SuperMation
"Automation at your Fingertips"™

TankMatic™ R1

Installation and Operation Manual

7 Sensor Non-Intrusive Water Level Monitor with Remote Access

Date: 23 February 2026

Contents

List of Abbreviations

- IOM – Installation and Operation Manual.
- IP - Internet Protocol.
- MQTT - Message Queuing Telemetry Transport.
- SPin - SuperMation Products identification number.
- SPL - SuperMation Products Limited.
- UI - User Interface.
- URL - Uniform Resource Locator or website link.

Models Applicable:

- R1.

1 Comparison of Technologies

Technologies		
Item	TankMatic	Ultrasonic
Tank integrity for installation	No damage to tank.	Drilling/cutting a hole in the top of the tank is needed for the sensor.
Installation time	Approximately 30 minutes.	Approximately 30 minutes.
Reading resolution	8 levels with the standard 7 sensor model. Up to 36 levels with the Hub and 4 Nodes.	100% to 0% continuous reading.
Reading stability	Less affected by water slosh when tank is filling. Not affected by temperature.	Significantly affected by water slosh and temperature. Not affected by rainfall.
Water contamination during installation	Not possible.	Contents of the tanks will be exposed during installation. Possibility of debris falling into the tank.
Service life	Long life due to sealed electronics and not exposed directly to the weather.	The sensor is continuously exposed to moisture inside the tank which may affect longevity.
Subscription fees and advertisements	None.	Depends on the app.
Visual indicators on the tank	Yes. LEDs on the Hub, Node(s) and the optional Visualizer bar.	Typically none.
UI, remote access.	Yes.	Yes, dependent on the app.
Standalone capability without the internet.	Yes.	Depends on the app and hardware.

2 Prerequisites

Safety is crucial so please ensure proper safety rules and use of tools are followed. The details of these are outside the scope of this document. SPL is not liable for any injuries or damages incurred due to incorrect installation.

2.1 Tools

Before installation, ensure the following tools are available:

1. Hot glue gun (minimum 60Watt) for full size (11mm / 0.43inch) sticks.
2. Extension cord (length depends on the location of the target tank and nearest power receptacle).
3. Ladder or scaffolding for tanks installed at significant height.
4. Clean, lint-free, cloth and rubbing alcohol in a spray bottle.

2.2 Site resources

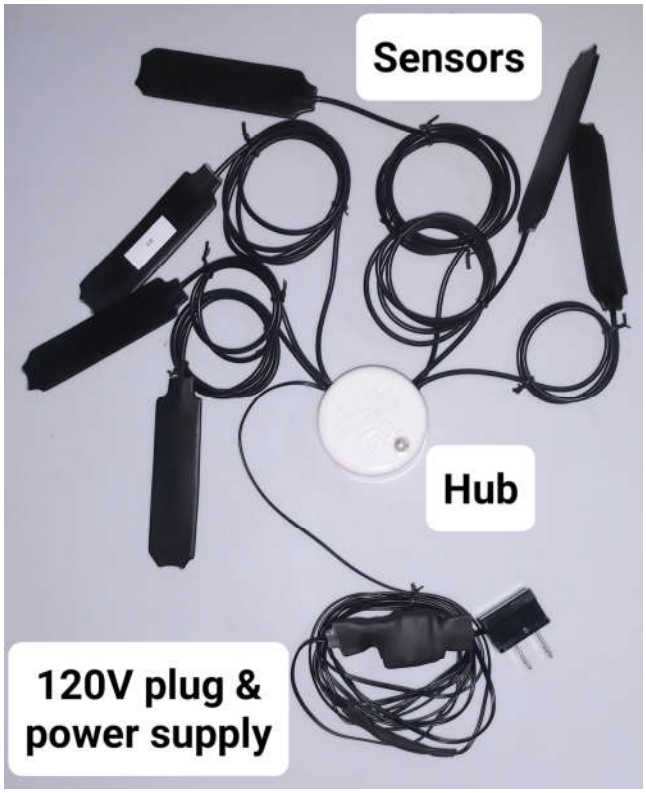
The following are needed for the installation at the tank:

1. One available 120VAC power receptacle.
2. WiFi 2.4GHz network (signal strength should be -70dBm or stronger). Internet for remote access and notifications. This is optional but recommended for the best user experience and remote diagnostics by SPL.
3. The tank outer surface must be dry with no trace of moisture. Please do not install in drizzle/rain.

2.3 Kit contents

The kit contains all that is needed for a full installation as listed below:

1. One TankMatic hub with 1 internal and 6 external sensor pads.
2. Node(s) each with 1 internal and 6 external sensor pads (dependent on the order).
3. One power cord 6 foot long.
4. One hot glue stick 11mm x 270mm.
5. One nameplate sticker.


Sensors
Hub
120V plug &
power supply

3 Connect the product to the WiFi network (R models)

3.1 Power up

Insert the 2 prong power plug into a 120VAC receptacle, preferably within 20 feet of the WiFi router.

3.2 Enter WiFi credentials

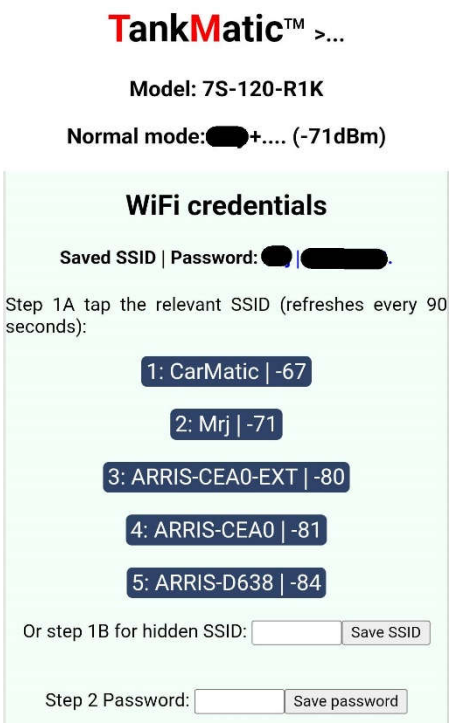
The Hub will flash purple for approximately 30 seconds then flash cyan for 120 seconds. This pattern will repeat until it successfully connects to a router. The cyan flashes indicate it is in configuration mode. Use your phone to connect to its private network:

SSID: TM1 (the number may be different if multiple products are installed)

Password: 1234567890

When connected use the UI URL in the receipt email or scan the below QR code (this works only when connected to the R model private network):

The UI will load, tap on the About tab then scroll down to the WiFi credentials section:



There are 5 buttons showing the discovered SSIDS followed by their signal strength in dBm (the strongest signal is at button 1). Tap the button of the relevant SSID or enter your hidden SSID manually, tap the Save SSID button, then tap the back button on your phone. Enter the relevant password then

tap the Save password button. The product will restart into normal mode. It will flash purple several times. If the credentials are correct and the router accepts the product, the light will turn yellow or green.

If the product did not connect successfully, repeat this sub-section (3.2) and carefully re-enter the credentials. If the saved SSID and password are correct and connection is not successful, please check the WiFi router settings.

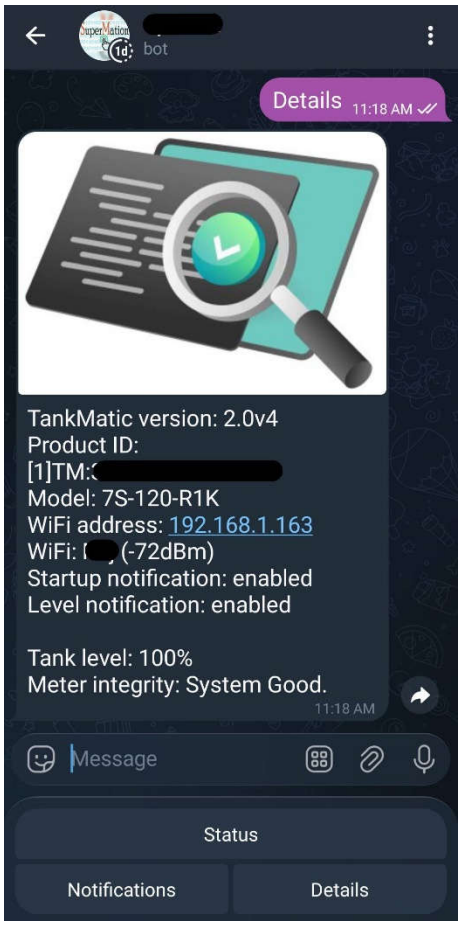
3.3 Find the product's profile in Telegram

Use the provided URL in the receipt email to add the product in Telegram. Tap the Start button and the keyboard menu will now be visible. Do not share this information with unauthorized individuals. The sales agreement does not cover reprogramming of the product.

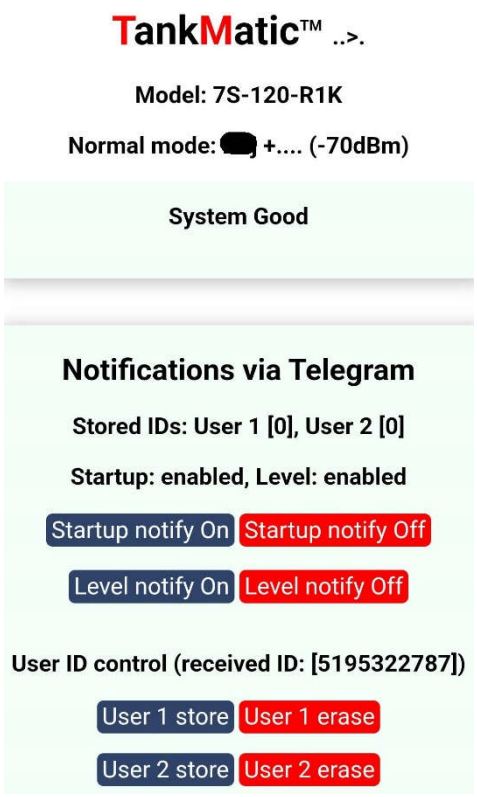
3.4 Notifications

3.4.1 Add or remover Users

While connected to the WiFi router, use the UI URL in the receipt email. If using an Android phone, you may need to wait approximately 5 minutes before this address resolves. A faster method is to tap the Details button in the Telegram chat keyboard: the address will be shown in blue text (see example below). Please bookmark both the UI URL and numerical IP addresses in your browser app.



In the detailed UI (see sub-section 3.2), in the Control tab scroll down to the Notifications via Telegram section.



In Telegram tap the Status button, wait for a response and tap User 1 store button. A second user can be added by sharing the Telegram program, tapping the Status button and tapping User 2 store button.

Either user can be removed by tapping the erase buttons and typing Yes at the prompt.

3.4.2 Enable or disable notifications

In sub-section 3.4.1, tap on the Notify On/Off buttons to enable or disable the startup and level change notifications. Both are enabled by default. Also in the Telegram chat, tap on the Notifications buttons to perform the same functions.

4 Installation onto the Tank

The product is designed for plastic (polypropylene) water storage tanks. Ceramic, concrete, metal and silicone tank walls are not compatible with the product. It is strongly recommended to install onto a full tank.

4.1 Powering

The 120VAC plug needs to be inserted into a nearby receptacle. Hot glue can be used to secure the wire to the tank surface, pipes and concrete walls for example.

The LED(s) will go active. On a full tank, the Hub (and Node(s) if ordered) LEDs should be blue. The LED(s) will flash purple a couple times then turn green if there is water at the top sensor. At this time you should get a message from Telegram if you were added as a user for notifications. You should receive notifications in the Telegram app as the sensors read the water level. Tapping the status button will give the estimated water level. If the tank is partially full, at least one LED, will not be green.

4.2 Mark and clean the external wall

Most tanks are made as a ribbed structure as shown in the examples below.

All components are installed on the ribs (or any part of the external surface for non-ribbed tanks). If the valley between ribs are wider than the ribs, then install the hub and sensors in those valleys.

The following photo shows a typical installation example of the standard 7 sensors model.

All components should be placed equally apart. When all locations are identified, clean thoroughly with rubbing alcohol.

For tanks taller than 87 inches from fill port to base, additional Nodes are required.

4.3 Install the components

Ensure your hot glue gun is hot enough that some glue dribbles from the nozzle. Starting with the Hub, apply a ring of glue at the sensor area (directly behind the LED). Ensure the LED is oriented up and faces outwards. Firmly press the hub onto the cleaned tank surface and hold for 20 seconds (if water

is at that level, the LED will change colour). Each external sensor requires a rectangle of glue on the side opposite the label (the top sensor goes above the Hub, the down sensor goes below). If the installation was incorrectly done, spray the cooled glue with rubbing alcohol and let soak for 2 minutes. Carefully pry off the hub and peel off traces of the glue. Repeat the installation properly.

If purchased, apply the same technique to the Node(s) and its external sensors.

The above picture shows a typical installation of the product. The sensor colours indicate the LED response. A patterned colour means the LED will flash once per second.

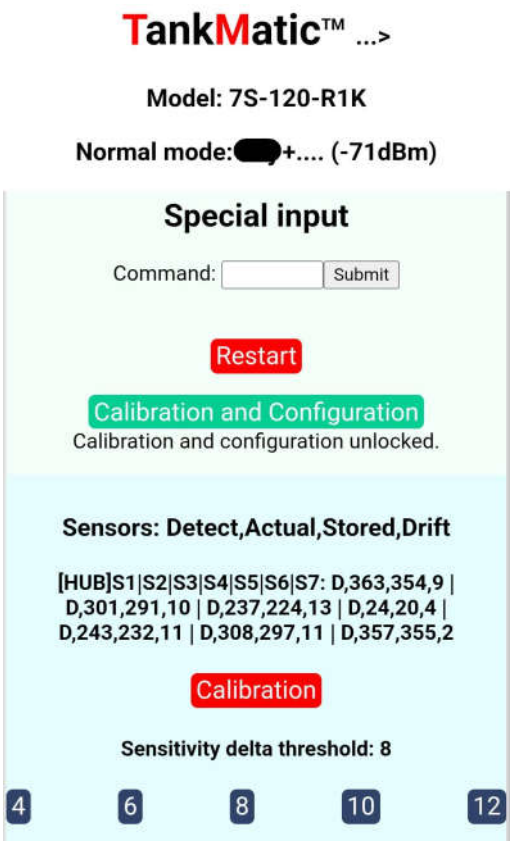
4.3.1 Visualizer bar

The visualizer is a LED bar that allows for easy reading of the water level. A full tank shows all green. As the water drops, the top LEDs will change to red. An empty tank will be shown as flashing red. Installation is via hot glue to the rear of the bar and its power supply unit. The power supply uses a male-female plug to allow one 120VAC receptacle to power both the visualizer and TankMatic.

5 Calibration and General Use

5.1 Calibration

After installation, calibration of the system is recommended. If the tank is not full, do not perform the calibration. Wait until the tank is completely full i.e. the float valve has shut off the water inside the tank.



In the detailed UI (see sub-section 3.2), in the About tab scroll to the bottom and tap on the Calibration and Configuration button, the password requested is SPL. Tap the Calibration button, type Yes and tap OK. The Hub and node LEDs will go white for several seconds. At the end of calibration the LEDs will go green. The product is ready for use.

5.2 Use

The product can be accessed:

1. Locally via its UI on your phone browser app
2. Remotely using the Telegram app.
3. Remotely using the data stream. This is for clients with a custom monitoring system and is useful for fleet management of tanks.

The product provides colour changing LED(s) depending on the water level within the tank. The Hub and Node(s) each displays their own 8 level colour scheme. The table below shows the indications for a 7 sensor installation.

Level (%)	Sensor	Colour
100	S7	Blue
86	S6	Flashing Blue
71	S5	Green
57	S4	Flashing Green
43	S3	Yellow
29	S2	Flashing Yellow
14	S1	Red
Critical	NONE	Flashing Red

The Visualizer bar, if installed, provides the fastest means to see the tank level.

5.3 Troubleshooting

Heavy rainfall may cause a false indication of water when tank's water is below the sensor(s). When the tank outer surface dries, the product will properly detect the internal level.

If the product keeps going into configuration mode (cyan flashes) after successful installation, please check the WiFi router settings (some routers limit the number of connected clients). So long as the saved SSID password are correct, there is no need to re-enter the WiFi credentials; the product will reconnect when the router allows it. Typically a power cycle will solve most issues.