units of measure selection
  - NEMA 4X housing
  - Remote antenna and remote sensor option
  - CSA Class 1, Div 1 (IS)
  - ATEX/IECEx –ia

**TM10**
- Turbine meter totalizer field unit
  - Interfaces many 2-wire magnetic packages
  - Instantaneous flow & totalized values
  - Frequency: 1 Hz to 10 kHz
  - NEMA 4X housing
  - Remote antenna option
  - CSA Class 1, Div 1 (IS)
  - ATEX/IECEx –ia

**VC10**
- Valve controller field unit
  - Accuracy: ± 0.25% of full-scale reading
  - Sales valve actuation and control
  - Control and monitoring of plunger WV systems
  - Start-up and default configuration options
  - Integrated pressure sensor for active control of solenoid pulse width
  - Two digital inputs, for plunger arrival and discrete input applications
  - CSA Class 1, Div 1, harsh location certified

**SL10**
- Submersible level field unit
  - Submersible hydrostatic pressure sensor
  - Accuracy: ± 0.1% of URL
  - Pressure ratings up to 30 psi (2 Bar), lengths to 75’ (15 m)
  - Vent to atmosphere or to tank
  - Remote antenna option
  - CSA Class 1, Div 1 (IS)
  - ATEX/IECEx –ia

**TC10**
- Thermocouple temperature field unit
  - Electronics accuracy: ± 0.1% of full-scale reading
  - Integrated single TC or junction box option that supports dual customer supplied TCs
  - NEMA 4X housing
  - Remote antenna option
  - CSA Class 1, Div 1 (IS)
  - ATEX/IECEx –ia

**4AO, 8SW, 4AO-8SW**
- Output modules
  - Direct connection between Accutech base radios and DCS or process control systems
  - Provides analog and discrete output from associated field units
  - Available for models D4, D5 and D6
  - Stackable (25 max, 100 AO, 200 DO)
  - Three models available:
    - 4 channel analog output
    - 8 point contact closure
    - Combination of 4 or analog/8 contact

**Life Is On**