BSS-06 Integrated soil temperature sensor

The BSS-06 sensor is especially designed to measure soil temperature at the standard depths of 2 cm, 5 cm, 10 cm, 20 cm, 50 cm and 100 cm (approximately 1, 2, 4, 8, 20 and 40 inches). Alternately it could be used as a 4-channel sensor to measure temperatures in 5, 10, 20 and 50cm depth if periodical calibration process is a must (if the 1m device is too big to fit the climate chamber).

The sensing elements made from the state-of-the-art high-precision digital thermo-sensors. The body tube is filled out with two-component epoxy for the perfect insulation.

The device has built-in microcontroller to control the measures and to send the results to the data logger or PLC.

Each channel has an independent calibration table to store reference data for up to 10 calibration points. The microcontroller uses linear regression to convert the measured electronic signal to physical parameter.

The device has polyglot (multilingual) protocol to support Boreas' System-6 and the industry-standard MODBUS protocol simultaneously so the customer has the ability to use our latest development results with our BCU dataloggers or to implement industrial process control with MODBUS-compatible PLC. The serial interface has built-in over-voltage and lightning protection.

The BSSL-06 device implements our LogSense technology which implements the functionality of sensor and data logger with built-in solid-state memory. The stored data (with time stamp) could read out over the serial connector with our S6-ReadStation or MeteoLux program or can be transmitted over radio link or GPRS connection to our SocketServer. The LogSense device can control our ComBuoy communication device.

Technical Data

	Temperature
Measuring Range	-50…+70 °C
Resolution	0.1°C
Accuracy	0.2 °C FSR
Settling Time	10 sec.
Power	8-15 V / 5mA average, 10 mA max.
Data Interface	Digital RS-485 or RS-232
Communication	System-6 and MODBUS RTU protocol
Overvoltage Protection	+/- 6,7V 600W@1msec (data line)
	+/- 17,1V 600W@1msec (power lines)