



Enapter

MANUAL WATER TANK 4.1

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WTM4.1 Owner's Manual

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Owner's Manual

Water Tank 4.1

Please study this manual carefully before unpacking, installing, and operating the device.

Rev. 00 – Mar 2026



PREFACE

Thank you for choosing an Enapter water supply system. Please study this manual carefully before attempting to operate the device.

If you have any further questions on installing the device, please contact the Enapter support team. Quote the system serial number when contacting us; you can find the serial number on the back of the device.

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SCOPE OF THE DOCUMENT

This manual provides the installers, users, and owners with the information needed to carry out the installation of the WTM4.1 safely and as intended.

Keep this manual in a safe place and readily available. Always follow its instructions. The operator's responsibility is to ensure that an installed water tank system is always in proper condition. Please observe any additional local requirements applicable to the installation and operation of the water supply system. This owner's manual is intended as a general document and covers installation, maintenance, and operation of the device.

APPROVED USE

The WTM4.1 water supply system is designed to store water at low conductivity to provide the best quality of pressurized water to the Enapter Electrolysers.

According to the specifications and instructions provided in this manual, the unit must only operate for this purpose.

Observance of this manual is part of "normal use."

Danger of injury due to improper use!

Improper use of the product can result in serious injuries.



- Ensure that the manual is always accessible.
- Make sure you have read and understood this manual in its entirety.
- Comply with all safety instructions and warnings.
- Store the manual and other documentation in a safe place and pass them on to future owners of the product.
- Comply with all local regulations.



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PRODUCT OVERVIEW

Enapter's Water Tank 4.1 (WTM4.1) is a standardized, stackable, and flexible system to provide deionized water to the electrolyzers. The modular, easily maintainable design – paired with advanced software integration – allows the system to be set up in minutes, including remote control and management. To have water input at the right level of purification always available for your electrolyzers, simply stack this device inside standard 19" racks or any housing you wish.

FRONT PANEL

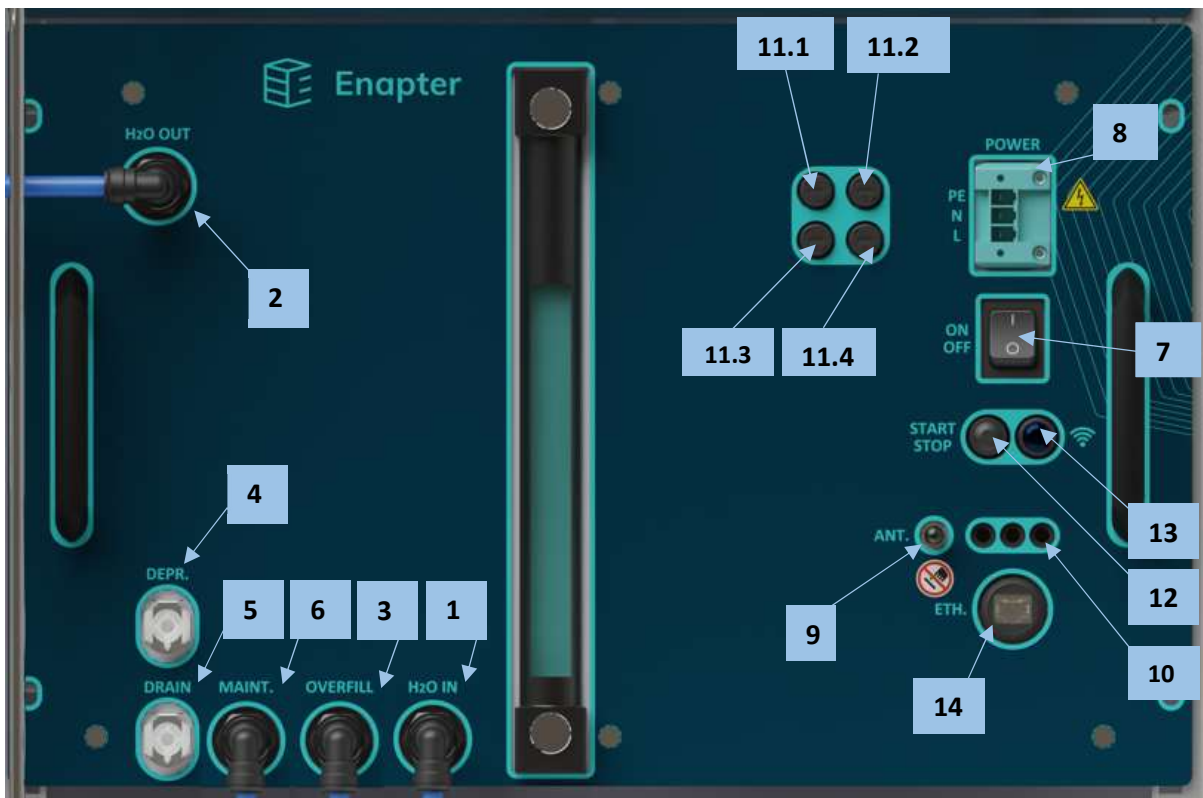


Figure 1

The front panel of the WTM4.1 (Figure 1) includes all physical connections of the device – allowing easy access for installers and maintenance staff, requiring access from only one direction and simple integration into standard 19" racks and cabinets.

- 1) H₂O In
 1. Bulkhead connector (10mm)
 2. Requirements: Please see Water Specifications in [Appendix VIII](#)
- 2) H₂O Out
 1. Bulkhead connector (10mm)
 2. Output: max 3.8 L/min, up to 2.75bar
- 3) Overfill



1. Bulkhead connector (10mm)
2. Requirements: This port must never be obstructed
3. Output: In case of overfilling of the water tank, the water will exit through this port. It is possible to use this port to equalize the device's pressure during draining, filling, and supplying water.
- 4) Depressurisation Port labelled "*DEPR.*"
 1. CPC quick connector 10 mm
 2. It is only used during routine maintenance to depressurize the water outlet line and prepare the piping to be disconnected. (Please, follow [Appendix III](#))
- 5) Drain
 1. 10 mm CPC quick connector
 2. Only used during routine maintenance to drain the WTM4.1 and to prepare the device for transport. (Please, follow [Appendix I](#))
- 6) Maintenance Port labelled "*MAINT.*"
 1. Bulkhead connector (10mm)
 2. If bad water is detected by the conductivity sensor, auto-flushing of the inlet line will occur until the conductivity enters within specification. See [Appendix II](#) below.
- 7) On/Off Switch
- 8) Power – please refer to the [Electrical Connection Guide](#) below.
- 9) ANT. – Antenna

A miniature antenna is attached to connect the device to the local network via Bluetooth and Wi-Fi, enabling real-time updates and monitoring for the user via the Enapter app and cloud.

Do not touch the antenna when the device is powered on!

- 10) LEDs: for LEDs Status, please refer to [Appendix VI](#) below.
- 11) Fuses
 1. AC side – PHASE line
 2. AC side – NEUTRAL line
 3. DC side – Solenoid Refilling valve
 4. DC side – Pump
- 12) Start and Stop
Manual button to start and stop the device.
- 13) Wi-Fi Enable/Disable
Manual button to activate/deactivate Wi-Fi.
- 14) Ethernet port
Interface to access external Modbus control features of the WTM 4.1.

TECHNICAL SPECIFICATIONS

General specification available on Datasheet following the link [Enapter Handbook](#).



SAFETY INSTRUCTIONS

WARNINGS AND HAZARDS

The following terms and symbols are used in this manual to indicate essential text passages which must be given particular attention:



Warning regarding fatal/serious injury



Warning regarding injury



Warning regarding physical damage to the product



Do not open or disassemble



Keep away from sources of heat and ignition.
No naked flames



No smoking



Minimum two persons required to handle the item



Wear Personal Protective Equipment

GENERAL SAFETY

Any user, installer, and the operator must be aware of the following:

1. Do not use this device in a potentially explosive area
2. **We decline any responsibility resulting from improper use of the WTM4.1**
 - a. Caused by the utilization of low-quality water
 - b. Caused by supplying water inlet pressure that's too high
 - c. Caused by improper installation of the device
 - d. Caused by leaking connections on the front panel of the device (Improper mounting of tubing)
3. It is the installer's/user's or owner's responsibility to **check and maintain the overfill line regularly** and keep it free of ice or obstructions.
4. It is the installer's/user's or owner's responsibility to **check and maintain the maintenance line regularly** and keep it free of ice or obstructions.

User should always observe the following rules:

1. **Keep the work area clean.** Clutter can create hazards around the device. Keep the work area well illuminated.



2. **Do not use the device in explosive atmospheres.** Do not use the device near flammable substances.
3. **Handle** the power supply cable with care. **Do not pull** the electric line to disconnect it from the plug without removing power from it first. Keep the electric cable away from heat, oil, and sharp edges.
4. **Protect yourself** from electric shock. Avoid any contact with earthing surfaces.
5. **Never expose** the device to rain or very damp conditions.
6. **Keep children and people without explicit knowledge** of the device and its function away at a safe distance.
7. **Only use** demineralized water according to the specification stated in this manual.
8. **Always disconnect** the device from electricity before any maintenance and transport.
9. **Only use** the device in the way and for the purposes mentioned in this manual. If the device is utilized for uses other than specified in this manual, unforeseen hazards may present.
10. **Use the handles** when lifting and moving the device.
11. **Never attempt to repair the device** by yourself. The device must be repaired by qualified staff who use original spare parts only; otherwise, risks may arise for the operator.
12. **Do not store** the unit at temperatures below 2°C.
13. **All the water lines must be properly connected before the device can be powered ON.**



LIST OF HAZARDS

Any system-operator, integrator, end-user, and/or technician who performs service, maintains, or installs the device must be aware of the potential risks of its use and implement sufficient processes in case of an accident or emergency.

Always ensure that the system is installed and operated according to local code, regulations, and standards. Do not install, use, or maintain the system without explicit knowledge or help from experienced and licensed system integrators, manufacturers, or external certifying bodies.

MECHANICAL HAZARDS

Generic mechanical hazards are often ignored and commonly cause injuries. To avoid this, we recommend wearing appropriate Personal Protective Equipment (PPE) and using suitable tools when handling the device and packaging material.

While handling the packaging material and preliminary installation does not require specialized technicians, general training regarding lifting heavy loads and general safety briefings is necessary to perform these tasks safely.

Operators must comply with the general safety principles during the handling phases. In particular:



Caution!

Before handling, moving, and commissioning the system, assess the operation's risks and study the manual. Appropriate PPE must be worn, such as cut-resistant gloves, safety shoes, protective goggles, etc., depending on the activity.



Ensure to clear the area of work before starting to mount the device. The device is heavy and must be lifted by at least two people – plan around this and allow ample space to move around. Do not lift the device over your head.

Caution!

While handling the device, be cautious and use the handles on the device to minimize the mechanical risks, such as:



- Impacts and crushing injuries due to uncontrolled movements of the load.
- Dropping the device, causing crushing injuries.
- Loss of stability, leading to entanglements and other injuries.

At least two people must handle the packaging/device.



ELECTRICAL HAZARDS

Do not touch the antenna when the system is powered. The unit poses no special electrical hazards, if the following instructions on safety measures are observed and the [Electrical Connection Guide](#) below is applied correctly:



Caution!

- Handle the electrical installation with care. Ensure that the plug is fastened into the connector to avoid any loosening of the wiring.
- Use only the supply voltage specified on the rear of the device.
- Do not short-circuit inputs and outputs.
- Do not reverse the polarity of inputs and outputs.
- Do not use liquids near the product.
- Never use the product if any part of it has been immersed in water.
- **Do not** touch the antenna when the unit is powered. Ensure you are not charged before mounting/dismounting the antenna.



WARNING!

Always turn off the power supply when the product is being cleaned, maintained, or transported.

Other than cleaning and routine user maintenance, any servicing must be performed by trained, Enapter-endorsed technicians.

THERMAL HAZARDS

Thermal hazards such as burns and scalds from contact with high-temperature surfaces (which can only present themselves in case of failure of some internal components of the device) can be prevented by applying the following safety instructions:

- Ensure the device can only be accessed by authorized and trained staff.
- Operators and maintenance staff must wear appropriate Personal Protective Equipment (PPE) when handling the device.
- Remove the supply of power before any service, transport, and/or installation of the device.
- Never open the device unless you have been specially trained for service by Enapter.
- Other than cleaning and user maintenance, specialist personnel must perform any servicing with the power supply switched off.

Environmental hazards

The device has been designed for use in standard ambient conditions, respecting stability requirements (in the absence of seismic or hydrogeological events of intensity).

The WTM4.1 has not been designed for outdoor use. The user's responsibility is to protect the system and all its accessories against atmospheric phenomena such as direct sunlight, rain, snow, and lightning. For more information about the integration of the device in cabinets, please refer to [Appendix V](#) below.



INSTALLATION

Please refer to the "**Safety instructions**" section for a detailed list of instructions – it is required for all installers and technicians to follow these general set of rules as a minimum precautionary measure to allow the safe installation and commissioning of the system.

Any person working on the system must be familiar with the hazards and risks of installing, commissioning, and running the WTM4.1.

TOOLS, MATERIAL, AND ACCESSORIES REQUIRED

The following tools and equipment are needed to set up the device successfully.

TOOLS

- Locking clips (10mm)
- Plastic pipe cutter
- Phillips head screwdriver



MATERIALS

- 10 mm Ø LLDPE pipe



ACCESSORIES (INCLUDED IN BOX)

- 1 x Pipe 9mm Ø with connect for water drain / depressurize (1m)
- 1 x Male connector for power supply
- 1 x Ferrite



UNPACKING

The unit has been carefully inspected before shipping. Visual checks for damage and functional tests should be performed upon receipt.

Please do not dispose of the original shipping materials. We will not accept the unit if returned without the original shipping boxes or equivalent for safe transport. In the case that you cannot keep the shipping boxes, please recycle responsibly.



Attention! If any damage has occurred during transport, please report this immediately to the shipping agent and supplier. Afterward, the unit should be returned according to the shipping instruction provided in this manual, in the section "[Transport, Maintenance, and Recycling](#)."

Warning!

Never lift the WTM4.1 out of the packaging alone. A WTM4.1 weighs 13 kg. Use lifting aids if available.



Due to their weight and size, it is recommended to use a pallet cart or similar devices to manoeuvre the box upon delivery.

If the box must be lifted somewhere, always lift with at least two persons.



WTM4.1 CONNECTION GUIDE

The following part will outline the instructions for creating safe connections to and from the WTM4.1. It will also include output management guides, safety-related instructions, and instructions for connecting power to the device.

Always ensure that the system is installed and operated according to local codes, regulations, and standards. Do not install, work, or maintain the system without explicit knowledge or help from experienced and licensed system integrators, manufacturers, or external certifying bodies.

Please remember always to check the correct connection of the Water Tank's water lines before powering it ON.

If any further questions arise, please contact the appropriate Enapter service and support teams to answer any questions about the water tank's installation and integration.

WATER CONNECTION INSTRUCTIONS

All the connections of the WTM4.1 are plastic pipes: the interfaces are push-fit bulkheads, with a diameter of 10 mm (Water in/overflowing/Maintenance/water out). The lines to be connected using these instructions are labelled "H₂O IN", "OVERFILL", "MAINTENANCE", and "H₂O OUT", on the front panel of the device.

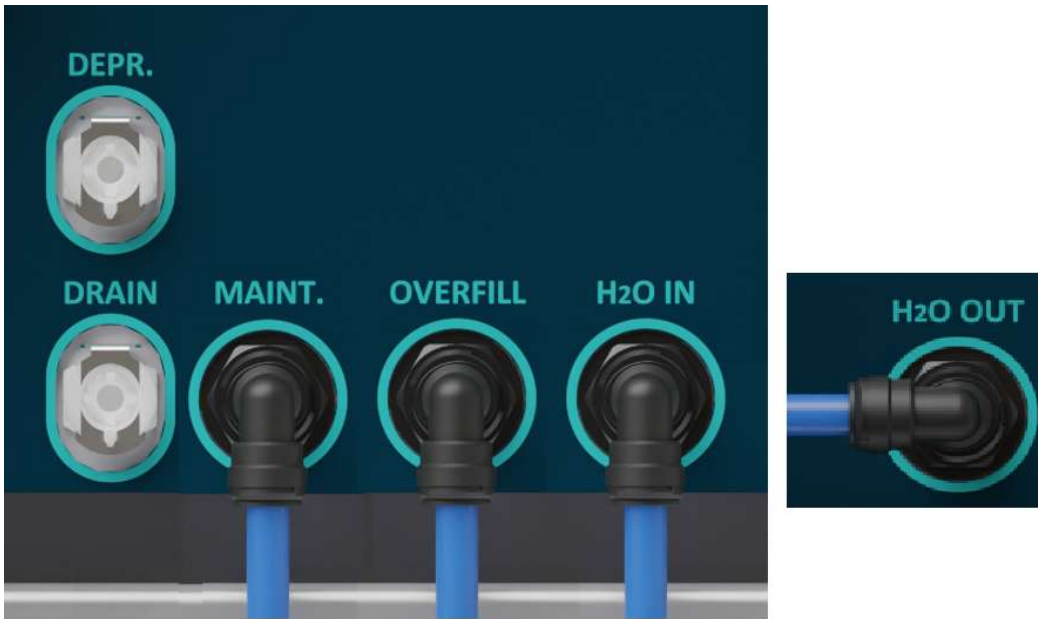
Follow the instructions below carefully – please refer to the manufacturers technical support guide for any further details: [DM Fit Technical Support¹](#).

INSTRUCTIONS



1. Cut the pipe perpendicular to the required length. Make sure that the pipes are not under tension. Ensure the pipe is free of score marks, the cut is perpendicular across the tube and remove sharp edges. Properly clean and flush the pipes, especially if they have been in contact with dust, dirt, cutting particles or liquids like oil. Fully insert the tube into the fitting, pushing past the slight resistance that occurs. The inserted pipe diameter must match the fitting.
2. Pull the tube to check it is firmly held in place, then secure the connection by inserting a red fastening clip.
3. To disconnect, ensure that the line is depressurised. Then, remove the red fastening clip and push the collet against the fitting, while simultaneously pushing the tube into the fitting. While holding the collet in this position, pull the tube out of the fitting in one smooth motion.

¹ http://www.dmfit.com/fitting_catalog.pdf



MAINTENANCE CONNECTION GUIDE

Following the steps outlined in the water connection instructions above, connect the "Maint." port, located at the bottom left of the front panel, to a place where deionized water can be drained in case of auto-flushing of the inlet line.



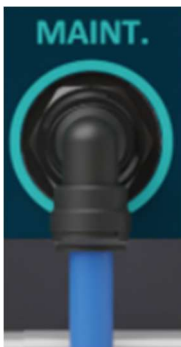
Warning!

Do not insert obstructions into the Maintenance line. It can cause damage to your water supply system. Ensure that the water can drain out of the line safely.



Attention!

Enapter is not responsible for any damage caused to the system by mismanagement of the Maintenance line.



To connect a device, create a connection using a 10 mm LDPE pipe to the port labelled "Maint." using a 10mm stem elbow if needed.

The line should run vertically. It is an OUTLET port.

Water will flow out from this port only if conductivity value is not in specification or the solenoid valve fails (auto-flushing valve).

Please, be sure to connect this pipe to the user's drainage system.



OVERFILL CONNECTION GUIDE

Following the steps outlined in the water connection instructions above, connect the "Overfill" port, located at the bottom left of the front panel, to a place where deionized water can be drained in case of overfilling.



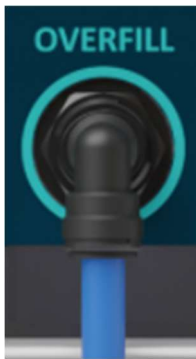
Warning!

Do not insert obstructions into the Overfill line. It can cause damage to your water supply system. Ensure that the water can drain out of the line safely.



Attention!

Enapter is not responsible for any damage caused to the system by mismanagement of the overfill line.



To connect a device, create a connection using a 10 mm LDPE pipe to the port labelled "Overfill" using a 10mm stem elbow if needed. The line should run vertically.

It is an OUTLET port. Water will flow out from this port only if both the analogic level sensor and the high-level switch or the solenoid valve fail. Please, be sure to connect this pipe to the user's drainage system. It can be coupled to the Maintenance drainage system.

Moreover, be sure that at any point that the pipe connected to this port does not overcome the height of the line indicates the maximum level on the level indicator.

WATER OUTLET CONNECTION GUIDE

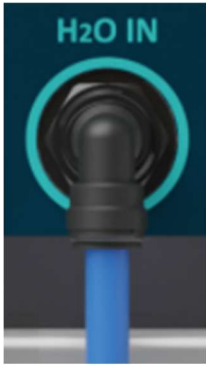


Following the steps outlined in the water connection instructions above, connect the 10 mm Ø LLDPE pipe to the "H₂O OUT" port, located at the top left of the front panel, directly to your electrolyzers. Use a 10 mm stem elbow, if needed. From this port, high-pressure water comes out.

Be sure to connect this port to the "H₂O IN" port of the EL and never exceed 1bar of pressure drops in the pipe.

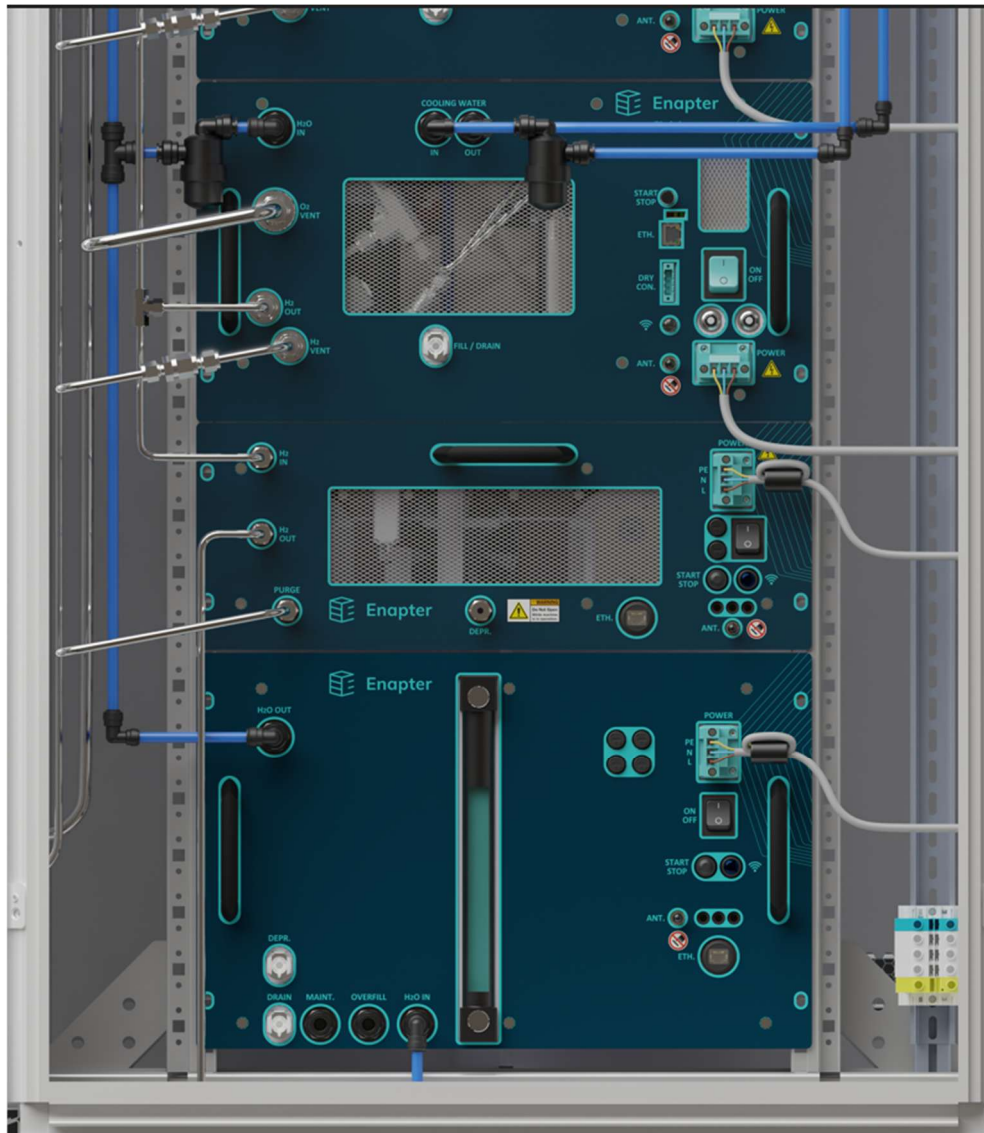


WATER INLET CONNECTION GUIDE



Following the steps outlined in the water connection instructions above, connect the 10mm Ø LLDPE pipe to the "H₂O IN" port, located at the bottom left of the front panel.

It is an inlet port. You must connect the source of water you want to store inside the tank (as for the electrolyser requirement, this source must be deionized water with a conductivity <math><2\mu\text{S}/\text{cm}</math>) see Appendix VIII: water specifications



Cabinet with ELE 4.1, DRY4.1, and WTM4.1



ELECTRICAL CONNECTION GUIDE



Attention!

Double-check all the wiring connections – **before** - supplying power to the device. Failure to adhere to the following instructions can damage the device and lead to hazardous conditions around the device!

Never handle the electrical connections with wet hands!

Before mounting the power input cable to the female connector, ensure the ferrite (included with each WT) is in place around the cable as close as possible to the male connector (Figure 2). The ferrite has an internal diameter of 13.77 mm (350 Ohm, 150 MHz) and can simply be slid over the cable.



Figure 2

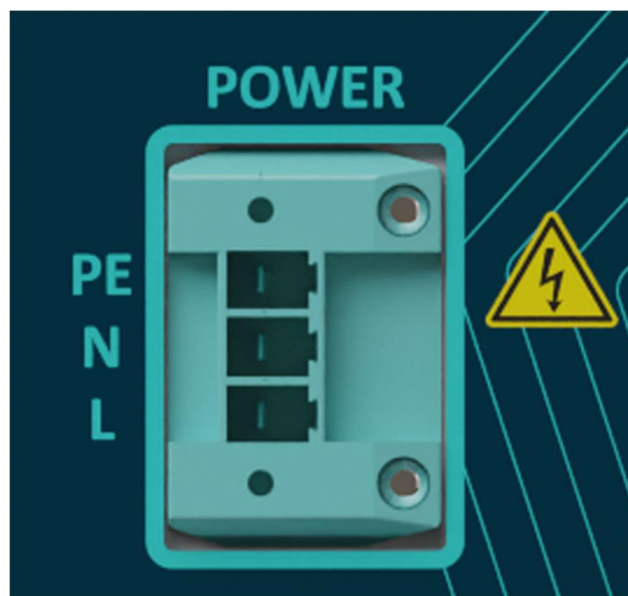


Figure 3

Connect the WTM4.1 to the female electrical port labelled "Power." In the image above, brown is live, blue is neutral, and yellow/green is the ground. Follow the relevant safety standards and ensure that local rules and regulations are followed. The minimum cable cross-section diameter for each connection is 0.5 mm². Ensure to use the male connector in the correct orientation, as shown above.



The WTM4.1 has fuses that protect the device from overcurrent. However, we recommend installing a protective device against overload and short circuits on the power supply line; this must be selected according to the device's maximum power consumption and in compliance with all local and national safety requirements. To increase the water supply system's electrical safety, we recommend installing an SPD (Surge Protection Device) to protect the water tank from potential over-voltages generated by lightning strikes.

The WTM4.1 must be connected to the ground to prevent users from contacting dangerous voltage and allowing the device's correct functioning. The grounding system must comply with local and national regulations.

WI-FI ENABLE/DISABLE



The Wi-Fi button is used to enable or disable the wireless network connection. Pressing the button enables or disables the Wi-Fi function, allowing or stopping the device from connecting to available wireless networks. When the Wi-Fi function is active, the blue LED on the front panel remains steadily illuminated, indicating that the wireless connection is enabled.

ETHERNET PORT (ETH.)



The front panel features an ethernet port. This ethernet port allows Modbus TCP/IP access.

The device can be directly connected to a Local Area Network (LAN) to access it via the cloud or app. To access the device via the cloud or app, Wi-Fi and Bluetooth must be properly managed.

Please find more information in the chapter Pairing the device to the cloud. The Modbus command interface table can be accessed online via [Enapter Handbook](#) and Quick Start Guide. The Ethernet cable must be shielded.



WATER TANK MONITORING TOOLS

The WTM4.1 can be monitored and controlled remotely by authorized users by logging into Enapter's cloud services on a web browser (<https://cloud.enapter.com/login>²).

The WTM4.1 comes with an integrated UCM (Universal Communication Module) within the Mainboard, which provides the immediate ability to monitor and manage the device.

It does this by sending data to the Enapter Cloud, which stores it in a time-series database and provides real-time or on-demand visualization of collected data on customizable dashboards.

To ensure the Mainboard is equipped with the latest protocols and security fixes, over-the-air updates are also supported.

Every WTM4.1 can be directly integrated with the Enapter Software-Defined Energy Management System (EMS). The integrated UCM inside the device connects either straight to Enapter Cloud or via an Enapter Gateway, please visit <https://handbook.enapter.com>³.

Any user of Enapter products can now integrate a wide range of devices and analogue inputs into the hydrogen production environment. System data of integrated tools is read continuously and is then securely transmitted to the cloud, accessed from anywhere in the world at <https://cloud.enapter.com>⁴ or with Enapter's mobile application.

After the device setup is finished, the user can manage the WTM4.1 via the mobile or web dashboard, which includes functionality to be controlled by the Enapter Rule Engine (requires an Enapter Gateway on the site).

MOBILE PHONE APPLICATION

Enapter's mobile application makes the installation of any energy system quick and easy. If any part of your hydrogen system encounters an issue, the mobile app can send push notifications to the user alerting them to the situation. This functionality is available via Wi-Fi or a 3G network all over the world.

To find out more, please refer to the [online Enapter Handbook](#)⁵.

² <https://cloud.enapter.com/>

³ <https://handbook.enapter.com/>

⁴ <https://cloud.enapter.com/>

⁵ <https://handbook.enapter.com/mobile/mobile.html>



COMMISSIONING OF THE WTM4.1

PREPARING FOR THE FLOW OF H₂O

Now that the device is connected, here is what to do next to get the system running.

PAIRING THE WATER TANK TO THE CLOUD

It is time to power on the device for the first time. Keep the device powered and make sure Wi-Fi button is turned on. Using the Enapter app, add your device to a site.

For detailed information on this, please refer to the [mobile application handbook](#)⁶.

- Step 1) To start using the application, you need an account in the Enapter Cloud. If you already have an account, skip this step.
To create an account, click on the create account button on the first screen and follow the steps given there.
- Step 2) After logging in on the Enapter app, create a site – a virtual environment that will house all the telemetries collected from the devices in your system connected to the cloud via UCMs (Universal Communication Modules).
- Step 3) Add the WTM4.1 to the site by scanning the QR code located on the system's front panel. For more information, please refer to the [Quick Start Guide](#).

REFILLING

Make sure to connect the device to a water purification system, or any other source of deionized water, through the port "H₂O IN" and make sure the outlet of the WT "H₂O OUT" is also connected to the electrolyser(s).

Your system is now ready to be commissioned for its first use.

- Step 1) Ensure the power cable is connected to the Power port.
- Step 2) Switch on the device using the switcher.
- Step 3) Push the Start/Stop button: the device will start filling immediately. If this does not occur, ensure the overfilling line is not obstructed and that the water supplied is following Enapter’s requirements.
The User can start the machine also via the Cloud/App.
- Step 4) When the device's water level is high enough to start the pump, it will start working.
- Step 5) The yellow & green LEDs blinking will automatically stop when the refilling level rises to the *maximum*.

After the start, the refilling must finish in 180 minutes; otherwise, the device will go into error mode. Please note that when filling the device, if the conductivity of the water is out of the acceptable range for more than twenty seconds, the device will not continue to refill until the conductivity is lowered to acceptable levels. Water out of specification will be flushed through the Maintenance line. If you have

⁶ <https://handbook.enapter.com/mobile/mobile.html>



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any questions about the safety, installation, and control of the WTM4.1, please refer to the [Enapter Handbook⁷](#) or contact Enapter support online via the cloud or by email.

⁷ <https://handbook.enapter.com/electrolyser/wt41/wt41.html>



WTM4.1 WORKING PRINCIPLE

The WTM4.1 water supply system is designed to store water with low conductivity to provide pressurised water to the Enapter Electrolysers.

The WTM4.1 has an internal conductivity sensor which measures the conductivity of the input water. To avoid major damages on the electrolyser and water tank, only provide water according to the given technical specifications above. This requires additional conductivity and purity measurements at the WT41’s and electrolysers water input port.

Therefore, we strongly recommend that you have your own purification system in place that not only ensures and monitors that water with an appropriate purity and conductivity is supplied but also have checks in place to monitor the dissolved CO₂ levels, acidity, TOC, and silica levels (see water specifications guide in Appendix VIII).

If water is supplied to the electrolysers below the specified water input quality requirements, it can affect the stack functionality and therefore shorten the lifetime of the devices, as well as voiding the device warranty.

In case of a warning, follow [Appendix II](#) to restore correct functionality.

Thanks to a self-priming pump, the stored water is pumped towards the electrolysers: a check valve is installed downstream of the pump to avoid backflow towards the water tank.

The pump has a pressure switch integrated, which controls the exiting fluid pressure (from port H₂O OUT): when the threshold (2.75 bar) is reached - when the user requires no water - the pressure switch turns off the pump.

The pressure value gained on the WTM4.1 outlet pipe can be greater than 2.75 barg based on the water tank-electrolyser system's pressure drops.

When the pressure decreases lower than the threshold, the pump turns on again.

Three water levels will be monitored in the device ("low", "medium", and "maximum") through a level transmitter: the solenoid valve (N/C) closes when the maximum filling level is reached and opens when the medium level is reached.

During the first WT refilling, the water level is lower than the minimum level, and the solenoid valve guarantees the water flows inside the device.

The pump is powered only when the water level reaches the medium level, and it is powered off if the device empties to the minimum level.

Suppose the power supply to the WT fails while the level has not reached the medium. In that case, the pump will start working after restarting the system.

In normal operating conditions, the solenoid valve will allow the device to be filled up to the maximum level.



Suppose the power supply to the WT fails while the level has not reached the maximum. In that case, the inlet valve will remain closed unless the water level hasn’t surpassed the medium level after restarting the system.



The three LEDs located next to the right handle on the front panel help indicate the system status and operating condition.

For more information on device status and operation conditions, the cloud services and Enapter app detail the specific device states and error/warning messages. Please see the [Handbook](#)⁸.

For the Error Codes list and description, please visit the [Handbook](#)⁹.

⁸ <https://handbook.enapter.com/electrolyser/wt41/wt41.html>

⁹ <https://handbook.enapter.com/electrolyser/wt41/wt41.html#warning-error-and-fatal-error-codes>



CONTROL, FUNCTIONS, AND SYSTEM STATES

To power on the device, ensure the power cable is connected correctly, and all water-pipes are correctly connected and secured as described in this manual.

MANUAL START/STOP

Turning on the device from Switch, then press the Start/Stop button, it performs an internal check for errors. If no errors occur, the device is ready for operation.



Warning!

Do not unplug/disconnect the power to the WTM4.1 without first manually shutting down the device safely. Unexpected power cuts can shorten the device's lifetime and damage the system!



TRANSPORT, MAINTENANCE, AND RECYCLING

The design of the WTM4.1 water supply system guarantees many hours of service with minimal maintenance. Proper care and maintenance by qualified personnel help maximize the operating life of the unit.

ROUTINE MAINTENANCE

It is recommended to do an annual inspection of the unit for apparent signs of physical deterioration. All water connections must be regularly tested for leakages.

If in use, the water tank is maintenance-free. After any period without use exceeding 1-2 months, the device must be drained and flushed before continuing usage, then refilled again.

DISPOSAL



Please ensure effective recycling of the WTM4.1 and its components at the end-of-life to make the world cleaner and greener.

We are committed to fully recycling all our products returned by the Customer to Enapter at the end-of-life.

For independent disposal of the machine, follow the instructions provided by Enapter.

TRANSPORT

Before shipping, verify the water tank has been emptied according to [Appendix I](#) below and seal the device's front panel connections. To seal the connections, simply insert the plugs supplied with the device into their respective bulkheads. Ensure the device is transported in an upright position: with an indicator visible outside the packaging.



Attention!

We may not accept the unit if returned without the original shipping boxes or equivalent for safe transport. If damage occurs during the return of a system under warranty, Enapter will not cover the repair costs.



Warning!

Never lift a WTM4.1 alone. Use lifting aids if available.

Due to their weight and size, it is recommended to use a pallet cart or similar devices to manoeuvre the box upon delivery.

If the box must be lifted somewhere, always lift with at least two persons.



Attention!

During winter, or when outside conditions are below freezing, the shipping box must be additionally marked with a label informing the shipping agent that the package may not be exposed to temperatures below 2°C at any time.



APPENDIX

Appendix I. Draining the WTM4.1

Time required	~10minutes
Materials required	Clean 30L container (optional)

The device must be drained for transport and installation: to do this, switch off the device first using the Start/Stop button, then using the Switch button on the frontal panel.

Step 1) Attention: keep the unit powered off.

Step 2) Prepare the container to catch the drained water (optional) and insert the end of the drainpipe into it (Figure 4).

Step 3) Fully insert the supplied male CPC quick connector 10mm \varnothing into the valve bulkhead labelled "Drain." The solution will start pouring out immediately. It works by gravity, so be sure that the pipe's end does not go above the device's water level (Figure 5 and Figure 6).

Step 4) Once the water stops pouring, safely remove the drain connector.

Step 5) To disconnect, push the metal button and pull the connector out of the bulkhead (Figure 7).



Figure 4



Figure 5



Figure 6



Figure 7



Appendix II. DI Water Tank logic control

In this appendix, technical guidance in case of water quality coming from a Water Purification System does not respect the values required by our system.

If the conductivity sensor integrated on the WTM4.1 detects bad water quality, the "H₂O IN" line will be automatically flushed through the Maintenance port.

The system maintains DI water conductivity below 2 µS/cm.

- **Forbidden Threshold Exceeded:** The Valve Manager is bypassed; both refill and drain valves remain closed (default state).
- **Maximum Threshold Exceeded:** The refill valve is activated for a set period. If, after this interval, conductivity is still above the maximum threshold, the system disables refilling and activates the drain valve for a set period.
- **Drain Timeout:** If conductivity is still too high after the allowed draining period, the drain valve is closed and a warning (WL_1: Bad water quality) is issued.
- **Conductivity Below Maximum Threshold:** Refill is allowed, both timers (refilling and draining) are reset, and the drain valve is closed.

This logic ensures controlled refill and drainage while maintaining water quality within safe limits.

Appendix III. Depressurize the line

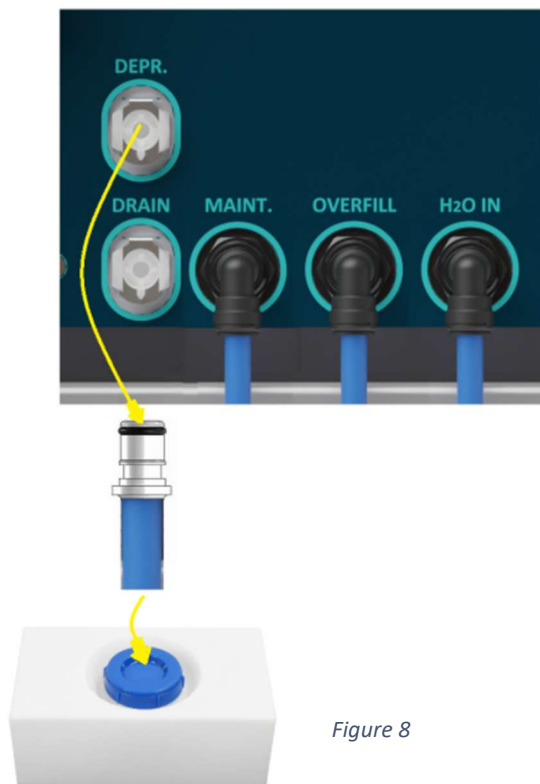


Figure 8

The water outlet line of the WTM4.1 is always pressurized after the initial start of the device, even if you shut down the device. For this reason, it is essential to follow the steps listed below to disconnect this line:

- Step 1) Attention: keep the unit powered off.
- Step 2) Prepare the container to catch the drained water (will be a minimal amount) (optional).
- Step 3) Fully insert the supplied male CPC quick connector 10mm Ø into the valve bulkhead labelled "DEPR" (Figure 8). A small amount of water will purge out immediately.
- Step 4) Once the water stops pouring, safely remove the drain connector pushing the button, and pull the connector out of the bulkhead.



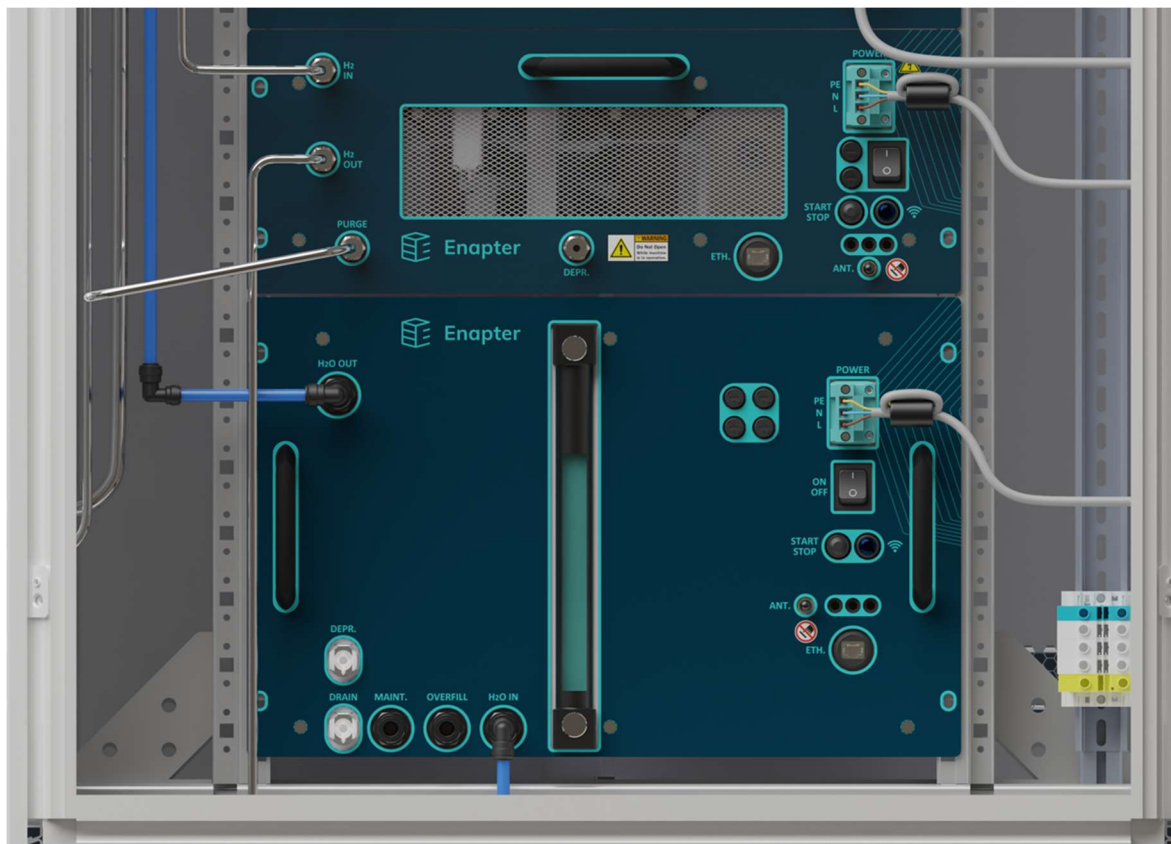
Appendix IV. Manual refilling of WTM4.1

If there is no water coming from the water source:

- Step 1) Quick-connect your source of water to the DRAIN port with the 10mm Ø LLDPE pipe
- Step 2) Place the water source in a position higher than the WTM4.1 as the refilling works by gravity. Use a flexible container and squeeze it to facilitate the process and overcome pressure drops (Figure 9).
- Step 3) Fill the Water Tank at least until the LED turns back on to green. It occurs at 2/3 of the WT's level indicator.
If the device is powered, it is possible to monitor water volume in the device through the dashboard.
Do not fill the device over the maximum level (28L)
- Step 4) Disconnect the source of water through the quick connection.

Appendix V. Integration in Cabinets

In this appendix, technical information to allow safe and proper integration of cabinets using Enapter water supply systems is given. At a minimum, the user/integrator must comply with the manufacturer's instructions described hereafter and apply available industrial standards for system safety.



The WTM4.1 is designed to allow simple installation of 19" racks and cabinets. By enabling each device to share common connections, the integration is streamlined for quick and flexible installations. We



recommend using common lines to the left of the devices for the water connections ("H₂O OUT") and to create all necessary electrical and electronic ducting on the right of the devices. This method allows individual devices to be pulled out of the cabinet without dismounting other devices' connections.

The lines should be offset from another, vertically or horizontally, depending on the integrator's space.

Cabinet

The front side of the cabinet housing the WTM4.1 must be accessible to manage all electrical and mechanical connections and maintain the device. Enapter recommends installing the WTM4.1 into a cabinet with a base of at least 600x800 mm to ease the design and integration of all associated piping, systems, and safety components. The resulting cabinet must adhere to local safety rules and regulations – ensure that the cabinet can be deployed and fixed safely.



Attention!

The integrator's responsibility is to ensure that all devices in the cabinet are kept within operating limits. It may require active temperature/climate control. Contact Enapter support for help when starting a new integration project!

Appendix VI. LED States



The 3 LEDs located next to the right handle on the front panel help indicate the system status and operating condition.

To learn more about the device status, please, visit the [Handbook¹⁰](#).

For more information about the Events and the Severity Levels, please, visit the [Handbook¹¹](#). Additionally, during regular operation, the LEDs also indicate the status of the device.

Appendix VII. Error codes

In the Handbook, all the errors that can be triggered while using the Water Tank are listed. Please find the updated list of error codes in the [Enapter Handbook¹²](#).

¹⁰ <https://handbook.enapter.com/electrolyser/wt41/wt41.html#%F0%9F%9A%A6-status-leds-indications>

¹¹ <https://handbook.enapter.com/electrolyser/wt41/wt41.html#severity-levels>

¹² <https://handbook.enapter.com/electrolyser/wt41/wt41.html#warning-error-and-fatal-error-codes>



Appendix VIII. Water Specifications

- Recommended Type II according to ASTM D1193-06 and required acidity < 0.1 meq/L according to ASTM D1067
- Maximum conductivity of 2 $\mu\text{S}/\text{cm}$

To ensure minimal maintenance and optimal operation, it is highly advised that the water you use respects ASTM Type I or Type II. This measure helps to extend the duration between necessary electrolyte replacements for the Electrolyser.