

# SM150T

## Soil Moisture and Temperature Sensor



- **Accurate and stable measurement**

± 3% for 0-70% VWC\* range

- **Robust and buriable**

UV resistant cable with IP68 connector

- **Simple 0-1 V output (moisture)**

- **Low power: 18 mA for 1 second**

Supply 5-14 V

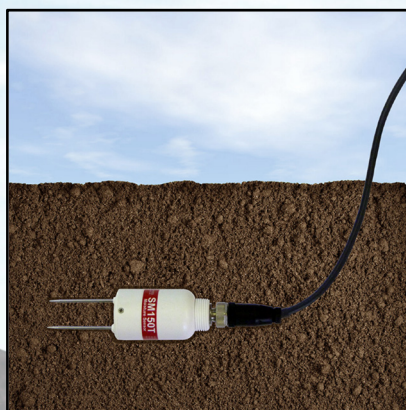
Based on over 40 years' experience in the design and manufacture of field instrumentation, the SM150T from Delta-T Devices makes the ideal soil moisture sensor for system integration.

Patented sensor electronics produce research grade measurement accuracy with exceptional salinity and temperature stability - essential for critical control and irrigation decisions.

Industrial rated, UV resistant cable fitted with a waterproof IP68 connector allows the sensor to be buried indefinitely, whilst still permitting easy cable exchange or extension if necessary.

**Applications:** Soil calibrations are provided for general soils and substrates, or a specific soil calibration can be determined if necessary. The sensor can be installed at depth in augered holes, or buried in substrate containers.

\* Volumetric water content

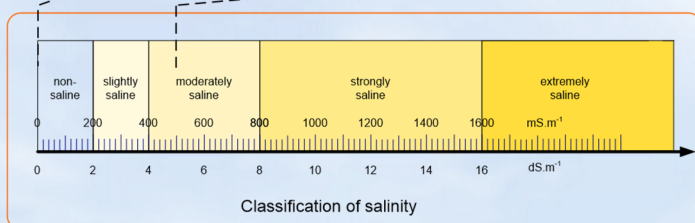
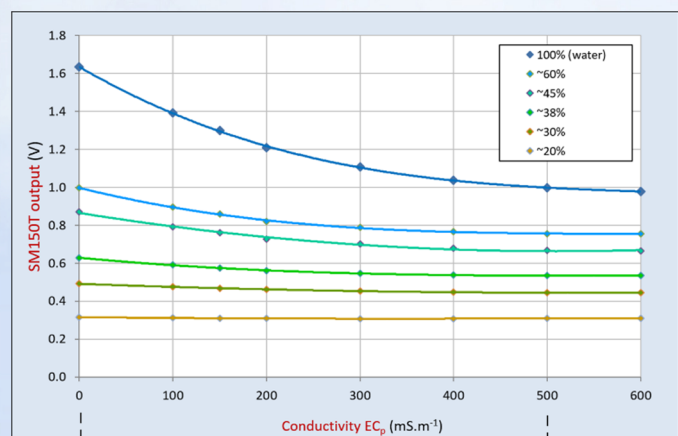




# SM150T

## Soil Moisture and Temperature Sensor

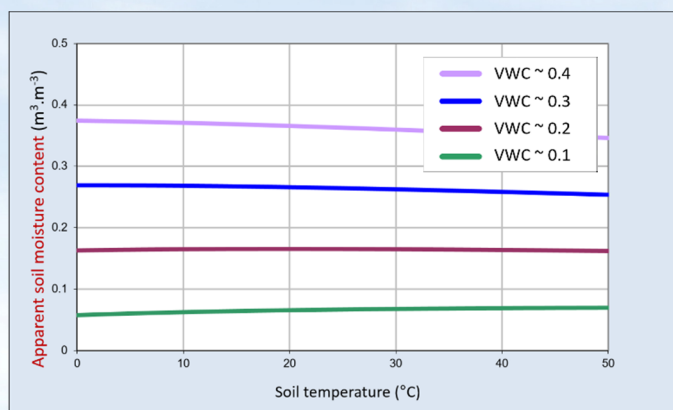
### SM150T conductivity response at different water contents



### Specifications

|                                 |   |
|---------------------------------|---|
| Accuracy                        | ± 0.03 m <sup>3</sup> .m <sup>-3</sup> (3%) volumetric water content (VWC)<br>± 0.5°C (0 to 40°C for temp sensor) |
| Soil moisture measurement range | 0 to 1.0 m <sup>3</sup> .m <sup>-3</sup> (100%)<br>but less accurate above 70% VWC                                |
| Salinity range                  | 50 to 1000 mS.m <sup>-1</sup><br>± 5% vol over 100 to 1000 mS.m <sup>-1</sup> and 0-60% VWC                       |
| Temperature range               | Full accuracy over: 0 to 60°C   |
| Output                          | 0 to 1.0 V differential<br>Corresponding to 0 to ~0.6 m <sup>3</sup> .m <sup>-3</sup>                             |
| Power requirement               | 5-14 V, ~18 mA for 1s<br>Minimum 5 V with 100 m cable   |
| Environmental                   | IP68 with Delta-T supplied cables   |
| Sample volume                   | ~55x70 mm diameter<br>Sample volume is weighted towards soil immediately surrounding the rods                     |
| Dimensions and weight           | Overall: 143 x 40 mm diameter<br>Rods: 51 mm x 2.5 mm diameter<br>Weight: 0.1 kg (exc. cable)                     |
| Sensor calibrations             | Individual sensors are interchangeable<br>Recalibration advised every 3 years (depending on use)                  |
| Soil calibrations               | Generalised Mineral and Organic soil calibrations are supplied  |

### Temperature dependence of SM150T readings in a clay soil

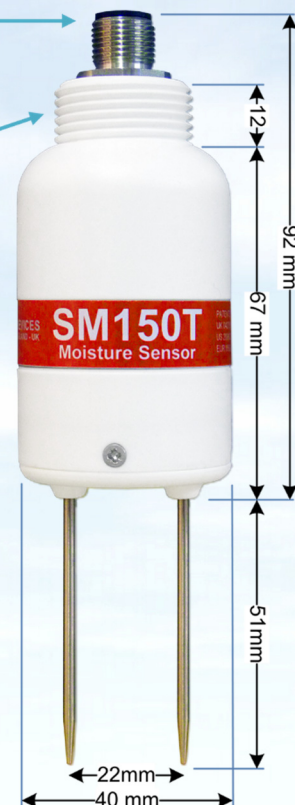


### Ordering information

|  |   |
|--|---|
| Also available separately              |   |
| SM150T                                 | Soil moisture sensor with built-in temperature sensor. NB cable must be ordered separately. |
| SMSC/lw-05                             | 5 m cable terminating in bare wires for connection to data loggers and controllers.         |
| SM150T accessories for burial at depth |   |
| ML/EX50                                | 0.5 m extension tube  |
| ML/EX100                               | 1.0 m extension tube  |

Cable connector  
sealed to IP68  
M12, 5 pin, male

Thread 3/4 inch BSP  
for connecting to  
Extension Tube



### Delta-T Devices Ltd

130 Low Road, Burwell, Cambridge CB25 0EJ, UK  
Tel: +44 (0) 1638 742922

sales@delta-t.co.uk www.delta-t.co.uk



Via Alberico Albricci 9/11 - 00135 Roma  
Tel: +39 0636301456 / 06 89871120  
Fax: 06 3293698 - Mob: +393299536448  
Email: info@lombardemarozzini.com  
www.lombardemarozzini.com



SM150T\_Integrator\_ver\_1

Delta-T Devices