


Environmental Logging System Em50






The Em50 is a 5-channel, self-contained data logger designed for use with any ECH₂O sensor. The sensors are plugged into the 5 channels and measured as directed by the user. Housed in a weatherproof enclosure with an O-ring seal, the Em50 is ideal for long-term outdoor use. With minimal battery usage, the Em50 can take readings as often as once per minute for over a year. Any combination of the listed sensors can be used.









ECHO Utility is the latest software that has been developed for use with the Em50 logger. This program allows you to configure and program the logger, download data, scan the ports and saves data files directly in MS Excel format. It can be downloaded free of charge from <http://ictinternational.com.au/software/>

<p>Em-50</p>	<p>5 channel analogue data logger with 1MB memory (>36,000 readings)</p> <p>Operates from 5xAA batteries. Minimum 12 months</p>	
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Available Sensors for Em50 Logger System

Sensors are fitted with 5m cable and 3.5mm jack plug.

<p>EC-5</p>	<p>High-frequency operation (70 MHz) makes the EC-5 ideal for any soil type, including soils with varying degrees of EC (up to 8dS/m). Its typical accuracy in any soil is $\pm 3\%$ without calibration and 1-2% with soil-specific calibration.</p>	
<p>10HS</p>	<p>The 10HS Soil Moisture Sensor obtains volumetric water content by measuring the dielectric constant of the media through the utilization of capacitance/frequency domain technology. It incorporates a high frequency oscillation, which allows the sensor to accurately measure soil moisture in any soil or soilless media with minimal salinity and textural effects.</p>	
<p>EC-20</p>	<p>The EC-20 is designed for medium-textured soil types with low EC conditions. Typical accuracy in these soil types is $\pm 4\%$ without calibration and 1-2% with soil-specific calibration.</p>	
<p>5TE</p>	<p>The 5TE is designed to measure the water content, electrical conductivity, and temperature of soil and growing media. Using an oscillator running at 70 MHz, it measures the dielectric permittivity of soil to determine the water content. A thermistor in thermal contact with the probe prongs provides the soil temperature, while the screws on the surface of the sensor form a two-probe electrical array to measure electrical conductivity.</p>	
<p>EC-TM</p>	<p>The EC-TM sensor incorporates a temperature reading into the traditional soil moisture sensor. Therefore, more data logger ports may be used for additional environmental measurements.</p>	

ECT	The Temperature Sensor can measure both air temperature and soil temperature. It connects to any channel in a Decagon Datalogger for long-term temperature monitoring.	
MPS-I	Soil water potential is a key parameter for determining water availability for plant growth, water flow, and soil stability. Existing solutions still have many drawbacks such as high maintenance, limited lifetime, individual calibration requirements, high cost, and small measurement range. The MPS-I is a sensor that can be used in the field to accurately measure in-situ soil water potential without these limitations.	
PYR	The pyranometer measures the solar radiation flux density (in watts per metre square) from a field of view of 180 degrees. This pyranometer is completely waterproof, submersible, and designed for continuous outdoor use.	
QSO-S	The basic quantum light sensor with cosine-corrected head has a domed diffusion disk and head for improved self-cleaning characteristics and long-term stability. An innovative blue lens improves the accuracy of these sensors and meters. The pigments in the lens filter incoming light for an improved spectral response.	
LWS	The LWS measures leaf surface wetness by measuring the dielectric constant of the sensor's upper surface. It has a very low power requirement, which gives you the ability to make as many measurements as you want over a long period of time (such as a growing season) with minimal battery usage.	
RHT	RH/Temperature sensor measures relative humidity (RH) and temperature, making it ideal for use with ECH ₂ O probes in studying microclimate and evapotranspiration.	
PASSRHT/ PASSECT	Passive radiation shield with preinstalled RHT or ECT sensor. The Radiation Shield is HIGHLY RECOMMENDED to protect the Temperature Sensor and the RH/Temp Sensor from ambient interference. Without proper protection, these sensitive devices can give inaccurate readings.	
ECRN-100	Double-spoon tipping bucket rain gauge with 0.25mm tip and resolution. Durable UV and water resistant ABS. Level bubble. 170mm x 142mm	

ICT International Pty Ltd
 PO Box 503, Armidale, NSW 2350, Australia
 Ph: [61] 2-6772-6770 Fax: [61] 2-6772-7616
 E-mail: sales@ictinternational.com.au

