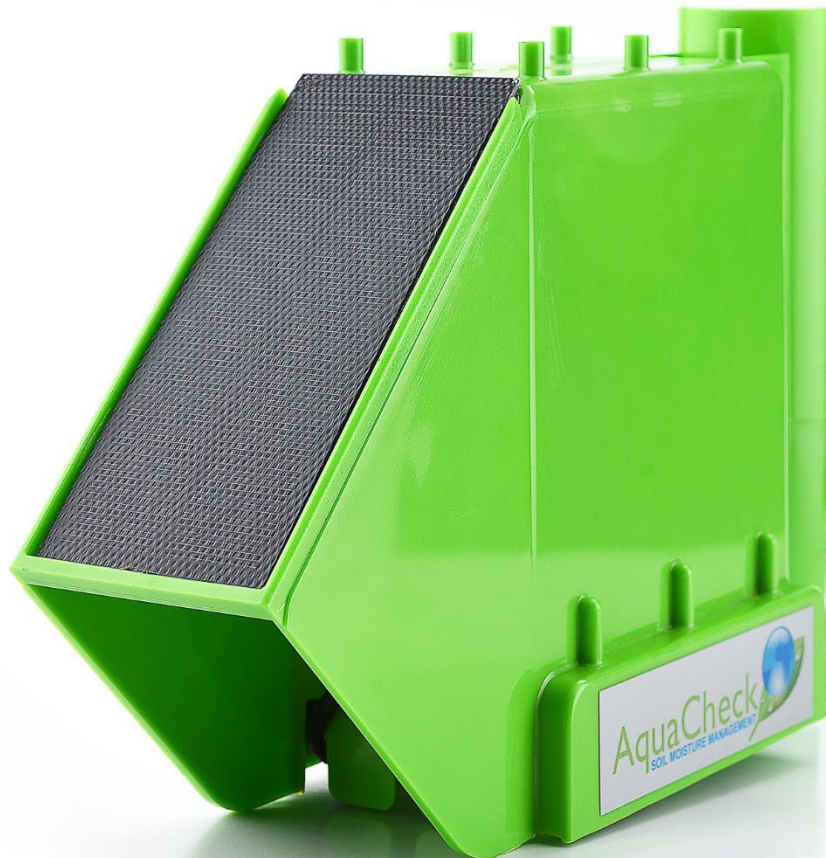




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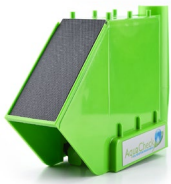
CELLULAR 4G – CAT 1 or CAT M1/NB-IoT

Technical Specifications no 1/2025/2



Soil Moisture Probes | Telemetry | Irrigation Management Software | Agronomy Services

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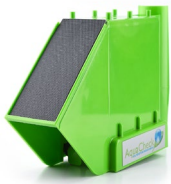


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Product Overview

Our weatherproof monitoring unit offers reliable and accurate soil data, even in extreme weather conditions. Built to withstand heat, heavy rain, and frosty temperatures. Installation is simple, and integration with our soil probes is seamless. These probes measure moisture levels by directly accessing the soil. Working in tandem with the monitoring unit, which utilizes cellular technology such as 2G/4G (LTE) and LTE-M/NB IoT, the data collected by the probes is automatically transmitted to our advanced soil moisture management software, ACWEB. With this software, you can access real-time soil moisture data from anywhere, enabling informed decisions on irrigation and fertilization for optimal crop growth and yield. This technology benefits not only farmers but also land managers, gardeners, and horticulturists responsible for maintaining properties with lawns or gardens. Our solution makes it effortless to provide plants with the right amount of water, minimizing waste. In summary, our weatherproof monitoring unit is an indispensable tool for maximizing crop yields and ensuring plant health. It is durable, user-friendly, and provides precise, real-time data for informed decision-making.



Technical Specifications

Connectivity

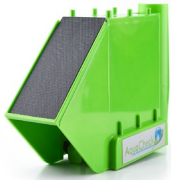
4G LTE	SIMCom A7672E modem offering 4G with 2G fallback 4G: LTE-FDD, B1/B3/B5/B7/B8/B20 2G: GSM/GPRS/EDGE 900/1800 MHz
4G LTE-M/NB-IoT Sim Size	Nordic nRF9160 Modem operates on all major global LTE-M and NB-IoT Internal Micro 3ff SIM

Interfaces

SDI-12	Features SDI-12, commonly used in agriculture sensors and measurement devices for soil moisture probes, temperature, electrical conductivity (EC) of soils and water levels/pressure.
SDI POWER OUT	Used to control the 3.3v power to the external sensors and peripherals. Load limited and short circuit protected.
SWITCHED SENSOR POWER	Sensor Power (Vout) used to control the battery power to the external sensor and peripherals. Output Voltage is the same as supply voltage.

Mechanics & Design

HOUSING	Internal Case Techno-polymer External Sleeve ABS Plastic
IP RATING	Internal Case IP 56
DIMENSIONS	Internal Case L 11 x W 11 x H 6 cm WEIGHT Internal Case 210 gram External Sleeve L 28 x W 10 x H 18cm External Case 410 gram
OPERATING TEMP	-20°C to +60°C
GPS ANTENNA	Internal
CELL ANTENNA	The Hawk has a U.FL connector on the PCB to an internal cellular sticker antenna.
INSTALLATION	Multiple installation options for covertly and easily securing the device to other assets with screws, bolts, cable ties, rivets and more. Caters for several cable glands (2 fitted standard) to allow for waterproofing cable entry to the housing.
DIAGNOSTICS LED	Diagnostics LED Signifies operation status.
FLASH MEMORY	Store weeks of records if devices are out of cellular coverage. Storage capacity for over 40 days of continuous 30-minute logging.



Power

INPUT VOLTAGE	Flexible Power Options
SLEEP CURRENT	<10uA Average current in lowest power configuration.
BACK-UP BATTERY	If Line power is connected and the batteries are also installed, the device will fall back to the 4 x C Cells if the external power is disconnected.

Battery

USER REPLACEABLES	1 x 18650 Lith-ion
SUPPORTED TYPES	Alkaline Lithium Thionyl Chloride (LTC)

Our Global Footprint

AquaCheck's head office and factory are in Cape Town, South Africa. A global distribution network provides the full range of soil moisture management equipment to farmers worldwide.



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