

Logging MP406 probes

APPLICATIONS

- Agricultural research
- Soil science research
- Monitoring environment
- Farm management
- Irrigation management

FEATURES

- Easy installation
- Plug & Play salinity measurement
- LCD display
- Universal software
- Scientific accuracy
- Calibrated
- Communication options
- Modular and expandable

Field station for logging MP406 moisture probes

Soil Moisture measurements are an important aspect of soil, crop and environmental management.

With the introduction of the MP406 moisture probe field station ICT International offers scientists a highly accurate, low cost, plug & play solution to logging soil moisture in the field. The system consists of a Smart Logger with LCD display, logger housing with mast and free-standing base. The system has a maximum capacity of 250 probes but for most applications between 3 and 30 MP406 probes are common.



Applications

The MP406 Field Station is used to monitor soil moisture continuously at surface and down the profile for soil, crop, forestry and environmental research and management.

Smart logging

A feature of the field station is Plug & Play or smart logging. The Smart Logger does not require any knowledge of electronics or computer programming.

To operate the station simply plug in a probe and press both buttons on the front panel of the Smart Logger together. The Smart Logger will then search the DataBus and automatically identify the number of MP406 moisture probes connected and begin logging them at hourly intervals. For custom



configuration of the Smart Logger or MP406 moisture probes a simple menu system can be accessed through HyperTerminal, available in the Windows operating system, that provides complete control over each individual probe's set-up. Instantaneous readings from probes can be viewed on the logger's display directly in the field without the need for a laptop.



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Smart interface

Up to 4 MP406 probes are fitted to each external smart interface that consists of an integrated microprocessor. This interface contains all the required information to allow autonomous operation of the probe, including power requirements and logging interval. The smart interface resolution is 16 Bit (1 in 65,000) offering highly precise and accurate recording of the MP406 moisture probe.



Each interface is fitted with a standard cable length of 5 m, extension cables of any length can be interchanged as different experiments demand.

MP406 Moisture Probe



The MP406 has a high frequency moisture detector, which uses the standing wave principle to indicate the ratio of two or more substances forming a body of material, each substance having a different electric constant (Ka).

The moisture measurement of the material is based upon the fact that in a water:soil:air matrix, the dielectric constant is dominated by the amount of water present. Then the soil water content can be measured exactly because changes in water content of the soil result in changes in the dielectric constant of the soil.

The material that can be measured by the MP406 is often soil but can be any composition of non-metallic powdered, liquid or solid those substance into which the needles are inserted.

Ordering information

SL5-1L	Smart Logger
IB8	DataBus interface
LH1	Lockable data logger housing (small)
MK6	Lower mast—900 mm length
MK7	Free standing base assembly—to suit 2 m mast
SMC4	MP406 Moisture probe smart interface
MP406	Moisture probe

Optional

LH3	Lockable data logger housing (medium)
SP10	10 W 12 V solar panel
MK2	Solar panel mounting kit
CBEX05	Extension cable 5 m length
CBEX10	Extension cable 10 m length
CBEX25	Extension cable 25 m length
CBEX50	Extension cable 50 m length

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SPECIFICATIONS

Datalogger:

Operating Range: -20 to + 60°C

Accuracy: +/- 1%

Resolution: 16-bit

Sampling Rate: Minimum period 1 second, maximum period 24 hours.

Number of Channels: 250

Memory: 4 MB Flash memory

Battery Type :

Sealed lead acid 6 V 7 Ahr

Battery life: three months

Dimensions:

170 mm x 145 mm x 90 mm

Weight: 2.5 kg

Features: LCD display, 1 Amp 100–240 V 50–60 Hz battery charger, 2 m serial comms cable and manual.

Sensors:

SMART INTERFACE

Range: 0–100 VSW%

Resolution: 16 Bit

Accuracy: +/- 1%

Power: 2.5 V regulated

Current drain: 20 mA

MP406 MOISTURE PROBE

Measurement Range:

0–100 VSW%

Accuracy: 1 VSW% after calibration to a specific soil type, or 5 VSW% using the supplied soil calibration

Response Time: Less than 0.5 seconds

Stabilization Time: 3 seconds approximately from power-up

Environment: Designed for permanent burial

Cable length: 5 m

Enclosure

IP Rating:

IP68 fully enclosed and environmentally protected

Mounting apparatus

Enclosure: LH1 300 mm x 200 mm x 180 mm powder coated white steel

Mast: MK6 lower mast - 900 mm x 50 mm x 50 mm tubular steel

Base: MK7 - 50 mm x 50 mm tubular steel freestanding base

System packing

Dimensions:

1,000 mm x 460 mm x 520 mm

Weight: 8.5 kg

Associated products

SP10: 10 W 12 V solar panel

MK2: mounting kit for SP10 solar panel

DM4: Removable logger memory module 4 MB

DS1: Docking Station to download data from DM4 to PC