

# vMbusX-SDP

## Wireless Differential Pressure Sensor

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



**vMbusX-SDP** – 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-SDP incorporates our powerful vM-Micro RTU with our proven wireless battery operated differential pressure 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-SDP, installed at the remote site, can be a stand-alone RTU or part of an integrated network to acquire real-time data for analysis and detect alarms. It can be customized for most applications requiring a differential pressure 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

<b>Inputs</b>
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
<b>Processor and Memory</b>
8052 Micro-Controller running at 12.58MHz with 64KB Flash Memory
<b>Radio</b>
Plug-in radio modem operating at a frequency of 900 MHz . 2.4 GHz or Zigbee
<b>Serial Ports</b>
1 Serial Interface port-baud rate up to 115,200 bps
<b>Relays</b>
1 Solid State Relays that can support up to 350 mA continuous current
On-Chip filtering
<b>Power</b>
Input Range 3.3 to 13.2 VDC
Low Power Operating Mode with <30 $\mu$ A 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
<b>Operation Modes</b>
Continuous
Stand-alone
<b>Timer/Clock</b>
On-board
Wake up timer adjustable from 1 sec. to 255 hours
<b>Operating Temperature</b>
-40°C to +85°C (-40 °F to + 185°F)
Humidity Range 5-90% non-condensing
<b>Dimensions</b>
6.0 cm x 6.0 cm
<b>Support</b>
vMbus Communications Protocol
MODBUS Protocol Support
<b>Firmware</b>
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](http://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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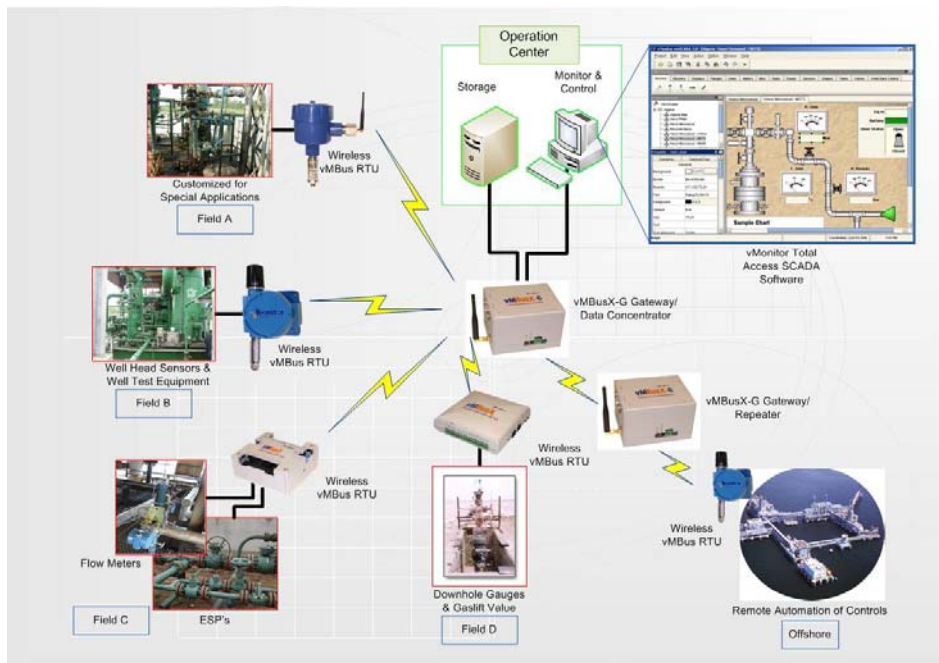
**Radio Specifications for vMbusX-SDP** (Range and Transmit Power may vary due to various factors, such as type and elevation of antenna, line of sight, the environment, and power output. A vMonitor Engineer can assist you with determining range, frequency, transmit power and other factors to develop 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

Approval	CSA Rated Explosion-proof for: Class I, Div 1 Grps A,B,C,D Non-incendive Class I, Div 2 Grps A,B,C,D
Applied Standards	CSA STD C22.2 No. 142M1987 CSA STD C22.2 No. 30M1986 UL STD - 1203 & 1604
Static Accuracy	±0.25% FSO by BFSL
Standard Ranges	0,2,5,10,15,20,25,30,50,75,100,,1 50,200,250,300,400,500 PSID Bidirectional or Unidirectional
Diff. Overload Pressure	1000 PSI may be applied to either port without causing a zero shift greater than 1% FSO
Line Pressure	1000 PSI (5000 PSI Optional) Zero shift w/ line pressure less than 1% FSO per 1000 PSI (25 FSO for 1 & 2 PSID)
Pressure Fitting	¼" NPT Female ¼" AN Female
Electrical Receptacle	Stainless steel to mate with a PT06-10-6S (VS3116-10-6S)

### Typical vMonitor Network Setup



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