



Oyster[®] **CONNECT**

EXTENDED OPERATING INSTRUCTIONS



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1. INTRODUCTION

1.1 Welcome

Congratulations on the purchase of your new Oyster® Connect system!

Oyster® Connect is a universal data router for mobile use in, for example campervans, motorhomes and caravans, which can be also used for maritime applications. Oyster® Connect is used for establishing a robust connection to the Internet. This is either done via mobile data SIM connection (LTE) connection or by connecting the Oyster® Connect with a WLAN outside of your vehicle (Outdoor WLAN). In order to use an LTE connection, a mobile communications SIM card with a sufficient amount of data volume is necessary. More detailed information regarding the SIM card can be found in chapter 3.1 page 6 and chapter 3.5 page 12 of these instructions.

Useful information for the optimum positioning and installation of the system components can be found in our special installation instructions for mounting plates and roof ducts. These can be found on our homepage under the following link: www.ten-haaft.com/oysterconnect

Here, you can also find the latest version of these extended operating instructions for download.

Note: the Oyster® Connect software is constantly developed by us. Please carry out a software update to the latest version immediately after the initial commissioning. For more information on how to perform a software update, see chapter 5.2 page 31 and chapter 6.1 page 36 of these instructions.

1. INTRODUCTION

1.2 IMPORTANT INFORMATION

The Oyster® Connect makes it easy for you to access the Internet but does require a little interaction.

Internet via mobile LTE connection

Without a SIM card inserted, the Oyster® Connect cannot establish an Internet connection via the mobile communications network. As a rule, a 4-digit PIN must be entered before the SIM card can be used. This PIN is supplied to you together with the card by your SIM provider. This PIN must be entered once via the web interface of the Oyster® Connect. Any device with an Internet browser is required for this: Smartphone, tablet, laptop, computer, etc.

For more information on setting up the mobile phone connection, see point 3 of these instructions.

Internet via a WLAN outside your vehicle

The Oyster® Connect detects WLAN networks in a wide circumference around your vehicle. As with any device that offers WLAN functionality, Oyster® Connect initially needs to know with which WLAN you want to be connected. Thereafter, most networks require the entry of a password (or sometimes additional tasks) to access a displayed WLAN. More details regarding the set-up of an Outdoor WLAN connection can be found in chapter 4.5 on page 23 of these instructions.

When switching from LTE mode to WiFi mode, the Oyster® Connect always tries to connect to the WiFi used last. Changing to a different (possibly already known and configured) WiFi is possible via the configuration web page <http://oyster.connect>.

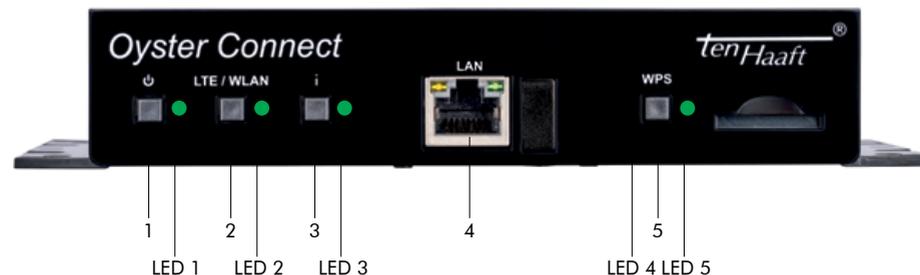
Switching between LTE mode and WiFi mode is not automatic, it only happens after it has been activated by the user. This can be done either via the LTE/WiFi button on the Indoor Unit or alternatively via the configuration website. This ensures that the Oyster® Connect does not switch unnoticed or inadvertently to the other operating mode.

The settings for mobile connections can be found below in Chapter 3.5 page 12 of this manual, the settings for WLAN can be found in Chapter 4.5 page 23.

The Oyster® Connect is basically a small computer running an operating system. If possible, please first allow the Oyster® Connect to shut down to standby mode via the power button (1) before switching off the power supply to the Oyster® Connect. A sudden loss of power during operation of the Oyster® Connect will inevitably lead to an uncontrolled crash of the system. This could, if repeated continuously, eventually lead to software problems that are actually avoidable.

2. CONTROL ELEMENTS AND DISPLAYS

(figure shows operation during LTE mode)



Operating keys	
1. ON / OFF button	Switching the device on and off (LED 3 green/red)
2. LTE / WLAN	Switching between LTE mode and WLAN mode
3. (i) Info	Various special functions*
4. Ethernet / LAN socket	For a wired connection of laptop, smart TV or similar
5. WPS	Starts WLAN Protected Setup with compatible devices (LED 4 flashes yellow)

LED display front	
LED 1	Signal strength LTE / WLAN (green: strong yellow: good red: low)
LED 2	Red: WLAN mode, green: LTE Mode
LED 3	Red: Standby, green: in operation
LED 4	Yellow flashing: Processing of commands active / please wait Yellow lights up: Software update available
LED 5	Green lights up: SIM card PIN OK Green flashes: Entry of SIM card PIN required Red lights up: SIM card not inserted / recognised or defective Red flashing: SIM card locked / PUK required

*Special functions of the button "i":

- During the first 10 minutes after start-up of the device, a so called factory reset can be carried out by using the "i" button. See chapter 6.2 page 38

- When LED 4 is permanently on and yellow, a new software update for your system is available and you can start the update by pressing the "i" button for 10 seconds.

3. COMMISSIONING OF THE OYSTER® CONNECT

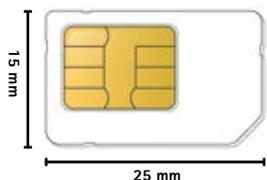
Note: Please switch off  the Oyster® Connect first before a SIM card is inserted or replaced.

3.1 Inserting the SIM card

- The term Outdoor Unit stands for the antenna unit mounted on the roof.
- Remove the Outdoor Unit from the mounting plate by loosening the four visible Phillips screws.

Note: It is sufficient to turn the screws a few turns anticlockwise. You must not take them out completely.

- Take off the rubber cover to access the card reader.
- If necessary, break the SIM card out of the frame provided by the network operator. The size required is 25x15mm, also known as "mini-SIM".



MINI-SIM



Figure 1: Insert the SIM card into the card reader with the golden chip facing the top of the housing. Be sure to insert the card into the card reader with the bevelled corner facing forward.

Bottom of the Oyster® Connect Outdoor Unit

3. COMMISSIONING OF THE OYSTER® CONNECT



Figure 2: Make sure to properly connect the data cable and push it back into the cable guide groove *.



Figure 3: Place the rubber cover in the provided form on the mounting plate as shown



Figure 4: Mount the Outdoor Unit on the mounting plate again. Please hold the cable * tightly so that it does not slip out of the guide groove.



Figure 5: Press the Outdoor Unit down on the mounting plate and re-tighten the four screws by using a hand screwdriver. Please pay attention to the maximum tightening torque of 1 NM!

There is a soft lock washer under the screw heads, which ensures a secure hold of the screw even without enormous tightening forces. Please do not use electric tools for this job!

3. COMMISSIONING OF THE OYSTER® CONNECT

3.2 Switching on the Indoor Unit

The term Indoor Unit stands for the control unit installed inside the vehicle. Only a single red LED may be visible in standby mode. Now switch the Indoor Unit on by pressing the ON/OFF (1) button briefly.

- The standby LED (LED3) becomes green
- The yellow LED 4 flashes until commissioning is finished completely. This can take up to 100 seconds.
- The LTE/WLAN LED (LED2) either flashes green as a sign for the LTE operating mode or red as a sign for the WLAN operating mode.
- Where necessary, LED5 also flashes green as a sign that the SIM card PIN still needs to be entered.

3.3 Connect your devices with the Oyster® Connect

In order to use or operate the Oyster® Connect with your consumer devices, the device(s) must be either connected to a WLAN broadcast by the Indoor Unit, or connected to the front LAN connection of the Indoor Unit with a network cable.

The configuration and set-up of the Oyster® Connect is done via a special website, which exists exclusively in the Indoor Unit of your Oyster® Connect. It follows that this particular web page can only be accessed while your device is actually connected to one of the three Oyster® Connect networks. To access the website, it does not matter whether you are connected to the 2.4 GHz WLAN (tH2-610....), the 5 GHz WLAN (tH5-610....) or the LAN connection.

Please note: the Oyster® Connect must be switched on and fully booted* so that the networks are available for connection!

***This is the case when LED 4 has stopped flashing yellow.**

Connect your end device with the Oyster® Connect via WLAN:

For its part, the Oyster® Connect provides a dual-band WLAN. This means that both a 2.4 GHz WLAN and a 5 GHz WLAN are available in parallel. If your device supports 5 GHz WLAN, (recognisable by the fact that it can "see" the "tH5-..." network) you should use it. If your device only supports 2.4 GHz WLAN, please select the "tH2-..." network.

3. COMMISSIONING OF THE OYSTER® CONNECT

On the cover of the Indoor Unit, and on the back of the operating instructions (not these extended operating instructions), you will find two silver stickers with the access data for your Indoor Unit. These are individual for each Oyster® Connect and therefore cannot be used for all units.



To set up the WLAN connection, you can manually enter the WLAN password printed on the respective sticker into the WLAN settings of your device.

Alternatively, you can scan the QR code, which is also on the sticker, if the device to be connected is a smartphone or tablet with a camera. Your device will then automatically connect to the selected Oyster® Connect WLAN within a few seconds.

Please note: If your device repeatedly aborts the connection process with the indication of an incorrect password, please first perform a factory reset on the Oyster® Connect. See item 6.2 on page 38 of these instructions.

Connect your end device with the Oyster® Connect via network cable:

If desired, devices such as laptops, computers, Smart TVs or similar can also be connected via network cable to the front LAN port of the Oyster® Connect. Laptops and computers sometimes need a good minute when they first make contact with a new network before the network detection is completed and the network can be used.

Information:

The maximum possible number of devices in the Oyster® Connect networks is limited solely by the availability of free IP addresses. In principle, around 200 devices can be logged on to an Oyster® Connect at the same time.



3. COMMISSIONING OF THE OYSTER® CONNECT

3.4 Calling up the configuration web page of the Oyster® Connect

The Oyster® Connect is configured and operated via a website that can be accessed from all devices connected to the Oyster® Connect.

These devices must have a web browser*.

Please enter the following in the **address line** of the browser:

<http://oyster.connect>
or
<http://192.168.240.1>

Note: please be sure to observe the exact spelling with http://!

If your device has a camera with an app for QR codes, you can also scan the following QR code to access the website :

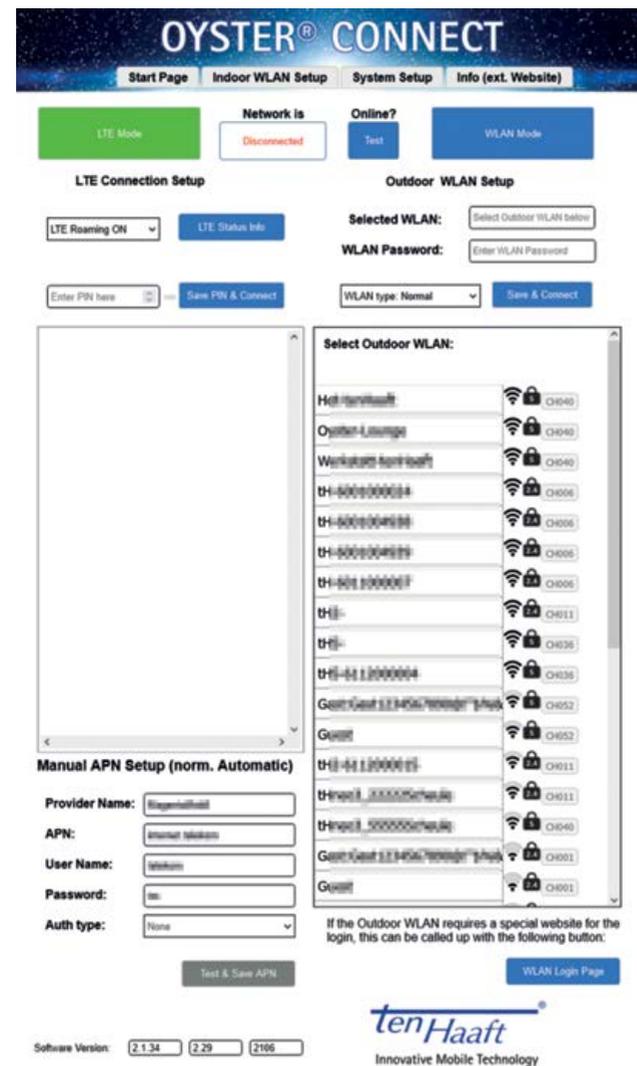


This opens the configuration website
<http://192.168.240.1> in the web browser*.

* Web browsers are for example "Safari" (Apple), "Chrome" (Android) or also Firefox or Microsoft Edge. The Google App is **not** web browser!

3. COMMISSIONING OF THE OYSTER® CONNECT

Your web browser should now display the following web page:



Note: it is recommended to save the website directly as a bookmark. Apple and Android devices offer the option of "adding a website to the home screen". It then appears on the screen like a separate app.



3. COMMISSIONING OF THE OYSTER® CONNECT

3.5 Enter the SIM PIN and the APN settings

For commissioning the LTE connection, a SIM card that has been already activated by the mobile phone provider is required. As a rule, SIM cards are protected against unauthorised use by a four-digit PIN. In order for the Oyster® Connect to unblock your SIM card, the PIN must be entered once. The Oyster® Connect then permanently stores this PIN in connection with the serial number of the SIM card. If an already known SIM card is recognised after the system start, the PIN once entered is always automatically transmitted to the SIM card. You therefore only have to carry out this step once for each SIM card used, even if several SIM cards are used alternately.

The input field for the SIM card PIN is located in the upper left quarter of the start page of the Oyster® Connect website. If the SIM card requires the PIN to be entered, the entry field reads "Enter PIN here" and the (= "Save PIN and connect") button **Save PIN & Connect** is highlighted in blue.

If the PIN has already been entered or the SIM card used does not require a PIN entry, the button **Save PIN & Connect** is greyed out.

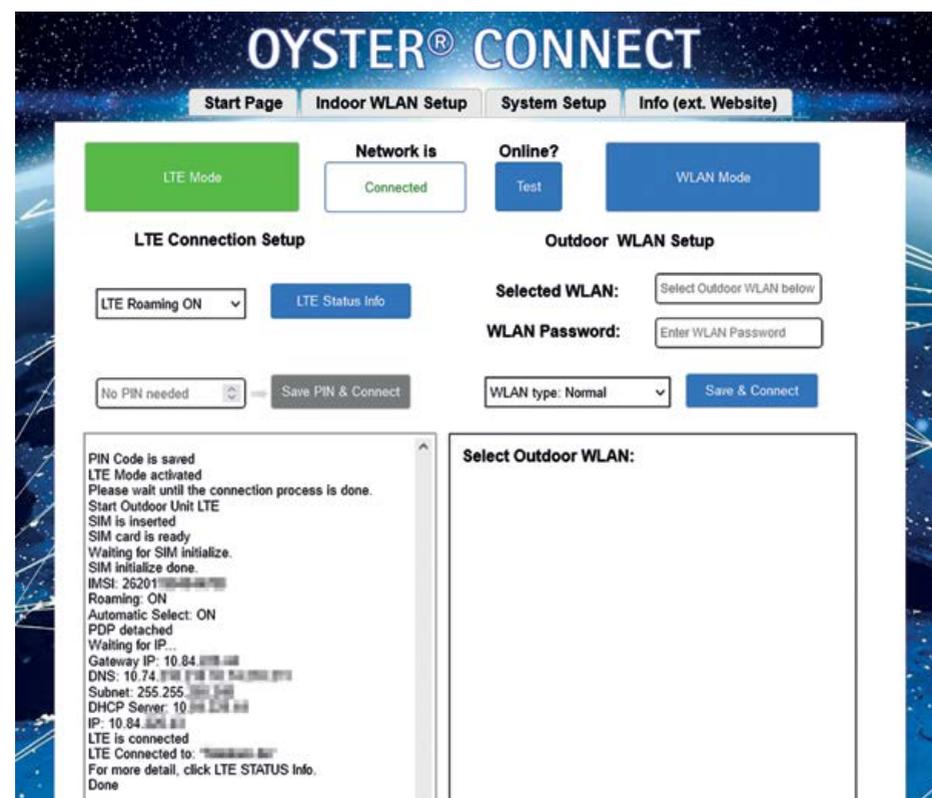


3. COMMISSIONING OF THE OYSTER® CONNECT

Enter the correct 4-digit PIN for this SIM card in the input window and then press **Save PIN & Connect** the button.

You can then observe the automatic connection set-up in the window below. Please remain on the website until the connection has been established with the word "Done". The display in the PIN input field then changes to "No PIN needed" and the button **Save PIN & Connect** is greyed out. In the event of an incorrect PIN entry, the website will return to its initial state after a few seconds and you can try entering the correct PIN again.

You have three attempts to enter the correct PIN.





3. COMMISSIONING OF THE OYSTER® CONNECT

3.6 APN settings

What is an APN? The abbreviation "APN" stands for "Access Point Name". In principle APN designates a server address within the respective mobile network that regulates the complete LTE data traffic.

The Oyster® Connect is provided with an extensive database of possible APN settings ex-works and initially tries to find the respective APN for your SIM card automatically (= "Automatic"). As a user, typically there is nothing more to do.

However, if the Oyster® Connect does not manage to find a suitable APN for your SIM card in its database, a message is displayed and you will then be able to manually enter the correct data. The APN data, may be found in the documentation supplied with the SIM card or it can be found on the website of the respective provider.

Manual APN Setup (norm. Automatic)

Provider Name:

APN:

User Name:

Password:

Auth type:

Software Version:

tH-6001

tH2-610

tH-6011

If the Outdoor login, this can

3. COMMISSIONING OF THE OYSTER® CONNECT

Explanation of the input field:

Provider name:

This is the name of the mobile phone provider that has provided your SIM card. However, the sole purpose of this information is it to name the APN and it has no technical effect whatsoever. Thus, you need not be concerned about correct spelling for example.

APN:

This entry must be made exactly according to the requirements of the provider. APN entries can look like an internet address (for example: "Gprs.swisscom.ch") or simply consist of individual words as "internet" or "websfr".

User name: (User name)

Password: (Password:)

Auth. Type: (Type of authentication:)

Some APN settings also require the indication of a user name and a password. Enter the respective information into the fields and then select the type of authentication in the drop down menu. (None, Pap, Chap, MsChapV2). If you have not received any information from the mobile phone provider about this setting, then simply try all the variants one after the other.

The entered data is then validated and saved with the button **Test & Save APN** (Test APN and save).

The Oyster® Connect will then give you corresponding positive or negative feedback.

If everything is in order and the connection has been successfully established, four green LEDs should now light up continuously on the front of the Indoor Unit:



The commissioning of the Oyster® Connect is now complete!



3. COMMISSIONING OF THE OYSTER® CONNECT

3.7 Testing the online connection

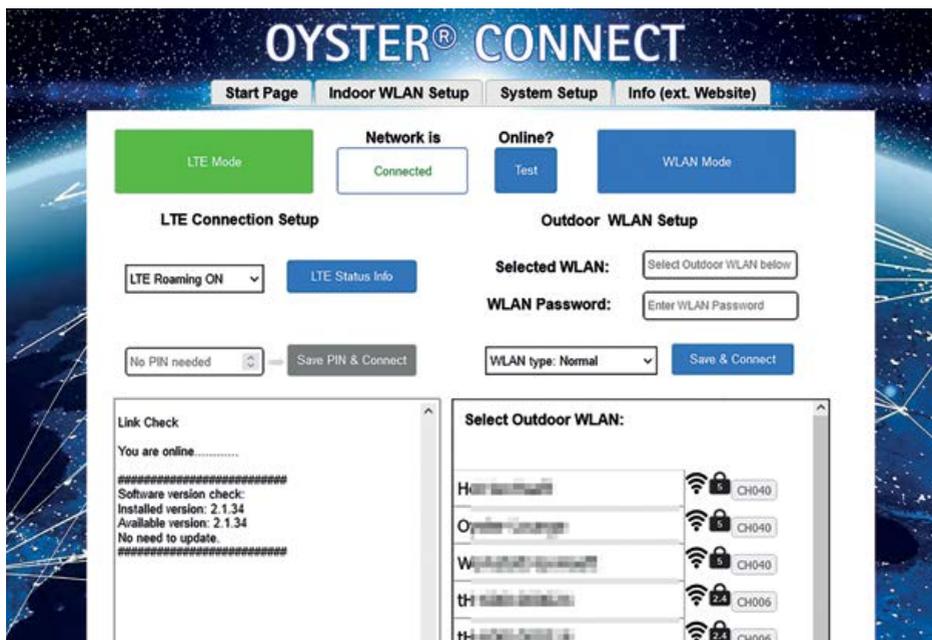
Explanation:

There are several indicators of whether the Oyster® Connect is currently connected to the Internet or not: On the homepage of the website, for example, there is the display "Network is **Connected**". Permanently lit LEDs on the front of the Indoor Unit are also a good indication of an existing connection.

However, these two signs only confirm that the Oyster® Connect is currently, successfully connected to a network (LTE or WLAN). Whether data can actually be transmitted to and from the Internet, however, cannot be deduced from these indicators. It's similar to connecting a garden hose to a water tap: you only know for sure whether water actually comes out of the tap when you have briefly turned it on for a test!

We may therefore, need to test the communication with the Internet.

Press the button **Test** at the top of the web page. The Oyster® Connect then sends a few data packets (pings) to a test server on the Internet. It also checks at the same time whether a newer software version is available for download:



3. COMMISSIONING OF THE OYSTER® CONNECT

Further explanations:

If the reply is "You are offline", either the mobile phone provider or the outdoor WLAN will not allow data traffic with the Internet. Particularly when operating the mobile data connection (LTE mode) abroad (roaming), this may be due to your SIM provider not having a roaming agreement with the foreign mobile service provider. However, it may simply be that the available data quota of your SIM card has been used, resulting in data traffic being deactivated.

If the Oyster® Connect is currently connected to an outdoor WLAN (WLAN mode), this WLAN service may either be disrupted or require further steps to enable Internet access.



Installed version: the software version currently installed on your device.

Available version: the software version stored on the ten Haaft Update Server

If both version numbers are identical, then the latest software is already installed on your unit. There is then no need to update the software (**No need to update**).

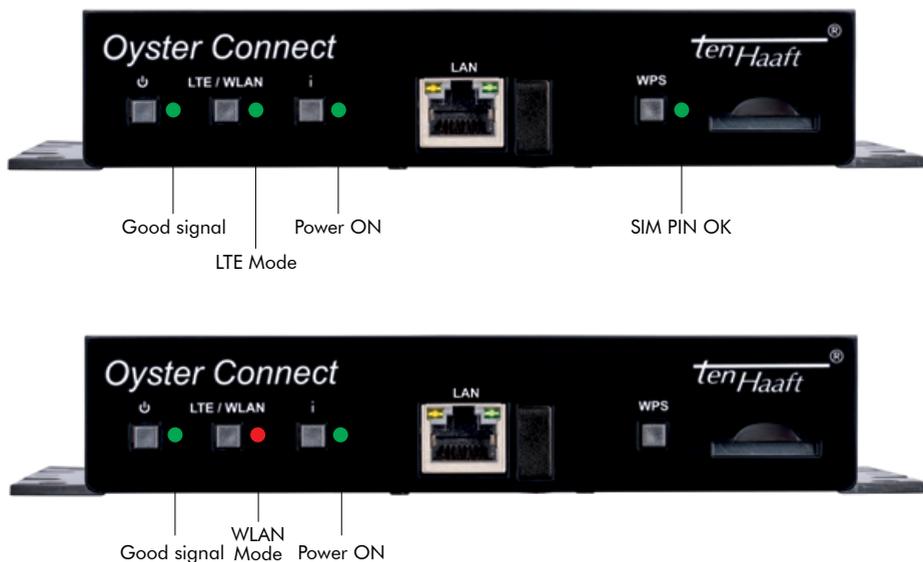
4. DAILY USE OF THE OYSTER® CONNECT

4.1 Switching the Oyster® Connect on and off

The Oyster® Connect is basically a small computer running its own operating system. If possible, please first allow the Oyster® Connect to shut down to standby mode via the power button (1) before switching off the power supply to the Oyster® Connect. A sudden loss of power supply during operation inevitably leads to an uncontrolled crash of the system. This could, if repeated continuously, eventually lead to software problems that are actually avoidable.

The Oyster® Connect is suitable for continuous operation. However, please ensure that no heat build-up occurs at the installation site of the Oyster® Connect! If the indoor unit gets too warm, it will eventually switch itself off automatically for self-protection.

The switch-on process of an Oyster® Connect from standby mode usually takes around 100 seconds. Please wait until all LEDs on the front have stopped flashing before using the system.



Information:

The Oyster® Connect always starts in the same operating mode with which it was last switched off.

4. DAILY USE OF THE OYSTER® CONNECT

4.2 Using the Internet via a mobile phone connection (LTE mode)

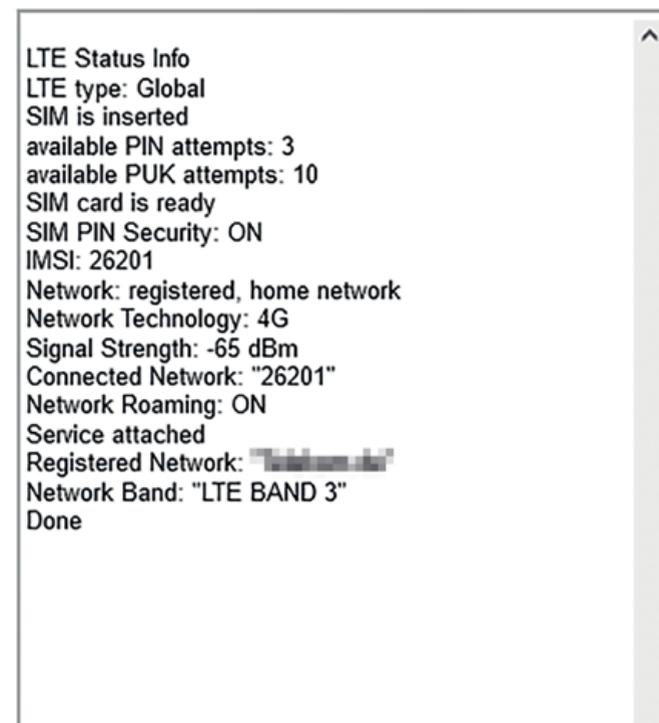
If the SIM card PIN (see chapter 3.5) has already been entered once, no further operation on the configuration web page is usually necessary to use the LTE mode.

If interested, a detailed report on the current status of the LTE connection can be called up via the button:

LTE Status Info

Information:

"Signal Strength: -51dBm or greater" corresponds to the highest possible signal strength, while "Signal Strength: -85dBm" corresponds to a rather weaker signal.





4. DAILY USE OF THE OYSTER® CONNECT

4.3 LTE Roaming

You have the option of switching the roaming function for the SIM card on [LTE Roaming ON] or off [LTE Roaming OFF]. Please select the desired status in the drop-down menu on the start page and then press the [LTE Mode] button to save the change. The next time you reboot the Oyster® Connect, the connection will be established with the new setting.

Explanation of the term roaming: (Current status October 2022)

Roaming (network roaming) is the use of a (mobile) network other than your own home network. In other words, they are travelling abroad, but continue to use their own SIM card there. Until 2017, using one's own SIM card abroad was often associated with enormous costs for calls and data traffic.

Since 2017, however, the EU Roaming Regulation has been in force, making things easier for EU citizens:

EU roaming applies in the 27 countries of the European Union: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the European Economic Area (Iceland, Liechtenstein, Norway and outermost regions).

Each SIM card from the countries mentioned can be used in all other countries mentioned without additional costs and with the same services as in the country of origin. For example, a German SIM card in Italy or a Spanish SIM card in Latvia, etc.

Countries not mentioned here, for example Switzerland or Great Britain, are not covered by the EU Roaming Regulation, and thus use they are subject to charges on most tariffs.

It is important to know: The setting "LTE Roaming ON" or "LTE Roaming OFF" only has an effect if you leave the countries listed above and roaming would therefore actually become chargeable. For example, if you are in Italy with a German SIM card, this does not count as roaming for billing purposes and the use of the LTE connection therefore also works in the "LTE Roaming OFF" setting! Only when crossing the border into Switzerland would data traffic come to a standstill if "LTE Roaming OFF" is selected.

Attention: Although the EU regulation clearly states that mobile phone customers can enjoy the freedom of travel described above with their SIM card at no extra cost, there are still a few restrictions regarding the intensity of use (fair use policy):

4. DAILY USE OF THE OYSTER® CONNECT

(Text extract from the official website of the Federal Network Agency, as of 10/2022)

Reasonable use of roaming services

As prices differ in the EU countries, safeguard clauses for so-called fair use were agreed. These should prevent possible abuse. Fair use is determined by the mobile operator according to rules on the application of so-called fair roaming rules and on the viability of the elimination of roaming surcharges. If the mobile provider applies reasonable use rules, they must have become part of the contract beforehand. In this respect, customers can find the rules on reasonable use in their contract documents.

Reasonable use may be determined by mobile providers as follows:

Stable ties

Mobile providers may require their customers to provide evidence of habitual residence or other stable ties to the home network in Germany. Stable ties may include, for example, proof of residence, employment for cross-border commuters, study residence, pension certificate. If no stable connection to a Member State can be proven, the mobile provider may apply surcharges for roaming use until the customer demonstrates normal use again.

Objective indicators

Surcharges may also be imposed if the mobile operator determines that the customer uses the domestic tariff predominantly abroad based on the following objective indicators:

- Stay abroad: If the customer is predominantly staying abroad with their SIM card, and
- International use: At the same time, the mobile terminal is predominantly used abroad.

If the mobile provider finds that both objective indicators are fulfilled during the observation period of at least four months, it sends a warning notice to the customer. In this warning, the mobile provider must explain that roaming surcharges may be applied if the customer does not change his usage behaviour within two weeks.

If the customer continues to use his mobile device in the country within the observation period or if he is predominantly within the country again, the surcharge is not reapplied.

Limitation of the data volume for open data packages

Roaming providers may, under certain conditions, limit the national data volume for roaming use, taking into account the total price. **This applies in particular to open data packages where the included data volume is very favourably priced** (from 07/2022: Costs per GB less than 2.00 €/GB) or **unlimited**. The background to this is that roaming providers incur costs because they have to buy corresponding data volumes from the operator of the visited network abroad. There is a formula for this: Price of the mobile contract without VAT divided by the price cap at the wholesale level (2022: 2,00 €/GB). The result must be doubled so that the customer has a similar data volume to that available domestically. If the customer exceeds this volume while roaming, the provider may impose a surcharge for further data usage (max. 2.00 €/GB plus VAT for 2022) after notification.



4. DAILY USE OF THE OYSTER® CONNECT

If the provider has not explicitly informed the customer of a data limit for roaming, the customer also has the entire data volume at his disposal abroad that the contract guarantees him at home.

Example calculation for the minimum roaming data volume to be provided: (Monthly basic fee without VAT: 30 € for unlimited domestic data usage) / (wholesale charge per GB: 2,00 € for 2022) times 2 = minimum 30 GB roaming data volume

Note: it is clear from the text quoted above that in the case of contracts with unlimited data allocation, there is always a limit to the available data volume in the case of roaming use. The attribute "unlimited" always applies only in the SIM card's country of origin or in its home network.

4.4 Influence of the SIM card used on internet use

In holiday countries, there are sometimes amazingly cheap prepaid offers with enormous data volumes, which make switching from your own SIM card to a SIM card purchased in the holiday country seem attractive.

Technically, the Oyster® Connect has no problem using these SIM cards. However, switching to a foreign mobile provider has some side effects in itself when using the internet.

Example scenario:

You are on holiday abroad with your German SIM card and can do everything on the Internet just as you would at home. Websites are displayed in German as usual, streaming services work without any problems, online banking works and you don't even notice that you are abroad. Now you switch to a SIM card that you bought in the holiday country: Websites are suddenly displayed mostly in the national language of the holiday country, access to German streaming services can suddenly be severely restricted or blocked altogether, access to online banking may cause problems, and the entire Internet suddenly seems to think you are a citizen of the holiday country.

The technical background:

Even if you are travelling abroad with your own (in the example: German) SIM card, and accordingly use the mobile network of the local provider, your entire data traffic with the internet is first forwarded directly by the foreign mobile provider to your domestic (German) mobile provider, to its APN server. Only then is your data traffic transferred to the public internet. As a result, you are always on the Internet with one (German) IP address, no matter where in the world you use the SIM card you brought with you from home. The Internet therefore does not "notice" that you, as the user of the SIM card, are currently in another country. Therefore, no mechanisms such as geo-blocking apply here, and the websites you call up are also displayed in your national language as well.

4. DAILY USE OF THE OYSTER® CONNECT

As soon as you change to another SIM card, the mobile phone provider inevitably changes as well, and thus the forwarding of the data to the domestic (German) mobile phone provider is omitted. The data is then routed directly to the Internet in the SIM card's country of origin, and thus the IP address also corresponds to the SIM card's country of origin. For "the Internet", this has changed your nationality and the effects described above occur.

The use of a VPN can provide a remedy. A VPN (Virtual Private Network) is a service, usually for a fee, which can provide you with another IP address with almost any nationality by redirecting you via its own servers. A VPN is installed as an app or a programme on the respective smartphones, tablets or laptops/computers and also set-up here. The Oyster® Connect simply routes the VPN connection.

4.5 Establishing a connection with an external Outdoor WLAN (WLA mode)

The Oyster® Connect can be connected to WLAN networks outside your vehicle (called Outdoor WLAN). This can be the public WLAN of a campsite, a harbour or a city, for example. Or, of course, private WLAN whose passwords are known to you.

The Oyster® Connect can also be connected to "open" WLANs. In other words, networks where no password is required to establish a connection. Instead, such networks usually have their own website (here called WLAN login page) on which you may have to agree to the terms and conditions or enter voucher codes. Only then is data traffic with the Internet released.

To establish the connection with an Outdoor WLAN, please go back to the configuration web page of the Oyster® Connect, see chapter 3.4 page 10. On the configuration web page you will see a list of all Outdoor WLANs available around the vehicle.

Set-up a connection with a password-protected WLAN:

- 1) Tap / click on the desired WLAN in the Outdoor WLAN list
- 2) Enter the password of the corresponding WLAN
- 3) Press the button 
- 4) Wait until the connection has been established and the message "network is **connected**" appears again at the top of the web page.
- 5) Optionally, you can check the functionality of the connection with the button 

The password for this WLAN is saved in the Oyster® Connect. WLANs with a password that has already been saved are marked with a . To connect to this WLAN again in the future, simply tap / click on the WLAN in the Outdoor WLAN list.



4. DAILY USE OF THE OYSTER® CONNECT

The screenshot shows the Oyster Connect interface with the following elements:

- Navigation:** Start Page, Indoor WLAN Setup, System Setup, Info (ext. Website)
- Status:** Network is Connected, Online? Test, WLAN Mode
- LTE Connection Setup:** LTE Roaming ON, LTE Status Info, No PIN needed, Save PIN & Connect
- Outdoor WLAN Setup:** Selected WLAN: HosterHaft, WLAN Password: [masked], WLAN type: Normal, Save & Connect
- Select Outdoor WLAN List:** A scrollable list of WLANs including HosterHaft, Oyster-Lounge, Werkstoff-Kanalhaft, and others. A red circle '1.' highlights the 'HosterHaft' entry.
- Manual APN Setup (norm. Automatic):** Fields for Provider Name, APN, User Name, Password, and Auth type.
- Buttons:** Test & Save APN, WLAN Login Page
- Footer:** Software Version: 2.1.34, 2.29, 2106; tenHaft Innovative Mobile Technology

1. Select Outdoor WLAN

2. Enter WLAN password

3. Press Save & Connect

4. DAILY USE OF THE OYSTER® CONNECT

Set-up a connection with an open WLAN:

- 1) Select the desired open WLAN in the Outdoor WLAN list
- 2) Wait until the connection has been established
- 3) You are automatically redirected to the login website of the WLAN provider

If the redirection to the login web page did not work automatically or you need to call up the login web page again, you can open it yourself in a new browser window using the button [WLAN Login Page](#)

Set-up a connection with a hidden WLAN:

A hidden WLAN is a network that does not broadcast its name to the public. Therefore, you cannot see it in the outdoor WLAN list.

To connect to such a WLAN anyway, please proceed as follows:

The screenshot shows the 'Online?' section with 'Test' and 'WLAN Mode' buttons. Below it is the 'Outdoor WLAN Setup' section with the following fields:

- Selected WLAN:** Select Outdoor WLAN below
- WLAN Password:** Enter WLAN Password
- WLAN type:** Normal (dropdown menu)
- Save & Connect** button

- 1) Select "WLAN type: hidden" in the dropdown menu*.
- 2) Enter the name of the WLAN in the line "Selected WLAN:".
- 3) Enter the password of the WLAN in the line "WLAN Password:".
- 4) Push the button [Save & Connect](#)
- 5) Wait until the connection has been established
- 6) Optionally, you can check the connection afterwards with the button [Test](#)

4. DAILY USE OF THE OYSTER® CONNECT

Information:

If the Oyster® Connect is in WLAN mode, this is indicated on the website by the green highlighting of the button **WLAN Mode** and on the front of the Indoor Unit by a red "LTE / WLAN" LED.



By pressing the LTE / WLAN button on the Indoor Unit, you can switch between LTE mode and WLAN mode at any time. In case of WLAN mode, an attempt is made to re-establish the connection with the WLAN last used.

Note:

If you use the local Wi-Fi when you are abroad, your IP address will always be the same as the IP address of the country where you are staying. This can lead to the same restrictions described on page 23 above. Again, only the use of a VPN provider can help.

This also drastically increases the security of your data when using public WLAN services.

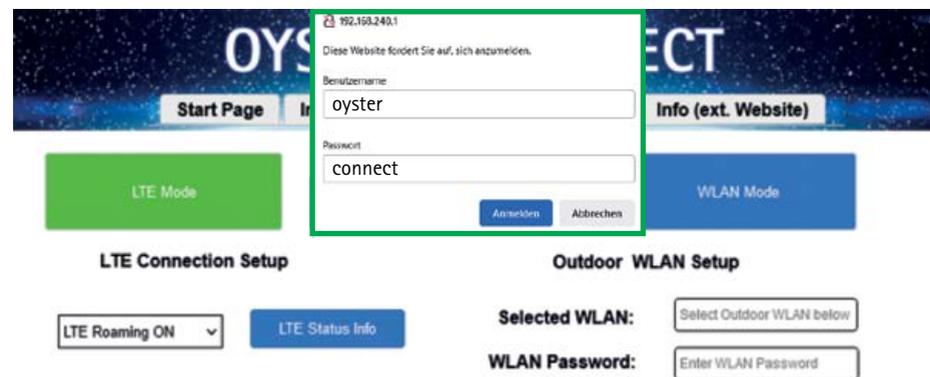
5. OPTIONAL SETTINGS

5.1 Indoor WLAN setup



Please select the tab **Indoor WLAN Setup** on the configuration web page to display the settings for the private WLAN broadcast by the indoor unit.

This area is protected and requires a login by entering a user name and a password:



User name: oyster (default user name, cannot be changed)

Password: connect (default password, can be changed in System Setup)

On the web page that then appears, you can adjust settings that affect the WLAN (called Indoor WLAN) broadcast by your Oyster® Connect itself. For example, you can change the transmission channels of the 2.4 GHz and the 5 GHz WLAN, as well as the transmission power of the WLAN and also the WLAN password of the respective 2.4 GHz or 5 GHz WLAN.

Please note: If the WLAN password is changed, the QR code stickers on the indoor unit cover and on the back of the operating instructions will no longer work!

However, the QR codes on the [Indoor WLAN Setup] website are generated dynamically and are therefore still functional even after a password has been changed.



5. OPTIONAL SETTINGS

5. OPTIONAL SETTINGS

Restart Indoor WLAN with new Settings: **Activate**

(Restart of the Indoor WLAN with new settings:)

All changes in the settings of the Indoor WLAN setup only take effect when the button **Activate** is pressed. The Indoor WLAN of the Oyster® Connect is then not available for a few seconds. It is therefore advisable to make all planned changes on the website first and only restart the connections once with the button **Activate**.

Note:

While the indoor WLAN of the Oyster® Connect is restarting, your device (smartphone, tablet, laptop, etc.) may automatically switch to another, known WLAN in the vicinity.

You will then have to select the th2-... or th5-... WLAN of the Oyster® Connect again in order to continue to be connected to the Oyster® Connect.

Show IP of all connected network devices: **Check**

(Display of the IP addresses of all devices present in the network.)

After pressing the button, **Check** all IP addresses assigned by the Oyster® Connect are listed. This allows you to draw conclusions about how many devices are currently connected to the Oyster® Connect.

Select Indoor WLAN Mode:

(Select Indoor WLAN Mode:)

Select Indoor WLAN Mode:

2.4 GHz fast mode The th5-... WLAN is deactivated, the th2-... WLAN becomes faster.

5 GHz fast mode The th2-... WLAN is deactivated, the th5-... WLAN becomes faster.

Dualband Mode Both indoor WLANs of the Oyster® Connect are in operation (default)

ALL WLAN OFF - All WLANs are switched off, access is only possible via LAN.

If you have changed the setting, it must be saved with the button **Set** next to it. The change only becomes effective after the button **Activate** has been pressed.



5. OPTIONAL SETTINGS

Save 5 GHz Settings and **Save 2.4 GHz Settings**

Changes to the respective WLAN are saved individually for each WLAN with the corresponding button. The current password of the respective WLAN is then automatically copied to the clipboard of the device with which you are currently operating the Oyster® Connect. If necessary, you can then paste it into the WLAN settings of the device or into your own documentation.

If you have changed settings on both the 5 GHz WLAN and the 2.4 GHz WLAN, both the **Save 5 GHz Settings** and **Save 2.4 GHz Settings** buttons must be used.

Here, too, the changes only take effect when the button **Activate** is pressed.

Note:

If changes are made to the WLAN password, this WLAN must be set up again on all devices already connected to it.

If changes are made to the WLAN channel, some devices also require the WLAN connection to be set up again.

IP segment: 192.168.[240].0

If required, the IP address range of the Oyster® Connect can be changed here. The change is saved with the **Save IP Settings** button and becomes active the next time the Oyster® Connect is restarted. Changes are only recommended for experienced users!

WPS Priority

Here you can set whether devices joining the network using the WPS function, are connected to the tH2-.... or to the tH5-..... version.

The WPS function can be started via the button **Starts WPS** or via the WPS button on the front of the indoor unit.

5. OPTIONAL SETTINGS

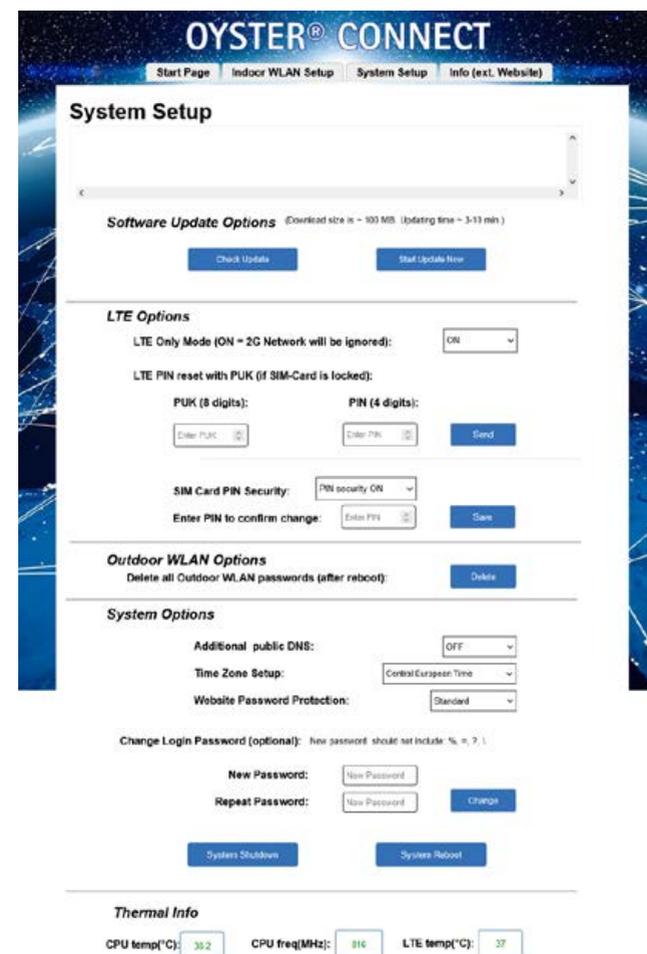
5.2 System setup



This area is protected and requires a login by entering a user name and a password:

User name: oyster (default user name, cannot be changed)

Password: connect (default password, can be changed in System Setup)





5. OPTIONAL SETTINGS

Numerous settings can be made on this web page, which are explained in detail here:

Software update options:

Check Update

Checks the availability of an Oyster® Connect software update.

Start Update Now

Starts the download of the software and the update process.

Please allow approx. 10 minutes for the system to complete the update and then restart automatically.

LTE Options:

Explanation LTE Only Mode (ON / OFF)

The Oyster® Connect can dial into 2G, 3G as well as LTE networks. Nowadays, however, the 2G network is in most cases only used for SMS and voice telephony, which is why using the 2G network for a data router like the Oyster® Connect usually does not make sense.

The Oyster® Connect always works automatically with the fastest connection (LTE > 3G > 2G).

In very unfavourable reception locations, however, there may be a strong 2G signal but only a very weak 3G / LTE signal. If the Oyster® Connect should switch to the 2G network, e.g. while driving, in the absence of a 3G / LTE signal, the activated "LTE Only Mode" prevents unnecessarily long "sticking" to the 2G signal.

LTE Only Mode: [ON]

The LTE connection setup is triggered approx. every 60 seconds until an LTE (or at least 3G) connection can be reestablished. Until then, LED1 flashes red, even if a 2G signal would be present. The 2G network is therefore ignored.

LTE Only Mode: [OFF]

The Oyster® Connect logs into LTE and 3G as well as 2G networks. In 2G networks, however, data transmission may be severely restricted.

5. OPTIONAL SETTINGS

LTE PIN reset with PUK (if SIM card is locked):

After three incorrect PIN entries, a SIM card is temporarily locked (LED5: fast red flashing). To unblock it, you need the 8-digit PUK, which is usually supplied together with the PIN by the mobile phone provider. Sometimes the PUK is also called the "super PIN".

- 1) Enter the PUK in the [Enter PUK] field.
- 2) Enter the PIN in the [Enter PIN] field.
- 3) Press the [Send] button
- 4) Select the [Start Page] tab at the top of the navigation bar.
- 5) Press the [LTE Mode] button on the start page.

Note:

You have a maximum of 10 attempts to unblock the SIM card using the PUK. After 10 incorrect PUK entries, the SIM card will be permanently blocked.

SIM Card PIN security [ON / OFF]

For SIM cards that were delivered with a PIN and a PUK number, the PIN query is usually activated. To use the card, you must know the PIN.

You can deactivate the PIN query by selecting [PIN security OFF]. Provided you know the current PIN.

With the selection [PIN security ON] you can activate the PIN request, provided that a PIN exists for this SIM card. If the SIM card was originally delivered without PIN & PUK, the PIN request cannot be activated either.

Please select the desired state, enter the correct PIN in the [Enter PIN] field for authentication and then press the **Save** button. The change will take effect the next time you restart Oyster® Connect.

Outdoor WLAN Options

Delete all Outdoor WLAN passwords (after reboot)

Delete

The Oyster® Connect saves the passwords of all outdoor WLANs to which you have already connected the system. If you wish, you can use the button **Delete** to delete all saved passwords from the memory. The change is only visible on the start page after the next restart of the Oyster® Connect.



5. OPTIONAL SETTINGS

System Options

Additional public DNS: [OFF / ON]

(Additional public Dynamic Name Server)

When this setting is [ON], the Oyster® Connect uses an additional, publicly accessible directory server for websites (DNS). However, problems may then occur when calling up the login web page of open  WLAN. Therefore, the default setting is [OFF]. Changes to the drop-down menu are saved automatically.

Time Zone Setup

Here you can set the time zone according to your current location. Currently, however, the setting has no practical effect on the operation of the Oyster® Connect.

Website Password Protection: [Standard / Enhanced]

In the [Standard] state, access to the [Start Page] is possible without entering a user name and password. In the [Enhanced] setting, a login is also required for the [Start Page].

The login data is always the same as for the [Indoor WLAN Setup] or [System Setup] pages.

Change Login Password (optional)

The Oyster® Connect website can be partially or completely password-protected. The non-changeable user name is always "oyster", the default password is "connect". If you are the sole user of the Oyster® Connect, then you do not necessarily have to change the password, because the website is only accessible to participants who have already deliberately included it in the Oyster® Connect network. If you use the Oyster® Connect together with people you do not know, for example in a coach or a rented motorhome, it is of course advisable to change the default password. You can easily change the password here: enter the desired new password twice in succession in the fields "New Password" and "Repeat Password" and press the button . The next time you log in, you will be asked for the new password.

Note:

Please refrain from using the following special characters when assigning the new password: % = ? \

5. OPTIONAL SETTINGS

System Shutdown

(Shut down system)

With this button you can shut down and switch off the Oyster® Connect directly from the website. To switch the Oyster® Connect on again, press the ON/OFF button (1) on the Indoor Unit.

System Reboot

(System Restart)

With this button you can trigger a restart of the Oyster® Connect from the website. The WLAN of the Oyster® Connect will then be unavailable for about 2 minutes. Please make sure that your smartphone / tablet / laptop etc. has not automatically connected to another WLAN in the meantime.

Thermal Info

(Temperature Information)

The following data from the system is displayed here:

CPU temp (°C):

This is the core temperature of the main processor of the Oyster® Connect. At normal room temperature and with good ventilation, this usually settles between 45°C and 65°C.

If the Oyster® Connect is operated in an exceptionally warm environment, e.g. in a heated interior without ventilation, the CPU temperature will inevitably rise. At around 100°C, the Oyster® Connect switches off automatically and goes into protection mode. To restart it after cooling down, the Oyster® Connect must be briefly disconnected from the power supply.

CPU freq:

This is the internal clock frequency of the main processor in megahertz (MHz). Normally, this always remains stable at 816 MHz, unless the CPU temperature rises very high. Then the clock frequency is gradually reduced to reduce heat development, which may be reflected in a somewhat slower response time of the Oyster® Connect.

LTE temp (°C)

This is the internal temperature of the LTE module in the outdoor unit.

At room temperature, this is usually in the range between 35°C and 40°C. With strong sunlight and high outdoor temperatures, values of up to 90°C can be reached, but this is not yet a problem for the technology.



6. SERVICE

6.1 Performing a software update (especially recommended after the initial start-up)

Note: To be able to carry out a software update, you must first connect the Oyster® Connect to the Internet via LTE or WLAN. The download of the update consumes around 100 – 120 MB of data.

The software of the Oyster® Connect is constantly being further developed by ten Haaft. It is therefore very likely that several updates have already been released between the production date of your new Oyster® Connect and the initial start-up. It is therefore recommended that you update to the latest version immediately after the initial commissioning.

There are three ways to determine if there is a new software update:

1. Around 10 minutes after each device start, the Oyster® Connect automatically checks whether a software update is available. If a software update is available, this is indicated by a permanently lit LED4 (yellow).

If LED4 is permanently lit yellow, the update process can be started by pressing button 3 (i) for approx. 10 seconds. Please remain on button 3 until the LEDs show the special light pattern (pulsing of the LEDs) of the ongoing update process. Everything else happens fully automatically, and the entire process should be completed after about 5–7 minutes.

2. You can press the button **Test** on the "start page" of the Oyster® Connect. You will then be shown directly whether an update is available: here: no! (No need to update)



6. SERVICE

3. You can press the button **Check Update** on the "System Setup" page of the Oyster® Connect and will then be shown directly whether an update is available: here: yes!



To start the update process, press the button **Start Update Now**. The update process then starts immediately and runs fully automatically for the next 5–7 minutes. The actual duration ultimately depends on the speed of your current internet connection.

During the download, the output window will display an increasing number of dashes followed by "updating is done":

A short time later, the Oyster® Connect restarts automatically and can be used again as usual after the start-up process has been completed.



Note:

If you had changed the login password "connect" to your own password, it will have been reset to the default password "connect" after the update. Please change it again according to your own wishes, see chapter 5.2 page 34.



6. SERVICE

6.2 Reset to factory settings (Factory Reset)

Description:

With the so-called factory reset, all settings are reset to standard:

- The passwords for both WLAN networks then correspond again to the imprint of the sticker on the Indoor Unit
- The WLAN mode is set to "Dualband Mode".
- The login password for the website will be reset to "connect"
- Certain files, which normally remain untouched during an update, are rewritten with default values.
- However, SIM card PINs and passwords entered for outdoor WLAN are retained!

Performing a factory reset:

1. For security reasons, the factory reset can only be carried out in the first 10 minutes after the system has been started. If the Oyster® Connect has already been in operation for more than 10 minutes, please shut down the system via the power button (button 1) and then restart it.
2. After booting up, please wait until LED 4 (yellow) has stopped flashing
3. Press and hold button 3 ("i" button) firmly.
4. The LED 4 starts to flicker in a fast rhythm and changes to slow flashing after about 10 seconds of pressing the button. You can then release the "i" button.
5. The Oyster® Connect will now restart automatically and the reset process is now complete.

6. SERVICE

6.3 Explanation of terms

APN

Stands for "Access Point Name" and is mandatory for data transmission via LTE. Depending on the mobile network provider whose SIM card is inserted in the Oyster® Connect outdoor unit, different access data may be required for data use. The APN is already pre-configured in the Oyster® Connect for many mobile network providers and their SIM cards. Otherwise, you must ask your provider for this data and enter it in the Oyster® Connect!

Without or with incorrect APN access data, the Oyster® Connect can log into the provider's mobile network, but no data traffic will be enabled!

Button

English for "button" or also "key" Designation for a button on a web page with which you can trigger a reaction or save something.

End device

This refers to the device which you as a customer actually use to access the Internet. This can be a smartphone, a tablet, a computer, a Smart TV, a web radio or whatever.

A web browser is required to operate the Oyster® Connect with it.

Indoor unit

This is the part of the Oyster® Connect system which is installed in the vehicle interior.

LAN

Stands for Local Area Network. A wired method of networking different devices together. Provides the highest data transmission speed and operational reliability.

LAN Cable

Connecting cable with 8-pin RJ45 plugs on both ends for establishing a wired network. The cable should have "CAT6" or "CAT7" printed on it as older standards may cause problems.



6. SERVICE

LTE

Stands for Long Term Evolution. This term stands for an internationally common mobile radio procedure for fast data transmission via the mobile communications network.

Instead of LTE, the synonym "4G" is often used as well. This stands for "4th generation mobile communications networks".

LTE is expressly used for data transmission, not telephony. In the meantime, however, procedures have been introduced that can route voice telephony via LTE data packets (VoLTE).

Outdoor unit

The part of the Oyster® Connect system which is installed on the vehicle roof.

Open (WLAN) network

A network which is available for everybody and does not require a password. However, using it poses a safety risk!

PIN code / SIM PIN / PUK code

PIN stands for "Personal Identification Number". Similar to the secret code on your bank card, it protects this SIM card from being used by unauthorised persons.

If the PIN is entered incorrectly too often, the card can no longer be unblocked, even with the correct PIN. In that case, the block can be removed by using the PUK code.

Both codes are usually included with the SIM card on delivery.

Private (WLAN) network

Password-protected network which is therefore only accessible to a limited number of users.

Referring to the Oyster® Connect, we specifically mean the vehicle-based WLAN, which is provided by the indoor unit for your own end devices.

SIM card

This is the small chip card you receive from your mobile communications operator. It is inserted into the appropriate card reader of the outdoor unit. The SIM card size for the Oyster® Connect is a "Mini-SIM".

6. SERVICE

WLAN

Stands for "Wireless Local Area Network". Internationally often called "WIFI". WLAN is used to establish a wireless network between several devices via radio connection.

2.4 GHz WLAN networks usually have the greater range. However, they are often overloaded by a large number of competing networks and users and can be slow.

5 GHz WLAN networks usually have a shorter range but in practice, they offer significantly faster data speeds.

WLAN hotspot or WLAN access point

A publicly offered WLAN. Partly for a fee, or only usable for certain users (for example Telekom customers on Telekom hotspots). Some WLAN access points are free of charge but require an access authorisation.

Usually the devices registered there can only access the Internet but they cannot communicate with each other.

WLAN channel

Similar to TV broadcasting, several channels are also available for WLAN devices. This allows trouble-free and parallel operation of various WLAN networks provided that their channels have been sensibly selected.

The WLAN channel to be used and other parameters are selected on the transmitter's side. The end devices recognise this and automatically adjust to it.

WPS

WPS stands for "WiFi Protected Setup". This function is supported by some end devices. It is used to connect two WPS-enabled devices to each other via WLAN without entering a password.

For this, first set the router to a time-limited login mode (press the WPS button), and then start the login process on the end device's WLAN settings. When both devices are within radio range of each other, they will now find each other and automatically establish the connection.

Afterwards, the router's login readiness is automatically terminated.

7. OPTIONAL ACCESSORIES

7.1 Alternative power supply connection cable

This 3-pin cable set can be used instead of the supplied 2-pin power supply cable with 12v auxiliary plug .

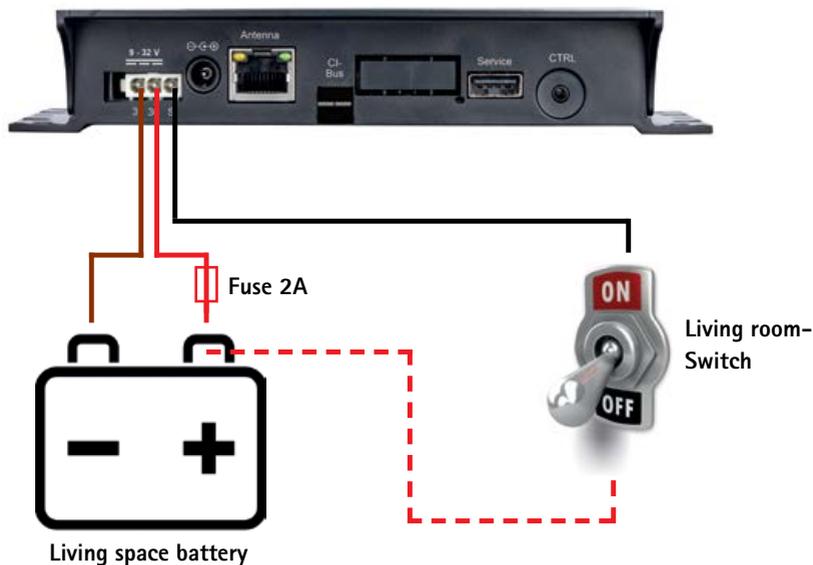
Available, for example, from the ET Shop at www.ten-haaft.com.

Article 3.450.1020 Cable set power supply



Black wire	= switched voltage
Red wire	= continuous plus 9-32 V (terminal 30)
Brown wire	= vehicle ground (terminal 31)

The S-input (black wire) can be used to safely power up or down the Oyster® Connect remotely via a switched voltage.



8. APPENDIX

8.1 Declaration of Conformity CE



*Konformitätserklärung
Declaration of Conformity
Déclaration de Conformité*

Wir, der Hersteller	We, the manufacturer	Nous, le fabricant sousscrit
	ten Haaft GmbH Neureustraße 9 D 75210 Kelttern Germany / Allemagne	
erklären hiermit, dass die Produkte:	declare hereby that the products:	déclarons par la présente que les produits:

Oyster Connect

einschließlich aller Varianten den wesentlichen Anforderungen der folgenden Vorschriften entsprechen und somit ein CE-Zeichen in Übereinstimmung mit den Richtlinien RED 2014/53/EU & EMC 2014/30/EU & UN/ECE-R10rev6 führen.
including all variants are in compliance with the following specifications and bear the CE-Mark according to the provisions of the regulations RED 2014/53/EU & EMC 2014/30/EU & UN/ECE-R10rev6
y compris toutes les variantes sont conformes aux spécifications suivantes et portes la marque CE selon les lignes directrices de la Numéro RED 2014/53/EU & EMC 2014/30/EU & UN/ECE-R10rev6

Die Anlagen erfüllen die folgenden im Einzelnen genannten harmonisierten Normen
The systems meet the harmonised standards individually listed below
Les produits répondent aux normes suivants mentionnés dans la fiche harmonisée

EMC	EN301489-1 V2.2.3 EN55032:2012 + 2015 + A11:2020 (ClassB) EN55035:2017 EN61000-4-2:2009 EN61000-4-3:2006 + A1, A2 EN61000-4-4:2012 EN61000-4-5:2014 + A1 EN61000-4-6:2014 EN61000-4-11:2004 + A1 ISO7637-2:2004 + 2011 EN55025:2017
Radio	EN300328 V2.2.2
Safety	EN62368-1:2014 + A11:2017
Health	EN62311:2008

Kelttern, den 04. Februar 2021

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