

# Phytech wireless system

USER MANUAL

V1.3



## General description

- Phyttech logger is part of an advanced AG IoT platform for optimized irrigation management. The device receives Plant sensor measurements and sends them to the Phyttech cloud for analysis and processing. The outcome is a simple color lofarmer in order to help him decide when and how much to irrigate

## Installation and operation

- Installation is very simple based on mobile app installation wizard. The logger shall be installed near the plot, sensors shall be installed on trees or plants within 150m radios from logger.
- - Logger installation.



- Attach logger to Pivot center building using destined screws and means (see below pictures). Then once the logger is stable press the reset button. Following LED's shall be light:
  - First LED – power on, blinking while searching GPS
  - Second LED – GPS found, blinking while searching cellular network
  - Third LED – Cellular network connected, blinking while connecting to server

All LEDS are on – successful connection!





○ Sensor installation :



Sensor must be installed after logger is functioning in field. Press reset button. Following LED's shall be light:

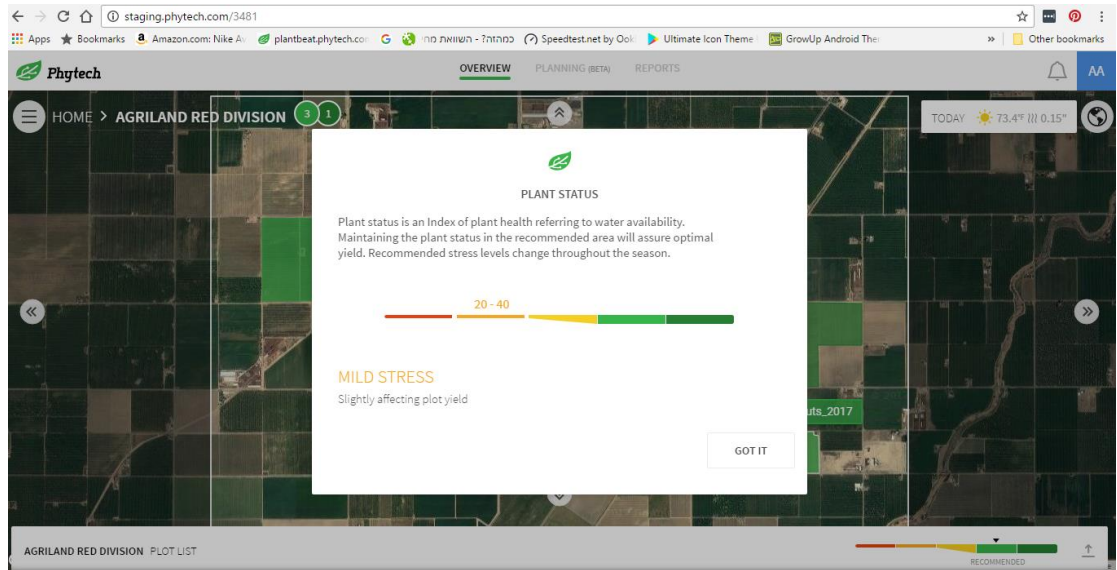
- Red blinking LED – searching connection to logger
- Green blinking LED – found logger, searching GPS

Green stable – successful installation





- The data received from sensors is analyzed in server and provided to users as irrigation recommendations via web and mobile apps.



Web application

## Product features

### Sensor

- Easy mount
- GPS based Self-location
- High resolution stem/trunk diameter measure
- Event triggered radio transmission

### Logger

- > 100 sensors per logger
- 14 days data logging
- Solar power system
- Cellular communication with cloud servers. Cellular LE910 Telit module approved by FCC under FCC ID:RI7HE910GL. Operating frequencies in GSM850, EGSM900, DCS1800, PCS1900, WCDMA modes, compliant to the 3GPP and WCDMA specifications. The Cellular module communication is used to upload sensors data to cloud servers.

## Interfaces

### Sensor

- Reset button and indication LED
- Analog sensor

### Logger

- Reset button

- 3 indication LED's

## Radio

- UHF 433.9 MHz
- FSK modulation
- 4.8 kbps
- Custom antenna (both sensor and logger)
- This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

This device complies with FCC Rules Part 15 and with Industry Canada licence-exempt RSS standard(s). Operation is subject to two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference that may be received or that may cause undesired operation.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance (Phytech Ltd.) could void the user's authority to operate the equipment.

- Cellular LE910 Telit module approved by FCC under FCC ID:RI7HE910GL.

**WARNING!** To comply with FCC RF exposure compliance requirements, the device should be located at a distance of at least 20 cm from all persons during normal operation. The antennas used for this product must not be co-located or operated in conjunction with any other antenna or transmitter.

Professional installation is required due to the intended application of the system is exclusively for the commercial/industry use.

**WARNING:** It is the responsibility of the installer to ensure that when using the outdoor antenna kits in the United States (or where FCC rules apply), only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance with FCC rules CFR47 part 15.204."

## Electrical

### Sensor

- Input voltage 3.2 – 2.7v (2 X AAA alkaline battery)

### Logger

- Input voltage 4.3 – 3.7v (18650 Li-ion battery)