

Irrrometer 975 IRROmesh Wireless System

Application:

IRROmesh is a compact, solar-powered, wireless system for in-field measurement of soil moisture, temperature, and other parameters. Sensor data from each node is routed through an interactive mesh network back to a central point where it can be uploaded to the web and made accessible to anyone with an Internet enabled PC or smart device, or stored locally for collection. Each node is capable of reading three soil moisture sensors and a soil temperature sensor, along with inputs for recording irrigation events and rain gauge data.

Utilizing the proven and economical WATERMARK soil moisture sensors, IRROmesh allows growers to collect real-time data from sensors all over the farm/vineyard and instantly review it to make informed irrigation scheduling decisions. Each IRROmesh radio node automatically relays messages forward, enabling economical data collection over large areas.

Nodes connect with up to three WATERMARK Model 200SS soil moisture sensors and one WATERMARK Model 200TS soil temperature sensor, as well as switch closure devices and tipping bucket rain gauges. All sensor data and operating characteristics of the node are recorded every 30 minutes and transmitted every few minutes during daylight and up to every 90 minutes during darkness.

Features:

- No Batteries Required - Simplifies installation and maintenance
- Self-Initializing – Nodes power up and associate themselves
- Self-Routing – Nodes route communication for maximum efficiency
- Self-Healing – Nodes will re-route in case of network obstructions
- Web Based Data – Store and analyse data over the Internet
- Data Logging - Data can be stored in the field and retrieved with a PC
- Small Size – Easy field installation with small footprint



MODELS	CODE
Base Receiver Node	975B
Relay Node-Plus	975NPR
End Node-Plus	975NPE
Logger	975L
PC Link	975P
Cellular Gateway	975G
5 Watt Battery Pack - Solar	900M-BP-5W

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE – PRODUCT DRAWINGS / IMAAGES ARE REPRESENTATIVE ONLY AND ARE SUBJECT TO CHANGE.

PERTH

PH: 08 9455 1677
FAX: 08 9455 1680
hrsales@hrproducts.com.au

SYDNEY

PH: 02 9725 5733
FAX: 02 725 5283
infonsw@hrproducts.com.au

MELBOURNE

PH: 03 9457 7500
FAX: 03 9457 7400
infovic@hrproducts.com.au

BRISBANE

PH: 07 3806 0522
FAX: 07 3806 0533
infoqld@hrproducts.com.au

ADELAIDE

PH: 08 8341 0008
FAX: 08 8341 0707
infossa@hrproducts.com.au

PRODUCT SPECIFICATION



Device Configuration –

MATERIALS: Polycarbonate plastic, moulded, vented, UV resistant housing

DIMENSIONS – HEIGHT: 5.05 in. (128 mm)
WIDE: 2.5 x 2.25 in. (63.5 x 57.15 mm)
WEIGHT: 9 oz. (255 g)

WIRE LEADS: 10 ft. (3 m) AWG 24, 8 or 12 leads

SENSOR COMPATIBILITY:

975NPR & 975NPE – WATERMARK soil moisture (3), temperature, tipping bucket range gauge, switch closure

POWER: Two 5.5V, 55mA output solar panels. 2.67 x 1.57 in. (55 x 40 mm)

FIELD MOUNTING: .75 in. male N.P.T. base. Adapter required for BSP pipe thread

Radio Specifications –

MODEL/TYPE: Microchip Model MRF89XAM9A 915 MHz Ultralow Power Sub-GHz Transceiver module; integrated crystal, internal voltage regulator, matching circuitry and antenna.

RF/ANALOG FEATURES: ISM Band, 902-928 MHz operation; Data rate – FSK 20 kbps; Reception sensitivity: FSK 112 dBm (typical); + 10dBm Typical Output Power; NZ 922-928 MHz; AU 916-927 MHz.

AIR TEMPERATURE: Internal temperature of the housing is detected for operational purposes. Can also indicate night time air temperatures.

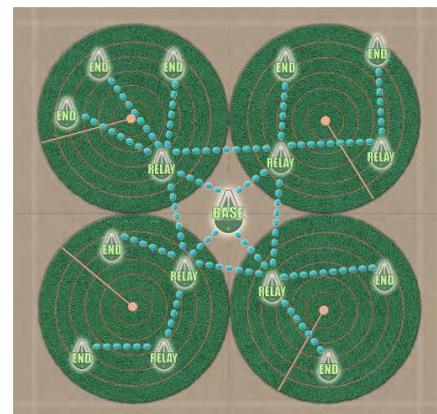
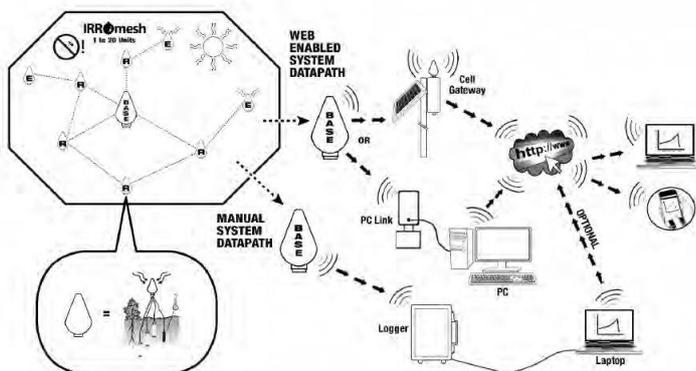
OPERATING TEMPERATURE: 14 – 149°F (-10 – +65°C). Storage temperature -40 – 185°F (-40 – +85°C)

REGULATORY APPROVAL: Radio regulation certified for Australia/New Zealand. EMC/EMI/ESD electrical testing for PCBA/components completed.

RANGE: 1200 ft. (365 m) at +10dBm, broad line of sight, when mounted on level ground at least 10 ft. (3m) high and above crops, grass, brush or foliage (see manual for instructions and examples for optimizing installation).

MOISTURE PROTECTION: Silicone conformal coating.

WARRANTY: One year



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