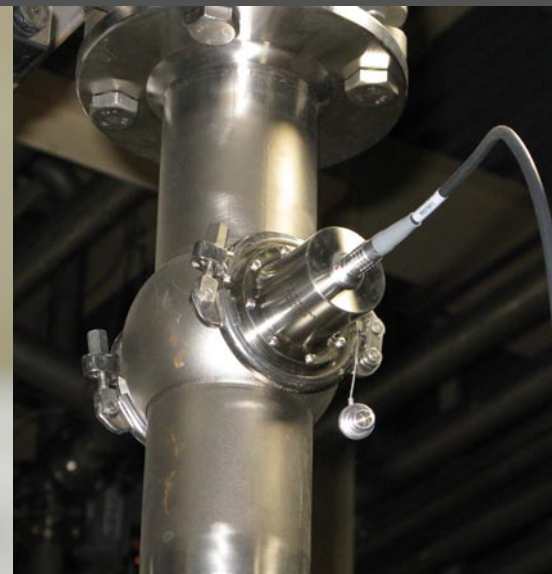


## VS-1000 SENSOR SYSTEMS Infrared Inline Process Control Sensors

Direct real-time concentration measurements 24x7  
CO<sub>2</sub>, Sugars/Brix, Organic Acids, Ethanol/Alcohol



*The VS-1000 Sensor System measures dissolved concentrations real-time 24x7. Concentrations are measured directly, not inferred or calculated. VS-1000 is easy to install, easy to integrate and has a low cost of ownership.*



**VitalSensors Technologies LLC** is the leader in innovative, inline instruments for the food, beverage and pharmaceutical industries. The VS-1000 series sensors measure a dissolved concentration and temperature using real-time infrared technology.

Real-time, inline concentration readings available for dissolved:

- CO<sub>2</sub>
- Sugars/Brix
- Organic Acids (TA)
- Ethanol/Alcohol

**Precision Infrared Measurements of Process Contents** — VS-1000 Sensors provide real-time concentration and temperature readings for fluids in a process stream or in a tank. VS-1000 Sensors can be implemented in flow or no flow conditions and are not affected by pressure spikes, density, color, viscosity or extreme working conditions. Sensors operate in place during CIP.

**Maintenance and Cost Savings** — VS-1000 series sensors are state of the art, solid state devices which contain no moving parts and require no routine maintenance. MTBF  $\geq$  50,000 hrs.

**Improved Plant and Asset Utilization** — The proven reliability, accuracy and repeatability of the VS-1000 Sensors provide plant personnel with real-time process control data for monitoring and blending 24x7.

**Networked Devices Providing Real-Time Data** — VS-1000 sensors can be implemented as standalone units or as part of a process control network under PLC control.



577 Main Street #105  
Hudson, MA 01749 USA

978-635-0450  
978-310-7074 (Fax)

[www.vitalsensorstech.com](http://www.vitalsensorstech.com)

# Product Specifications

System includes inline sensor, cable, Sensor Management Station with local display and Windows™-based software

Part #s Parameter Measured	VS-1000C CO <sub>2</sub>	VS-1000A Ethanol/Alcohol	VS-1000B Sugars/Brix	VS-1000AC Organic Acid (TA)
Measuring Range	0 to 6 v/v 0 to 12,000 ppm 0 to 12,000 mg/L 0 to 12 g/L	0 - 20 w/w % standard 0-100 w/w % customizable	0 - 20° Brix standard 0 - 100° Brix customizable 0 - 20° Plato standard 0 - 100° Plato customizable	0 - 5 w/w % standard 0-100 w/w % customizable
Accuracy	± .02 v/v ± 39.2 ppm ± 39.2 mg/l	± .02 w/w %	± .01° Brix/Plato	± .005 w/w %
Resolution	.01 v/v 1 ppm 1 mg/l	.01 w/w %	.01° Brix/Plato	.01 w/w %
Repeatability (8 hour test)	.008 v/v 16 ppm 16 mg/l	.01 w/w %	.008° Brix/Plato	.008 w/w %
Measuring Method	Mid Infrared spectrometer with Attenuated Total Reflectance (ATR) sampling			
Measuring Interval	100 ms			
Data Output Interval	100 ms to 30s (user defined)			
Operating Process Temperature (in 40°C / 100°F spans)	-2°C / 28.4°F to 85°C / 185°F – (standard model) -2°C / 28.4°F to 120°C / 248°F – (with cooling jacket)			
Temperature Display Range	-5°C to +85°C (+23°F to 185°F)			
Maximum CIP Temperature	85°C / 185°F (standard model)		120°C / 248°F (with cooling jacket)	
Maximum Line Pressure	10 bar (150 psi)			
Process Connection	68mm Tuchenhagen Varinline® connection fitting (DN65)			
Dimensions (Sensor)	82.6mm (3.25 in) W x 82.6mm (3.25 in) H x 82.6mm (3.25 in) D			
Enclosure	IP68 (NEMA4)			
Shock Resistance	100G 1/2 sine wave or 6 foot drop on concrete			
<b>Operator Interface – VS-300 Sensor Management Station or VS-200 Sensor Management Station (DIN Rail Mounted)</b>				
Display	Concentration, Temperature and Time on four-line VFD display			
Cable (Distance to Sensor)	4.6m (15 ft.)			
I/O	Digital I/O board for Remote IN/Relay OUT up to 64 brands - - (VS-300 only)			
Fieldbus Interfaces	4-20mA, Ethernet, EtherNet/IP and DIO (standard) Profibus PA (optional)			
Power	120/240 VAC, 50-60 Hz (auto sensing or 24VDC)			
Dimensions (WxHxD VS-300 SMS)	222.3mm (8.75in) W x 290.8mm (11.5 in) H x 139.7mm (5.5 in) D			
Enclosure	IP67 (NEMA4)			
Ambient Temperature	-5°C to +40°C (+23°F to 104°F)			
Shipping Weight (Total System)	9.07 kg (20 lbs)			
Approvals	CE, FCC, VCCI Class A, AS/NZS Class A			