

VS-3000 JUICE AND DIET BEVERAGE MONITOR

Infrared Inline Process Control Sensor

Real-time ingredient measurements 24x7
Brix°, Acid, Brix°/Acid Ratio and Temperature



The VS-3000 Juice and Diet Monitor measures dissolved ingredients real-time 24x7. Concentrations are measured directly, not inferred or calculated. VS-3000 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. Juice and soft drink producers can use the VS-3000 Juice and Diet Beverage Monitor to measure up to three concentrations simultaneously using one small economical sensor.

Real-time, inline concentration readings for dissolved:

- Brix° / Sugars
- Organic Acid (TA)
- Brix° / Acid Ratio
- Temperature

Precision Infrared Process Measurements — VS-3000 Sensors provide real-time concentration and temperature readings for fluids in a process stream or in a tank. VS-3000 Sensors can be implemented in flow or no flow conditions and are not affected by pressure spikes, density, color, viscosity or extreme working conditions.

Maintenance and Cost Savings — VS-3000 series sensors are high technology solid state devices which contain no moving parts and require no maintenance. MTBF \geq 50,000 hrs.

Improved Plant and Asset Utilization — Reliable and accurate 24x7 measurement data leads to fewer line stops, alarms and product waste.

Networked Devices Providing Real-Time Data — VS-3000 sensors can be implemented as standalone units or as part of a process control network under PLC control.



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Product Specifications

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

Part #s	VS-3000BSMJ-SS (Brix°, Total Organic Acids (TA) and Brix°/Acid Ratio)		
Parameter Measured	Brix°	Organic Acid (TA) for inline Diet	Brix°/Acid Ratio
Measuring Range	0 – 20° Brix° standard 0 -100° Brix° customizable 0 – 2000 mBrix°	0 – 5 w/w standard 0-100 w/w % customizable	n/a
Accuracy	± .01° Brix° ± .1° mBrix°	± .005 w/w %	n/a
Resolution	.01° Brix°	.01 w/w %	.01
Repeatability (8 hour test)	.008° Brix°	.008 w/w %	n/a
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 / 104°F spans)	-2°C / 28.4°F to 85°C / 185°F – Standard Model -2°C / 28.4°F to 120°C / 248°F – Extended Temperature Model (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 (extended temperature model)		
Maximum Line Pressure	10 bar (150 psi)		
Process Connection	68mm Tuchenhagen Varinline® connection fitting or similar (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 or VS-200 Sensor Management Station (DIN Rail Mounted)			
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 DP (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) ATEX optional		
Ambient Temperature	-5°C to +40°C (+23°F to 104°F)		
Shipping Weight (Total System)	8.17 kg (18 lbs)		
Approvals	CE, FCC, VCCI Class A, AS/NZS Class A		

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