VS-1000 Sensor Systems
Infrared Inline Process Control Sensors

Direct real-time concentration measurements 24x7
CO_2, 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 measures a dissolved concentration and temperature using real-time infrared technology.

Real-time, inline concentration readings available for dissolved:

- CO_2
- 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. MTF $\geq$ 10,000 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.

VitalSensors TECHNOLOGIES

577 Main Street #105
Hudson, MA 01749 USA

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

www.vitalsensorstech.com

Product Specifications

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

Sensor **Application-Dissolved**	VS-1000C CO_2	VS-1000A Ethanol/Alcohol	VS-1000B Sugars/Brix	VS-1000AC Organic Acid (TA)
Measuring Method:	Mid Infrared spectrometer with Attenuated Total Reflectance (ATR) sampling			
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 Interval	100 ms			
Data Output Interval	500 ms to 30s (user defined)			
Operating Process Temperature	-2°C to +85°C (+28.4°F to 185°F) in 40°C (104°F) process temperature spans Water-cooled models available to 120°C (248°F)			
Temperature Display Range	-5°C to +85°C (+23°F to 185°F)			
Maximum CIP Temperature	+85°C (+185°F)		Water-cooled option available	
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			

Operator Interface – VS-300 Sensor Management Station

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 - - (optional)	
Fieldbus Interfaces	4-20mA, Ethernet	EtherNet/IP (optional), Profibus PA (optional)
Power	120/240 VAC, 50-60 Hz (auto sensing)	
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	

p/n vs-1000/ps0211