



Bio Instruments S.R.L.

SENSORS AND SYSTEMS
FOR MONITORING GROWING PLANTS

SMTE-3z

*Soil Moisture, EC and Temperature
Sensor*



www.phyto-sensor.com

Description*

This particular SMTE-3z sensor has a MEC10 probe, which is described in details here:

http://www.infwin.com/manage_zheqin/ewebeditor5_5/attachment/20170718114523993.pdf

* The description relates only to the SMTE-3z sensors with serial numbers 19132005-326-5-XXX.

Communication

The SMTE-3z communicates over the RF 2.4 GHz channel with a datalogger. Activation of the sensor and measurement settings are described in the Quick Start Guide of the data logging unit (PTM-50 or PM-11z Phytomonitor or PC Phyto-Logger).

Power

The SMTE-3z is powered by three AA Alkaline batteries.

Readings

SMTE-3z represents 8 values:

- VWC Mineral Soil (%VWC)
- Soil Temperature (°C)
- Electrical Conductivity (dS/m)
- Battery (%)

Dielectric Permittivity, Soil Temperature, and Electrical Conductivity are the primary measurement values. The VWC values are calculated by using the MEC10 probe manufacturer's calibrations.

<input type="radio"/> All sensors		<input checked="" type="radio"/> Selected sensors	
Sensor		Measured value	^
<input checked="" type="checkbox"/> SMTE-3z:19132005-326-5-091		Battery	
<input checked="" type="checkbox"/> SMTE-3z:19132005-326-5-091		Electrical Conducti	
<input checked="" type="checkbox"/> SMTE-3z:19132005-326-5-091		Soil Temperature	
<input checked="" type="checkbox"/> SMTE-3z:19132005-326-5-091		VWC Mineral Soil	

Specifications

Volumetric Water Content

Resolution: 0.03% within 0 to 50% VWC;
1% within 50 to 100% VWC.

Accuracy: $\pm 2\%$ within 0 to 50% VWC;
 $\pm 3\%$ within 50 to 100% VWC.

Bulk Electrical Conductivity

Range: 0 to 20 dS/m (bulk)

Resolution: 0.05 dS/m within 0 to 20 dS/m

Accuracy: $\pm 3\%$ within 0 to 10 dS/m;
 $\pm 5\%$ within 10 to 20 dS/cm range is

Temperature

Range: -40 to $+50$ °C

Resolution: 0.1 °C

Accuracy: ± 0.5 °C

General Specifications

Probe Dimensions: 45 x 15 x 145 mm

Prong Length: 70 mm

Measurement Time: 150 ms (milliseconds)

Power requirements: 3 x AA Alkaline batteries

Output: 2.4 GHz RF module

Operating Temperature: -40 to $+50$ °C

Customer Support

If you ever need assistance with your sensor, or if you just have questions or feedback, please e-mail at support@phyto-sensor.com. Please include as part of your message your name, address, phone, and fax number along with a description of your problem.



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