

iMETOS® RadioNode

BROAD MEASUREMENT WIRELESS DATA-LOGGER

iMetos® RadioNode: measures multiple parameters with reliable transmission thanks to a wireless short range mesh network.

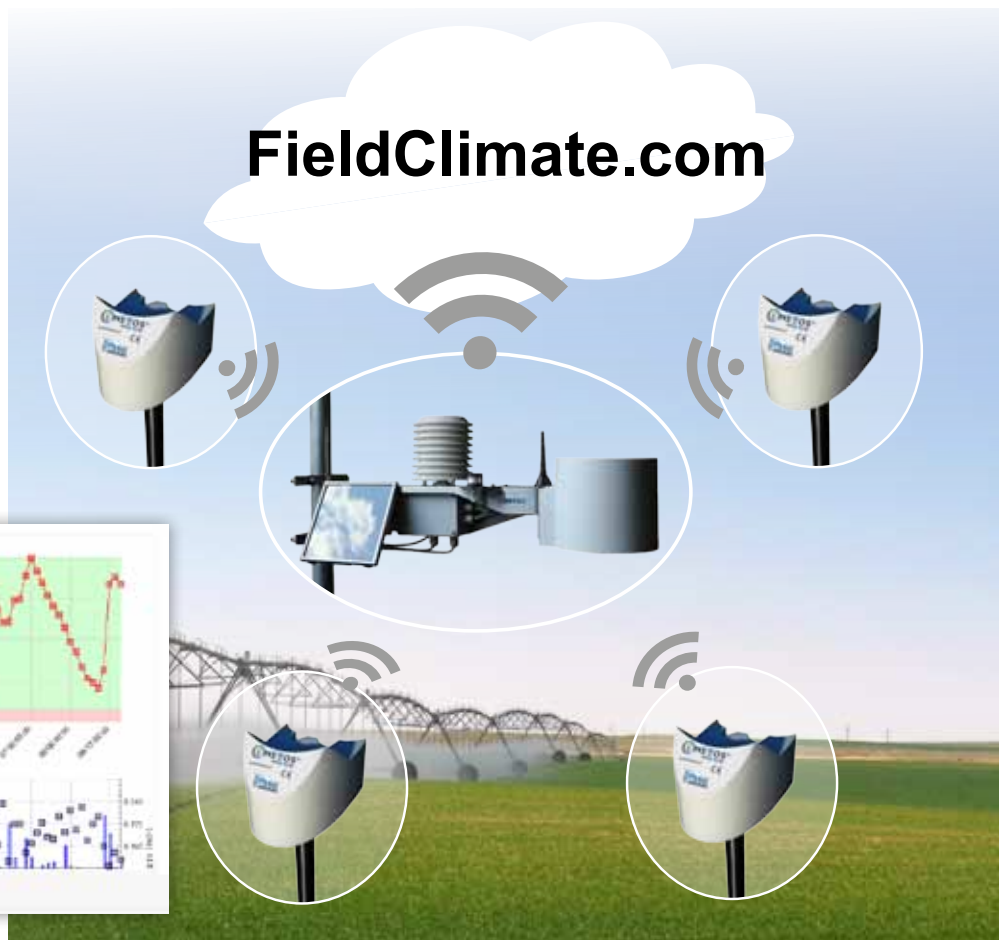
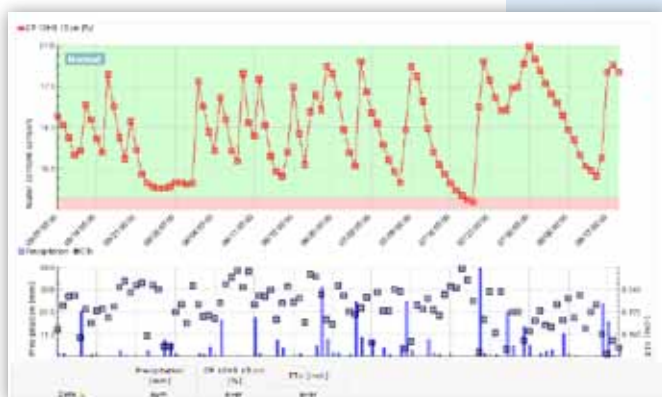
iMetos® RadioNode is the wireless data-logger from Pessl Instruments that allows the implementation of multiple node networks in the field combined with GPRS/EDGE/UMTS internet.

Thanks to the availability of reliable transmission technology, Pessl Instruments is able to offer its own wireless data-logger measurement of multiple parameters. The technology on which RadioNode has been developed is wireless mesh networking. In a mesh network, the coverage area of the radio nodes working as a single network is sometimes called a mesh cloud. Access to this mesh cloud is dependent on the radio nodes working in harmony with each other to create a proprietary radio network. A mesh network is reliable and offers redundancy. When one node can no longer operate, the rest of the nodes can still communicate with each other, directly or through one or more intermediate nodes. Wireless mesh networks can self-form and self-heal. iMetos® RadioNode is therefore extremely reliable in terms of transmission to the base station.

iMetos® RadioNode features:

- Wireless mesh network
- Different sensor availability
- Ease of installation, movement and operation
- 300 to 400 meters transmission
- Possibility to set SMS alerting thresholds
- Integration into the FieldClimate platform

FieldClimate.com





iMETOS® RadioNode

How does iMetos® RadioNode work?

iMetos® RadioNode is a small, wireless, battery powered data-logger (battery life span of approximately 7 years) for in-field measurement of soil moisture, temperatures, rain, flow rate, leaf wetness, relative humidity and other parameters. iMetos® RadioNode sends all sensor readings in real time through an interactive mesh network back to our base station which connects to the internet. From there, data is transferred to our cloud platform FieldClimate.com via the cellular network. In case of risky situations, specific SMS settings can be used and instant warnings issued (frost, head, irrigation alert).

Data on the platform can be accessed by PC, smartphone or tablet and stored for future needs. APPS are available for accessing the platform for both iOS and Android users. To operate iMetos® RadioNode, the iMetos 3.3 hardware with RF Access point is needed.

What is the benefit for me?

iMetos® RadioNode gives the user the possibility to monitor different spots in the field, being sure not to lose data due to transmission issues. The system supports a wide range of sensors, not limiting itself to soil moisture measurement.

Technical details

- Model/Type: Texas Instruments RF CC1120 module with integrated ultra-low power sub-GHz transceiver module, integrated crystal, internal voltage regulator and built in antenna, globally using free ISM bands 2.4 GHz, 868 MHz (SRD band) USA, Canada, Australia, Israel 915 MHz Asia, Europe: 433 MHz
- Expected range: 300 to 400 meters (1200 to 1400 ft) at +10dBm, broad line of sight, when mounted on level ground at least 3m (10ft) high and above crops, grass, bushes or foliage

Sensors supported:

- Pessl Instruments tipping bucket rain gauge 0,2 mm (0,01 inch) or read out of flow meters
- Pessl Instruments pressure switch
- 4 soil moisture sensors (Watermark, full line of Decagon sensors)
- 2 Pessl instruments temperature sensors (e.g. wet and dry bulb for frost detection; 1 soil and 1 air temperature etc.)
- Hygroclip 2: air temperature and relative humidity

All technical data is not binding and can be changed any time without prior notice.