PLASSON ®
Livestock

WOD Pro Wireless
Pressure control for poultry drinking lines

PLASSON ®

## Water on Demand PRO
Precise Day Round Water Consumption

User Manual

Water on Demand
Precise Day Round Water Consumption **PRO**

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Introduction

This document describes the functionality of the PLASSON WOD Pro Wireless device and app. All system settings and programming are done through a dedicated smartphone application. Download the app from the relevant app store and follow the on–screen instructions.

App Version
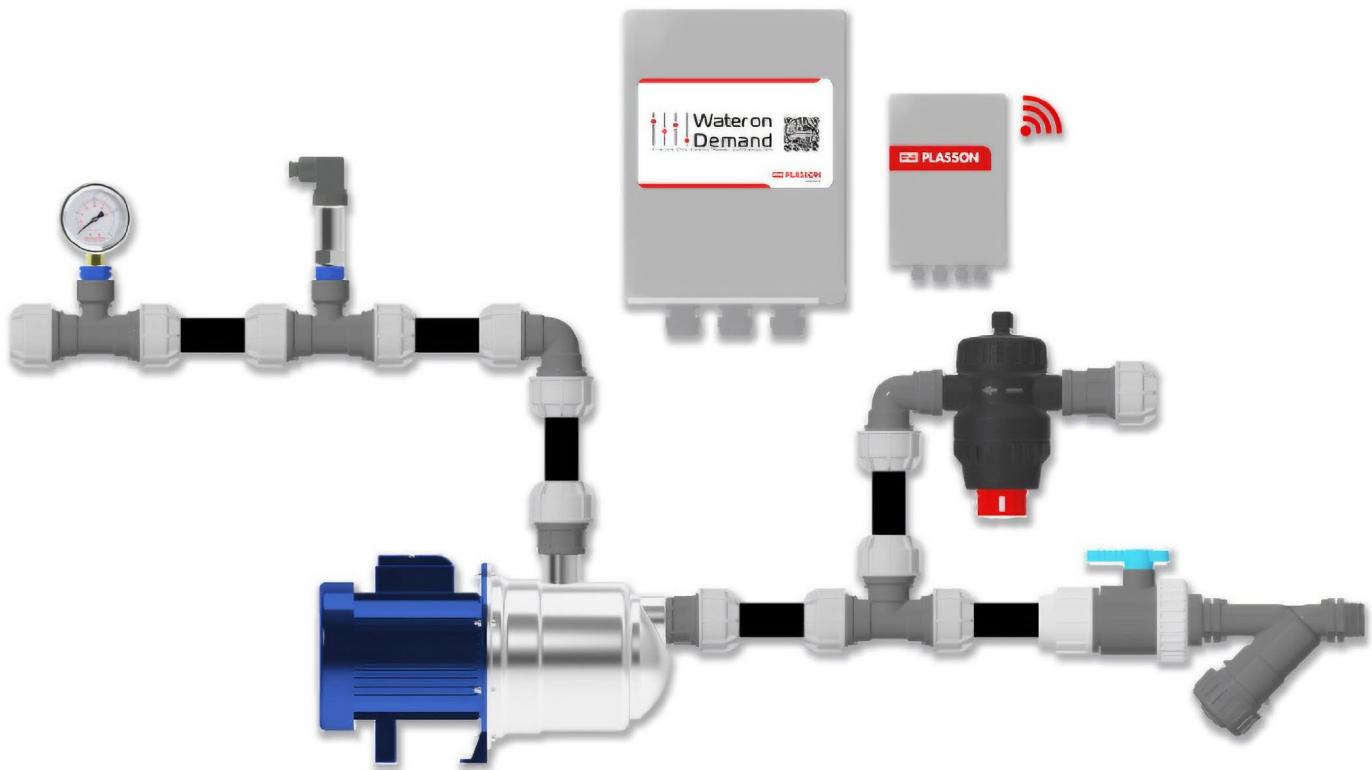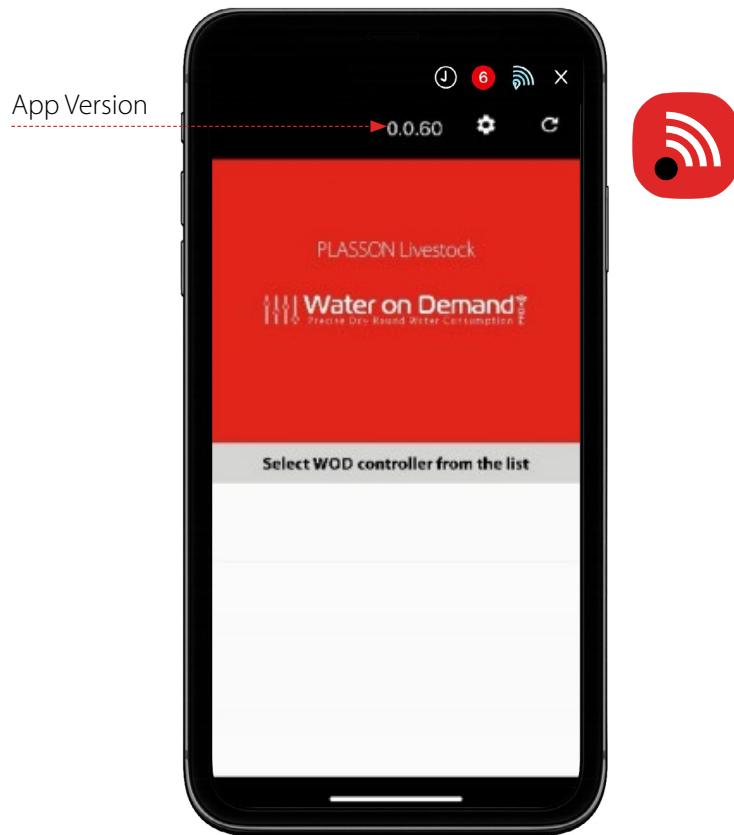
Wireless device wiring connections

BLE Status LED

Control buttons

* Power supply 12V DC

IN1 G IN2 G IN3 G

Digital inputs

Dry contact output

Analog output

Analog input

Ground
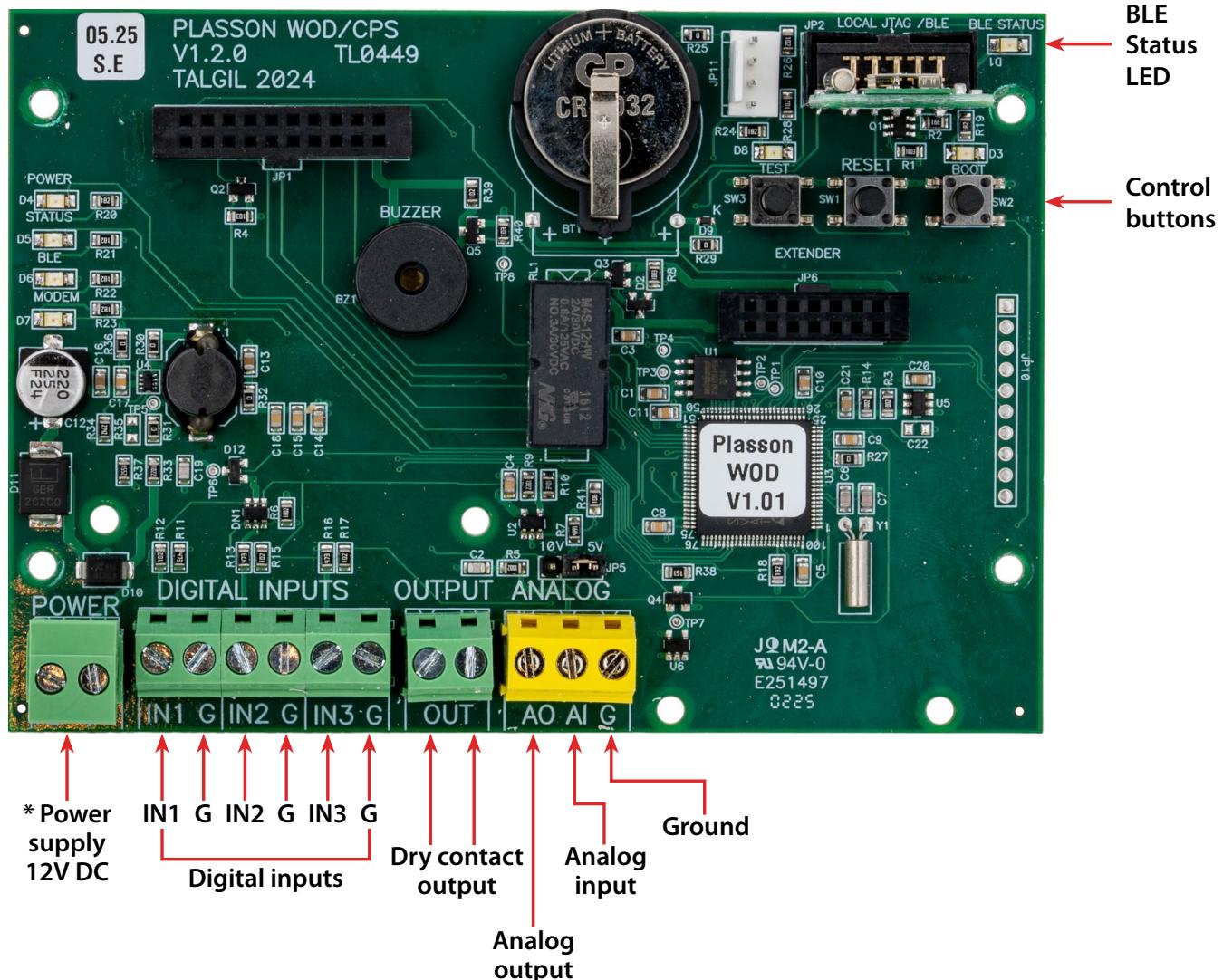
* When connecting the 12 V power supply, ensure correct polarity.
Incorrect polarity may damage the device.

Wiring instructions

Follow the diagram below to wire the wireless device to the WOD Pro Frequency converter.

Wireless Device **Pressure Sensor** **Frequency Converter S–100**
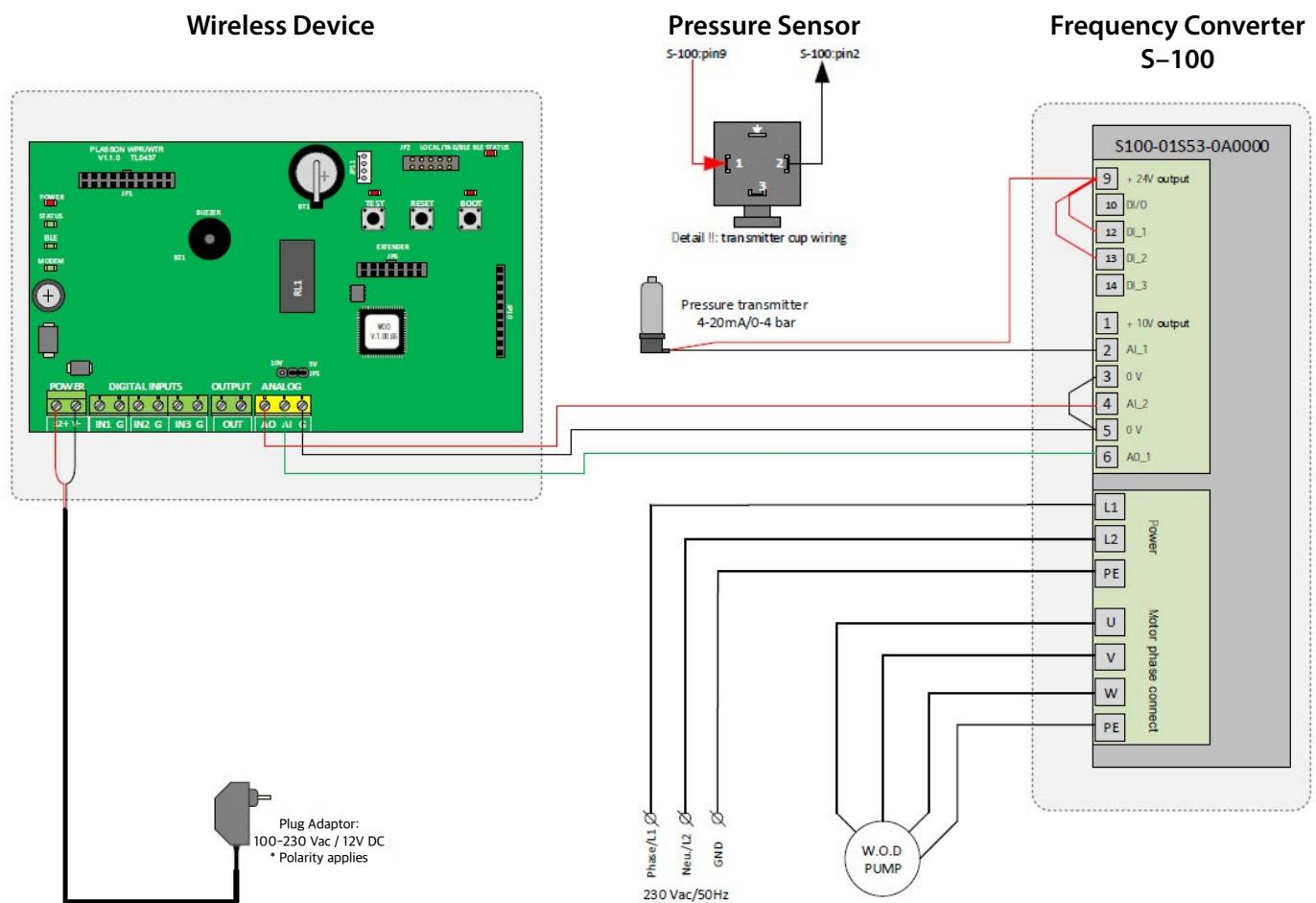
App settings

Display settings:

The following general settings appear the first time you set up the system.

To change these parameters later, use the Settings icon on the welcome screen.

- Display language
- Units
- Pressure units
- Time format
- First day of week
- Demo mode
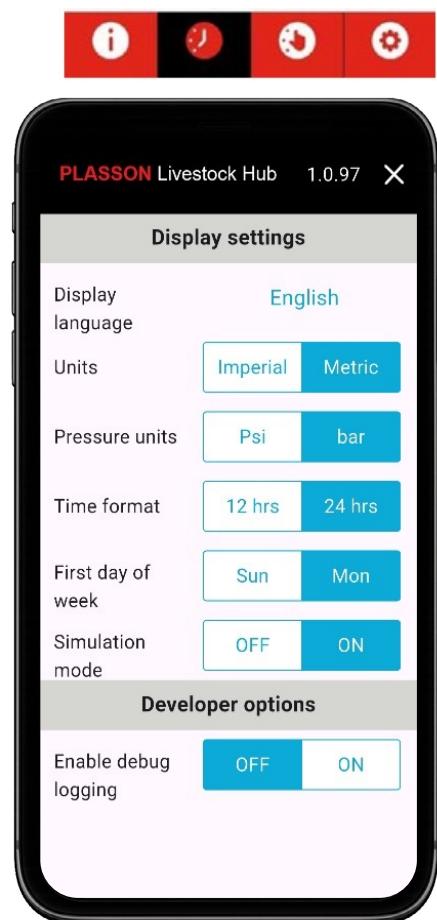
Application screens:

– Information screen

– Programs screen

– Manual Mode screen

– Settings screen
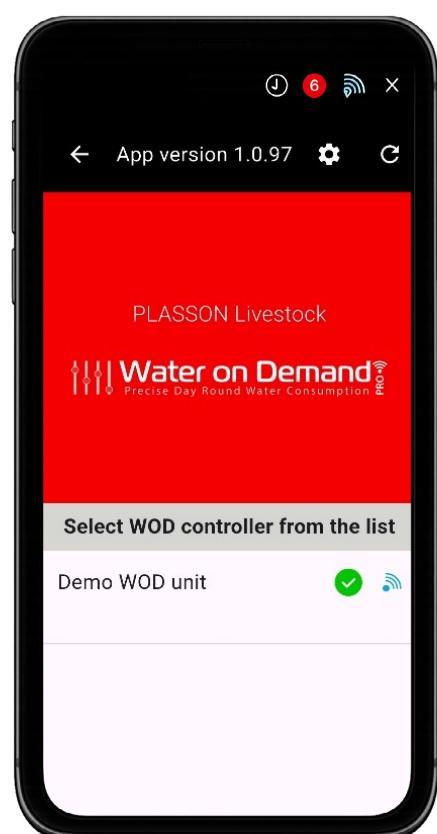
ℹ️ Information screen

✅ System status – no alarm or failures.

🔴 **1** System in alarm or failure state. In case of alarm state, user can acknowledge or clear alarms.

📶 BLE signal strength level (RSSI).

❌ Back to main screen.

General:
- House name – User–defined name for the house or line (default: "WOD").
- Current growth day – Shows the active program day.
- Time and Date – Automatically updated when the smartphone app connects via BLE.

Status:
- Control Status Displays the systems' operating state. Possible values:
    - ✓ **"Runs as planned":** Operating according to the program schedule without issues.
    - ✓ **"Disabled by alarm":** An alarm or failure has occurred. The system response depends on the alarm settings in WOD Settings.
    - ✓ **"Finished":** The program has ended because the total number of program days was reached, or Current Growth Day is set to 0.

Inputs / Outputs:
- Displays the three digital inputs selected in WOD Settings with their assigned roles (Frequency Converter (FC) status, VFD Failure, Water meter, External Enable/ Disable, Float, Boost, Flushing).
- Analog input value – Shows the actual water–pressure signal from the sensor in volts (0–5 V or 0–10 V, according to configuration).
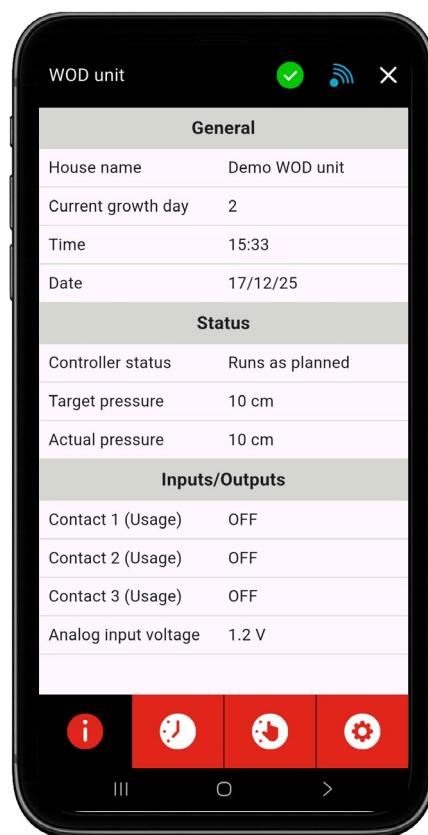
🕐 Programs screen:

Two program types are available: **RAMP** and **STEPS**. Each offers two templates:

- **Preloaded** – A ready–to–use program with PLASSON recommended settings for the selected mode.
- **Blank** – A fully customizable program you can configure from scratch.

Select a program and adjust its settings in WOD Settings (9).

Notice: when switching between programs, any manual changes made in the previous program are cleared.

RAMP mode

Ramp (cm)

STEPS mode

Steps (cm)
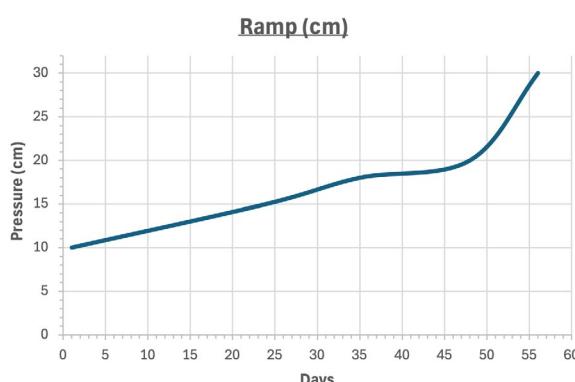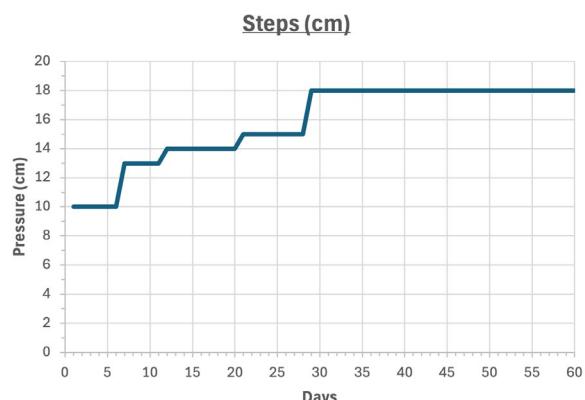
RAMP Mode – Preloaded program:

The RAMP program is based on control points. Each point is assigned to a specific growth day with a target pressure. The controller gradually increases the pressure between points to ensure a smooth transition.

- **Add new point** – You can add additional points to the program. When a new point is added, the controller automatically recalculates the pressure gradient so pressure continues to rise smoothly according to the updated schedule.
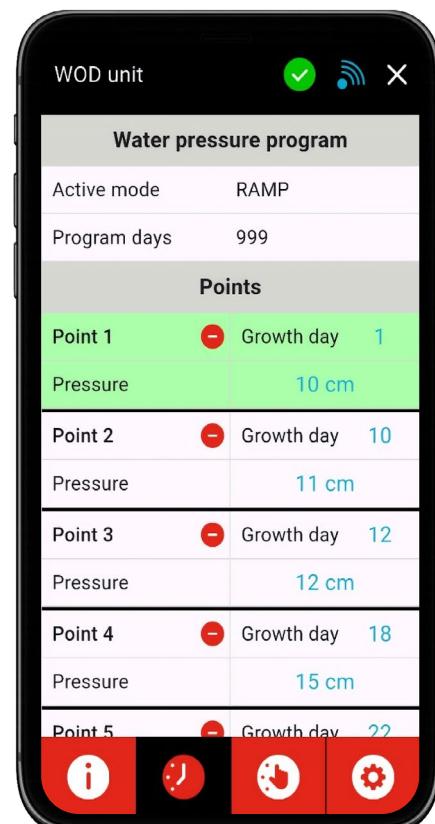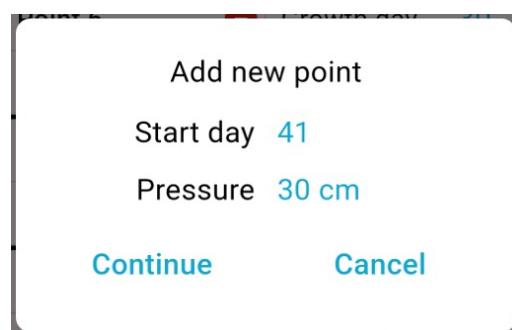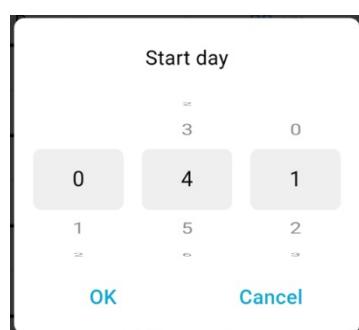
- **Boosts** – You can add scheduled boost periods during the growth day. Define up to five boost periods per day with start and stop times and a target pressure increase in % (Add new boost period: " ").
  Boosts run each growth day starting from the configured Boost Start Day.
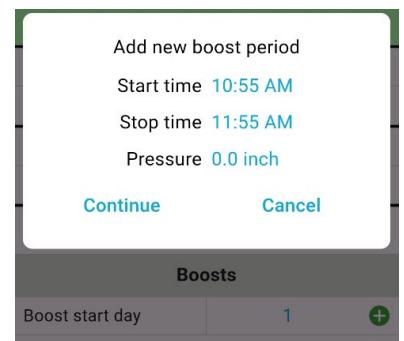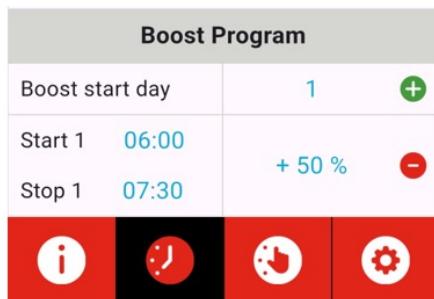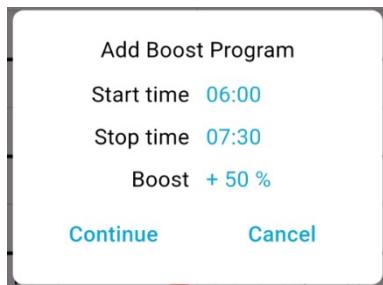
RAMP Mode – Blank program:

Create a RAMP program from scratch. You can define:

- Program Days: Set the total duration of the RAMP program.
- Scheduled Points: Assign specific points to growth days, each with a target pressure level.
- Boost Start Day: Determine the day on which boost periods will begin.
- Boost Periods: Schedule up to five boost periods per day, each with a start time, stop time, and target pressure.

This setup allows a fully customized RAMP program tailored to your specific house and management requirements.
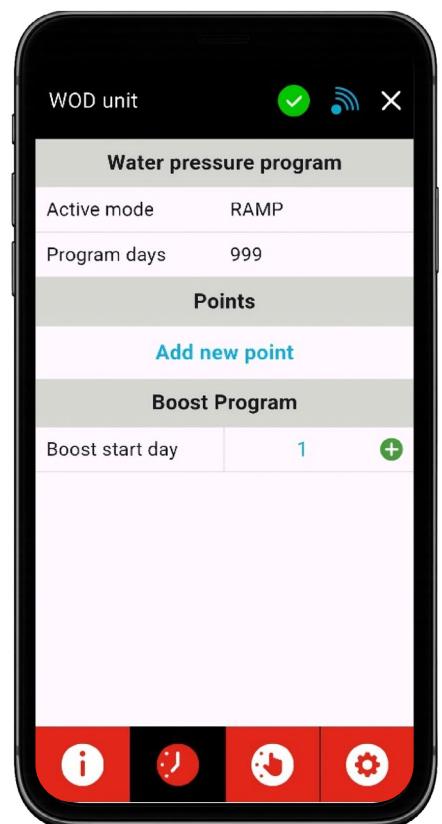
STEPS Mode – Preloaded program:

The STEPS program uses scheduled pressure steps for precise pressure management throughout the grow–out.

- Each step is defined for a specific growth day or range, with a target pressure and a start time.
- Steps can be added or removed as needed.
- Up to 50 start times can be defined per program

Add a new step – Additional steps can be added to the program. Each new step is automatically numbered in sequence and aligned with the growth days. Every step must include at least one start time and target pressure.
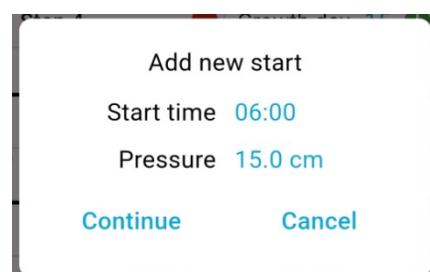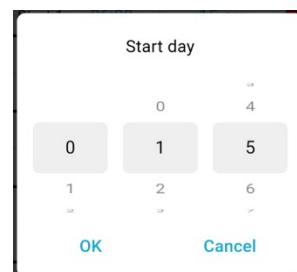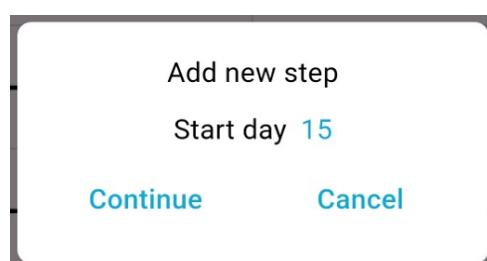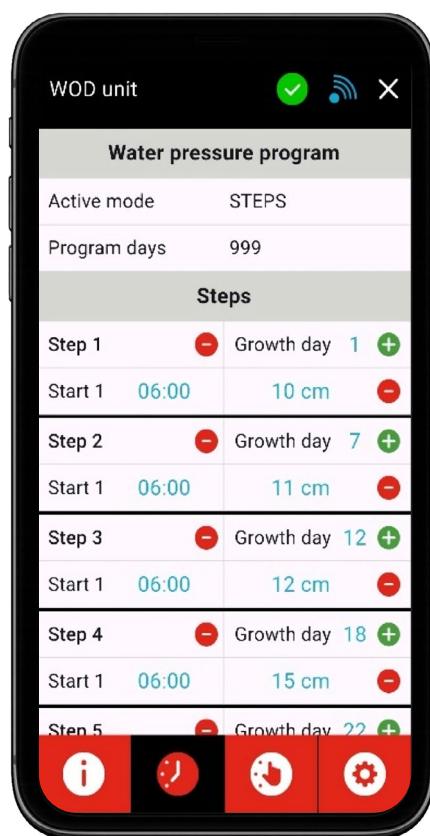
STEPS Mode – Blank program:

Create a STEPS program from scratch with full control over:

- Program Days: Set the total duration of the STEPS program.
- Scheduled Steps: Assign growth days, start times, and target pressure levels for each step.

This setup enables a customized STEPS program tailored to specific system requirements and operational goals.
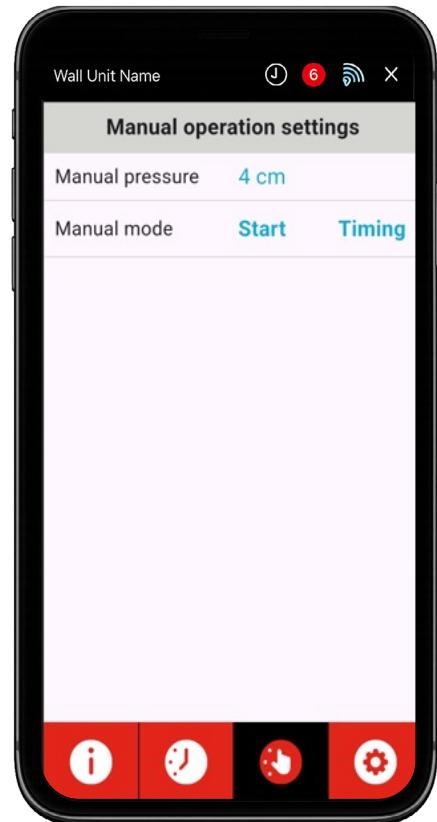
🕐 **Manual mode screen:**

Manual Mode provides direct control of the system without relying on the programmed schedule.

- Manual Pressure Control: Set and adjust the pressure at any time, temporarily overriding the current program.
- Start/Stop by time Control: Run Manual mode for a defined duration with start and end times or run indefinitely and stop manually.
- Pressure Activation: Manually trigger boost periods to apply additional pressure outside the normal schedule.
- Program Override: Temporarily suspend the active program for manual Adjustments. When Manual mode stops, the system resumes the program.

Pressure Adjustment
Define the target pressure for Manual Mode. This pressure operates independently from the scheduled program settings.

Manual Mode: Start
Activates Manual Mode for an unlimited period. The system remains in Manual Mode until the user manually stops it.

Manual Mode: Timing
Schedules Manual Mode to run automatically. Define the start time and the duration the system should remain in Manual Mode.

Actual Pressure Monitoring
Displays the real–time pressure measured by the frequency converter while Manual Mode is active.

⚙ **Settings screen**:

The WOD Settings screen provides a central place to configure and customize system operation. Use it to adapt the system to your specific needs.

General:

- **House name** – Default: "WOD". You can rename it to match the house or line.
- **Current Growth Day** – Counter that tracks program progress.
  The controller uses this value to run the correct actions for the current day (default: 0).
- **Sound** – Enable or disable audio notifications:
  - **Power Indication:** Short beep every 30 seconds to show the system is on.
  - **Failure Notification:** Distinct beep every 30 seconds if a failure is detected (per digital input).
  - **App connection:** Short beep every 5 seconds while the app is connected (default: Off).
- **Reduction Ratio** – Fixed ratio used to calculate outlet pressure in the nipple lines from inlet pressure (default: 50). Contact PLASSON support for help with this parameter.
- **Active Mode** – Select which program type the controller runs: (RAMP or STEPS).
- **Program Days** – Total number of days the selected program will run (default: 999).
- **Freeze the Controller** – Temporarily pauses all operations (pressure
- adjustments, Ramp, steps, boosts) without changing program settings. When un–frozen, the system continues according to the schedule.

Digital inputs:

The controller has three dry–contact digital inputs. Assign one unique role to each input. Each role can be used only once. After you assign a role, additional settings appear to define the system response.

Available roles and actions

- **Status of Frequency Converter** – Monitors if frequency converter (FC) is Active/Not Active.
  Reaction delay: 0–5 sec.
  Status action: Pause or Continue
- **VFD Failure** – Detects FC failure (for user information).
  Reaction delay: 0–5 sec.

- **Water meter** – Reads pulses to calculate flow (L/h or gal/min) and detect **No Flow** or **Leakage** (when pulses occur while the program is not running). Key parameters:
  Water meter ratio – 0.1–10 (liter, gallon)
  No flow delay – 0–10 min
  No flow action – Pause or Continue .
  Leakage detection period – 0–60 min
  Leakage pulses / in period – 0–100 Leakage action – Pause or Continue
  Reset accumulation – Reset total accumulated volume .
  Reset flush accumulation – Reset total flushed volumes

- **Enable/ Disable (External)** – Used as Enable/ Disable command from an external device. Open = continue program
  Closed = pause until open.
  Reaction delay: 0–5 sec.

- **Float** – Monitors water–tank empty/not empty.
  Reaction delay – 0–60 sec.

- **Boost** –When contact is closed, overrides the current program and raises the pressure by a defined percentage for a defined period.
  Boost – 0–200%
  Period – 24h

- **Flushing** – Used to run flushing at a dedicated flushing pressure.
  Target pressure – 0–3

Analog input range:

Conversion of analog Voltage input to pressure. The analog input converts the voltage signal from the pressure sensor into a pressure value.

- Minimum: **0V** = 0 Bar/PSI
- Maximum: **5V** or **10V** = 4 Bar/ 58 PSI
  Contact Plasson team for further support for this factor.

Analog output range:

The analog output sends a voltage signal to the frequency converter that corresponds to the target pressure from the active program.

- Minimum – **0V** = 0 Bar/PSI
- Maximum – **10V** = 4 Bar/58 PSI

Contact Plasson team for further support for this factor.

Water pressure failure:

Configure the system response to high/low pressure deviations (continue/ Stop)

- **Pressure deviation** – 5–50% (allowable difference between Target and Actual before an alarm is raised)
- **Reaction Delay** – 0–600 seconds (delay before the alarm is activated).
- **High Pressure action** – Continue or Pause.
- **Low Pressure actions** – Continue or Pause.

System actions:

- **Factory reset** – Restores the wireless device to its original factory settings. This erases all custom configurations, programs, and counters and returns the system to its initial state.
  Notice: Factory reset is only available when no program is running or when the current program has finished.

- **Boot mode** – Puts the controller into boot mode for firmware updates; if no activity, the controller returns to normal program mode after 1 minute.
- **Upgrade firmware** – Performs an over-the-air (OTA) firmware update.
- **Change password** – Sets a 4–8 digit numeric password for access to settings.

WOD Pro Wireless

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