

vMbusX-ST

Wireless Temperature Level Sensor

**Remote
Monitoring
Telemetry
Oil & Gas
Utility
Waste Water
& Water**



vMbusX-ST – is a solution to meet the demands of the oil and gas industry; for a reliable and cost effective means to remotely monitor their applications. The vMbusX-ST incorporates our powerful vM-Micro RTU with our proven wireless battery operated temperature level sensor to produce a small, low power, explosion proof RTU-Sensor system that can be mounted directly to the process line (e.g. wellheads, pipelines, gas heads, etc.). Combined with a Gateway, the vMbusX-ST installed at the remote site, can acquire real-time data for analysis and detect alarms. It is easily customizable for many applications requiring a temperature level sensor.

Some of the Benefits and Features

- ❖ Remote Configuration
- ❖ Selectable Wake-up interval from 1 second to 18 hours
- ❖ Report by exception
- ❖ Battery Level Indicator
- ❖ Built-in 128 bit encryption
- ❖ Selectable data reporting (Raw, Engineering Units, SQRT, Linear and SQRT accumulation)
- ❖ Network Time Synchronization
- ❖ Data History
- ❖ Min/Max and Percent Change Alarms
- ❖ Diagnostic data (response time, message count and signal strength)

General Specifications

| |
|---|
| Inputs |
| 2 A/D channels -16 bit resolution (0-5 VDC or 0-20 mA) |
| 1 Opto-Isolated Digital Input channels (3-24 V AC or DC) |
| 1 Digital channel monitors the status of a digital switch; used for tank monitoring & detecting alarms |
| Independent A/D channel used for battery voltage level |
| Independent A/D channel used for temperature |
| Independent A/D channel used for radio diagnostics |
| Processor and Memory |
| 8052 Micro-Controller running at 12.58MHz with 64KB Flash Memory |
| Radio |
| Plug-in radio modem operating at a frequency of 900 MHz . 2.4 GHz or Zigbee |
| Serial Ports |
| 1 Serial Interface port-baud rate up to 115,200 bps |
| Relays |
| 1 Solid State Relays that can support up to 350 mA continuous current |
| On-Chip filtering |
| Power |
| Input Range 3.3 to 13.2 VDC |
| Low Power Operating Mode with <30 µA in sleep mode with wake up timer running |
| Terminal blocks for providing regulated 6.67 V & 10 V to power sensors (providing up to 200 mA to power sensors or devices) |
| Power consumption <10 mA without radio |
| Operation Modes |
| Continuous |
| Stand-alone |
| Timer/Clock |
| On-board |
| Wake up timer adjustable from 1 sec. to 255 hours |
| Operating Temperature |
| -40°C to +85°C (-40 °F to + 185°F) |
| Humidity Range 5-90% non-condensing |
| Dimensions |
| 6.0 cm x 6.0 cm |
| Support |
| vMbus Communications Protocol |
| MODBUS Protocol Support |
| Firmware |
| Data Totalizer , Pulse Counter/Accumulator, Square Root Extraction, Engineering Units, Conversion/Scaling |

For more information on our products and services or to place an order, please check out our website at www.vMonitor.com or contact us at +1.866.514.4935 to speak to one of our engineers. Let us help you make the virtual oilfield a reality.

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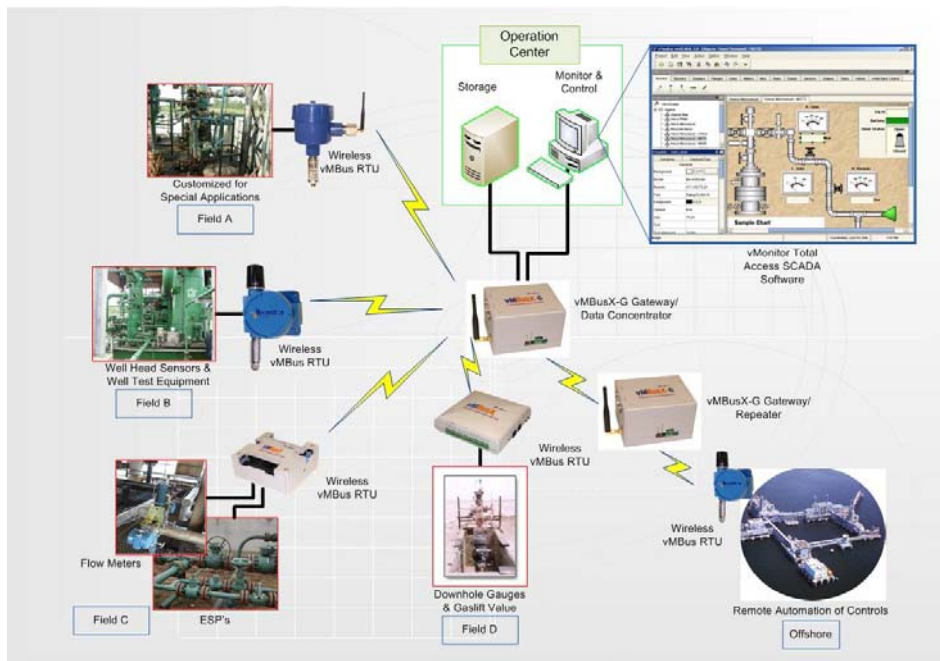
Radio Specifications for vMbusX-ST (Range and Transmit Power may vary due to various factors, such as type and elevation of antenna, line of sight, the environment, and power output. A vMonitor Engineer can assist you with determining range, frequency, transmit power and other factors to develop a solution to meet your requirements.)

| Compatible Radios | Range | Transmit Power |
|-------------------|------------------------|------------------------|
| 2.4 GHz | Up to 16 km (10 miles) | 50 mW-100 mW |
| 2.4 GHz ZigBee | Up to 0.12 km (400 ft) | 125 mW |
| 900 MHz | Up to 32 km (20 miles) | 5 mW- 1000 mW variable |

Wireless Sensor Specifications

| | |
|--------------------------|---|
| | <i>FM approved</i> |
| Approval | <i>Type 4 explosion-proof: Class I, Div 1 Grp A,B,C,D Class II, Div 1 Grp E,F,G Class III ATEX approved sensor (optional)</i> |
| RTD Type | <i>PT-100 Platinum per DIN EN 60751, DIN 43760</i> |
| Temp. Coefficient | <i>0.385% per °C (0.00385055)</i> |
| Connection | <i>4-wire ½" NPT male with optional integral cable</i> |

Typical vMonitor Network Setup



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