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Accessory Manual
D-EIOOC00504-22

Water Cooled chiller/heat pump with scroll compressors

EWWQ~KC / EWLQ~KC

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1 MAIN OVERVIEW

1.1 Introduction

This manual provides the information for the correct installation of each accessory for EWWQ – EWLQ KC unit

1.2 Accessories list

In the Table 1 are listed all the accessories.

1	Daikin on site	EKRSCSMP	
2	Connectivity KIT	**EKRSCBMS**	
3	Temperature Sensor for Master Slave control function	EKRSCTMS	
4	Compressor Jacket	EKLS2	
5	Water In sensor kit	EKRSCWI	
6	External HMI	EKRSCPCS	
7	Lifting kit	EKRSCLK	

Table 1-Accessories list

2 DAIKIN ON SITE

2.1 Daikin on site

Daikin on site kit can be used to connect the unit to Daikin on site cloud. Cloud connection offers the possibility to monitor and control the unit by remote. In order to enable Daikin On Site, refer to instructions showed in the Operating Manual.

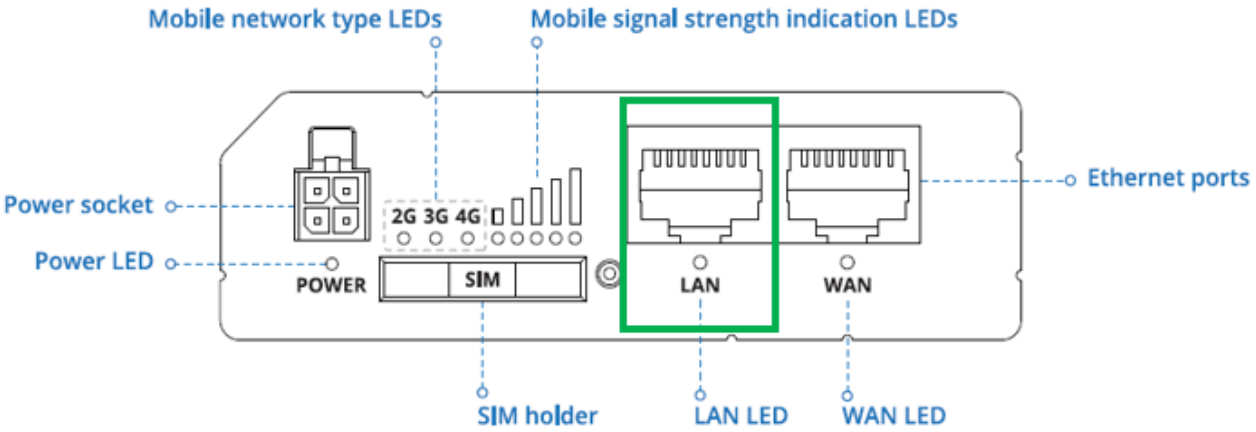
2.2 Modem Kit

Modem Teltonika Kit is used to establish the connection to Daikin On Site. No SIM are provided within the Modem Kit.

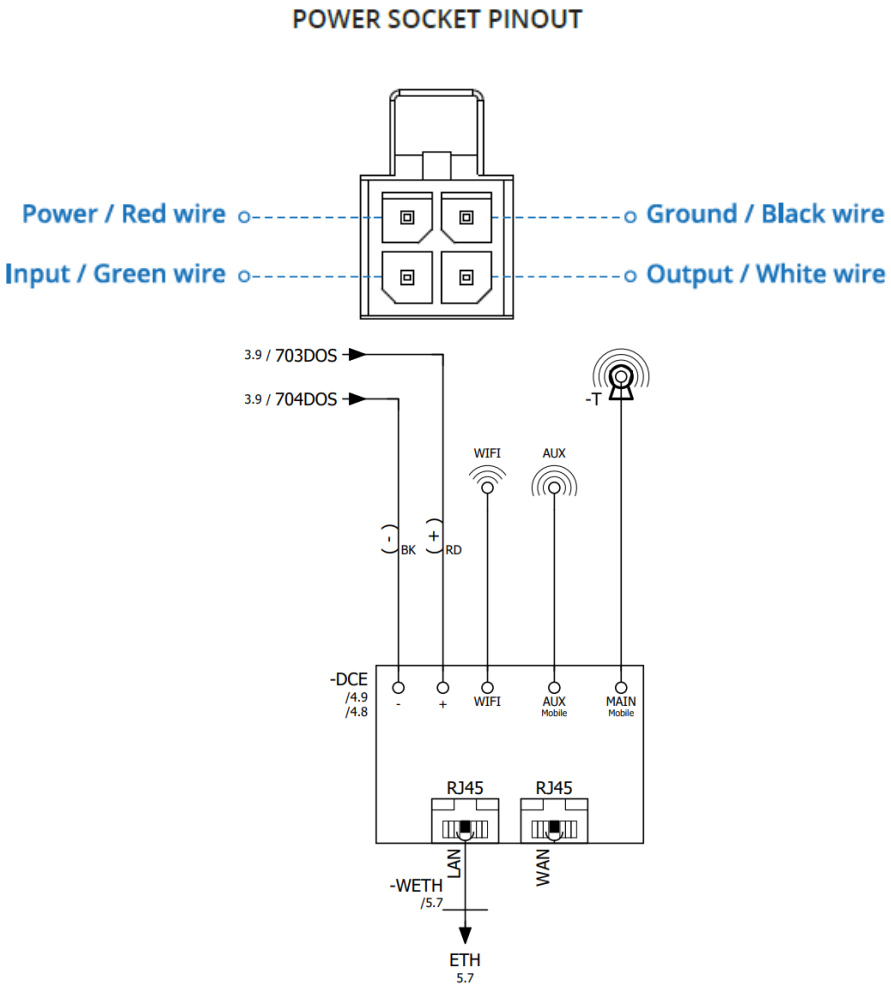
1 - Modem Teltonika RUT240
2 – Ethernet Cable
3 – Powe Supply Cable Tamiya 4 pols
4 – Assembly adapter DIN + screws
5 – Tool For SIM remove
6A - 2x Antenna LTE 6B – Antenna WiFi
7 – Guide
8 –Kit Box RUT240
9- Magnetic base Antenna PANORAMA ANTENNAS MAR-7-21-2SP

2.3 Electrical Connection

The data connection between Router and C400 will be made using a network patch cable of category 5S or higher (2) also included in the Teltonika kit.This connection on the Teltonika RUT240 Router side must be made by connecting the cable exclusively to the port indicated as "LAN".



The power supply will be provided as indicated in the electrical scheme (PIN 703-PIN 704). It will be sufficient to connect only the red (+) and black (-) cable to the power supply, respecting the polarity, while the other two cables must be properly insulated (e.g. with heatshrink or on terminal board if the cable is originally equipped with it).



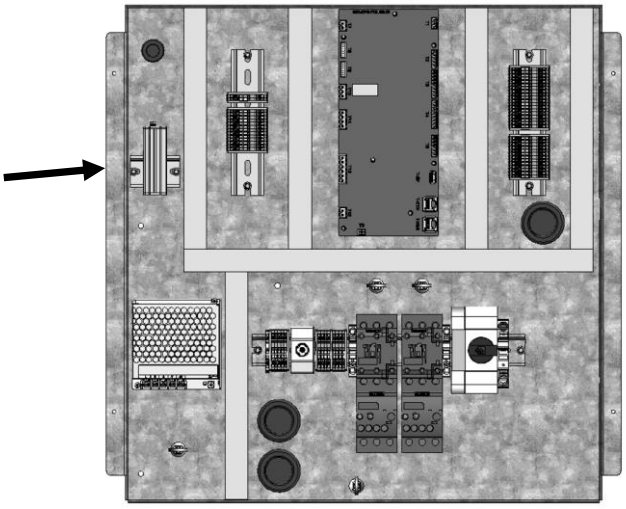
2.4 Mechanical Connection

2.4.1 Single compressor units (EW*Q014KC – EW*Q025KC – EW*Q033KC)

In case of single compressor units, it is requested the modem installation in a remote electrical panel (provided by the customer himself)

2.4.2 Dual compressor units (EW*Q049KC – EW*LQ064KC)

In case of dual compressor units, install the modem according to the picture below.
Note: The DIN rail is not provided



3 CONNECTIVITY KIT

3.1 Connectivity Kit

The connectivity kit it is used to enable the following features on the unit controller:

1. Modbus TCP-IP
2. BACNet MSTP
3. BACNet TCP-IP
4. Web Server – Web HMI

This kit consists of a Connectivity Card with an associated Activation ID.

ATTENTION: Every connectivity card can be linked to only one POL468.85/MCQ. Link is not pre-defined; it means there is no relationship between connectivity card and POL468.85/MCQ of your specific unit. Once the connectivity card is used to enable the previous function, its usage is no more valid for new boards

3.2 Procedure to enable the connectivity kit

Unlocking the connectivity kit requires three fundamental parts:

1. Physical access to POL468.85/MCQ board
2. Smartphone
3. Internet connection

As shown below, the procedure is entirely realized through an app and require few minutes to be done.

3.2.1 Install controller label on connectivity card

POL468.85/MCQ is equipped with two labels as shown in the picture below.

Label2 is made of a fixed part and a removable part which is the only one necessary for connectivity kit enabling. The removable part needs to be detached from main POL468.85/MCQ and attached on the connectivity card to be scanned with your smartphone in next steps.

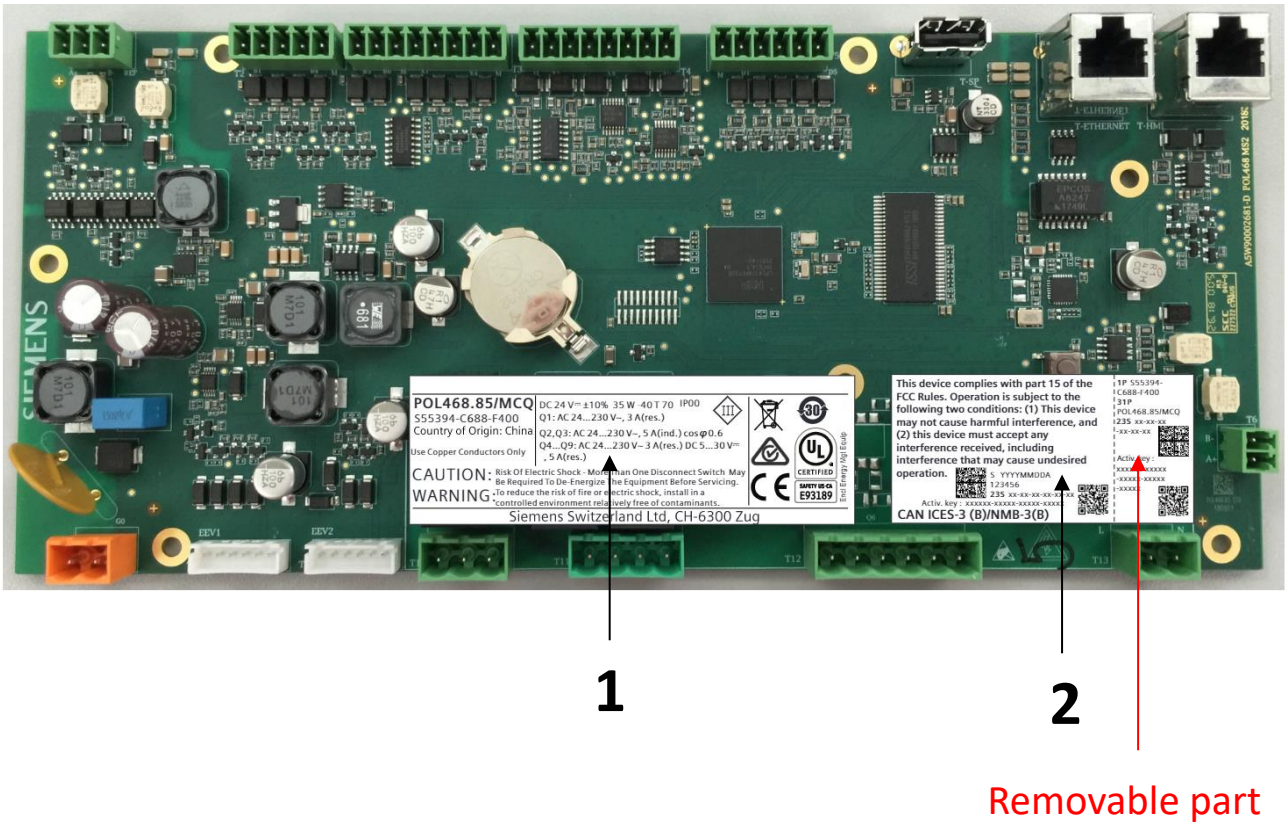


Figure 1- Install controller label on connectivity card

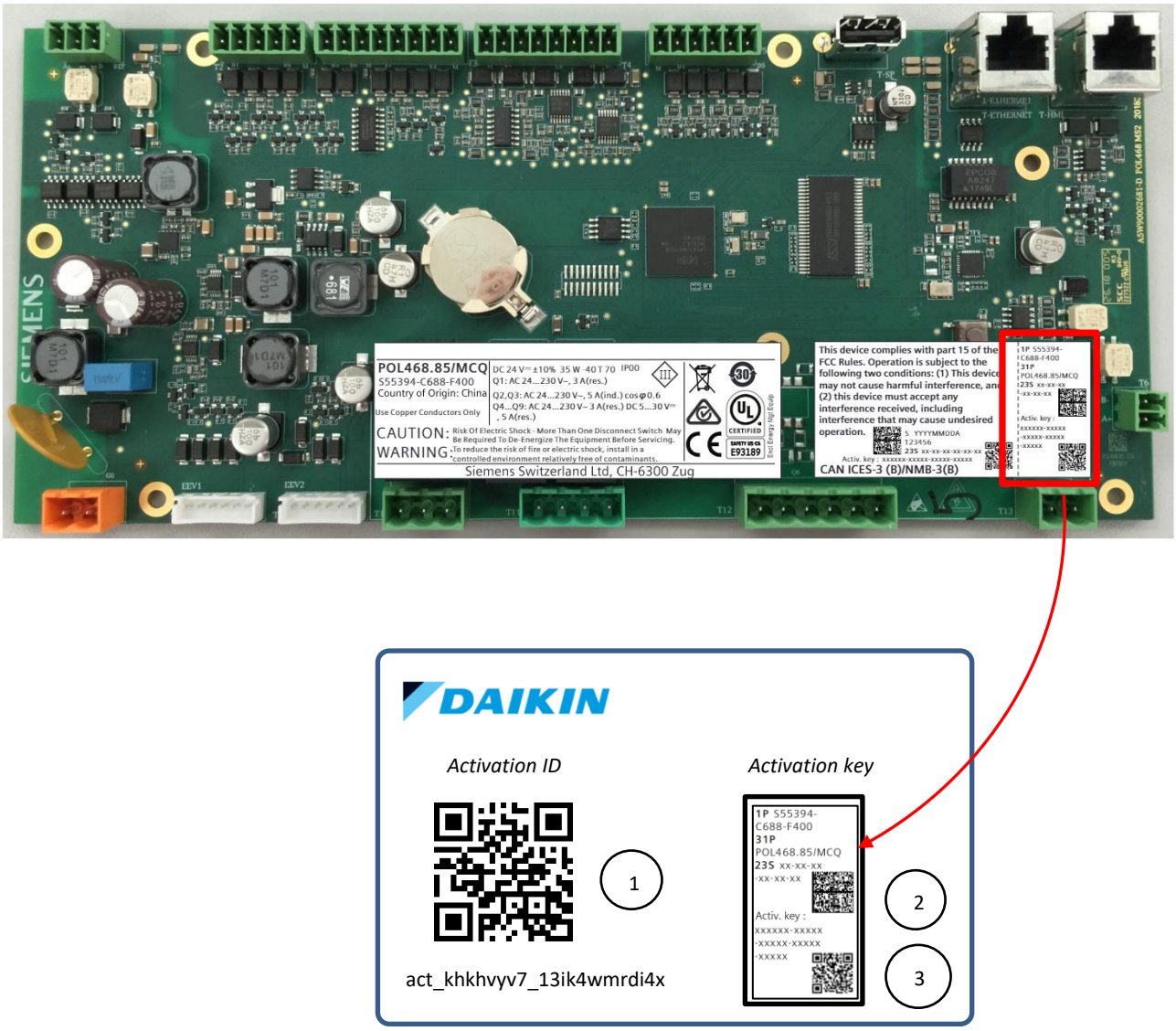


Figure 2- Install controller label on connectivity card

3.2.2 Download "License Manager" Mobile APP

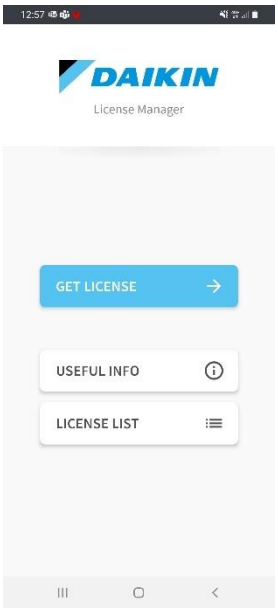
From your smartphone APP store (Apple Store in iOS system and Play Store in Android ones), search for "`License Manager` APP.", download and install it.

- Check internet connection and memory available on smartphone before app download

3.2.3 Open License Manager APP

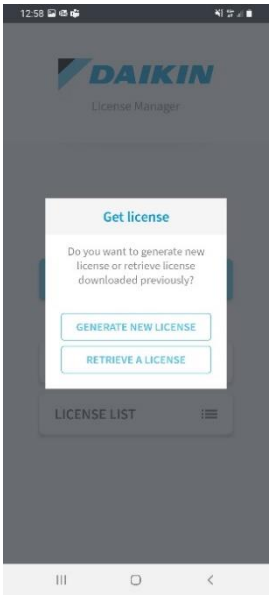
Last step is completely managed by the app but requires access to the connectivity card realized in step 3.2.1. Procedure inside the app includes three steps:

Step 1. Open Mobile App



Clicking on "Get License" button two options will be displayed:

a. Generate New License
b. Retrieve A License



Step 2. License generation/retrieving

To choose the proper button consider that:

a. If it's the first attempt to generate a license with a specific Activation ID click on "New License".
b. If the Activation ID is already been used for License generation but it's necessary to use it again (for example after a failure of 3. or 4. steps) click on "Retrieve A License"

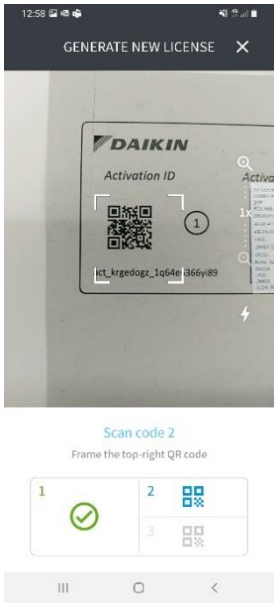
Note! Before starting License generation and for all procedure time, make sure your smartphone or tablet has stable internet connection

Step 3. **Connectivity card scan**

After selection license management on mobile app will be represented a virtual activation card divided in three parts associated respectively to the three QR codes of physical card:

1 License code
2 PLC Data Matrix
3 PLC Activation Key

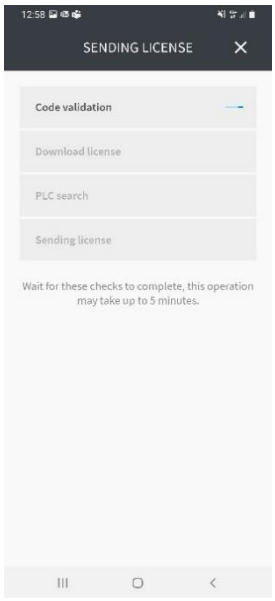
Starting from the License Code, scan all three QR codes until three green ticks appears on mobile app.



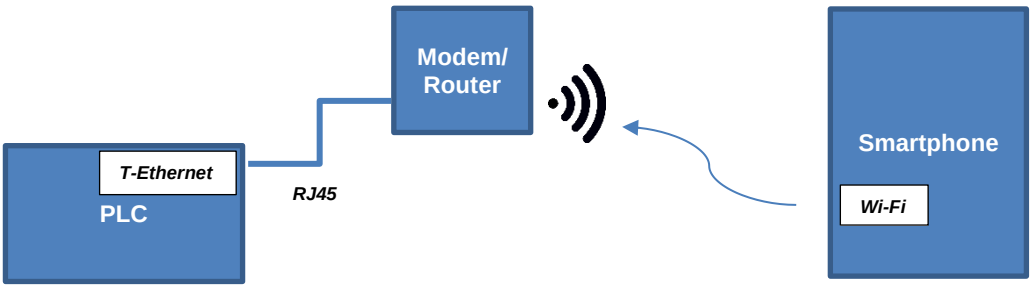
Note! If your Smartphone cannot scan properly the code 2. and 3. use camera zoom in to allow the scanning process

Step 4. **Correct procedure end**

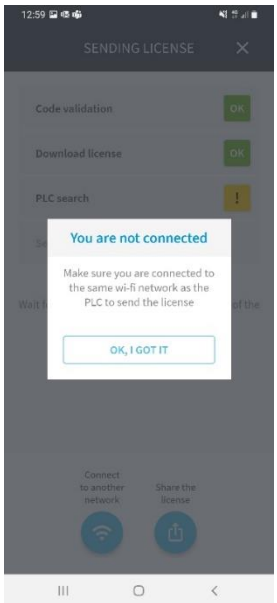
In this step no more action needed. When the card is correctly scanned, system generates your License file and will download it on the PLC. This step starts with "`Code Validation`" procedure and can require few minutes. It is important to have internet connection for the entire procedure duration.



After license generation the mobile app tries to send it directly to the PLC with associated activation key. In order to properly execute the "`PLC Search`" and "`Sending License`" App's steps, PLC and smartphone must be connected to the **same TCP/IP network** (please refer to the scheme layout below).

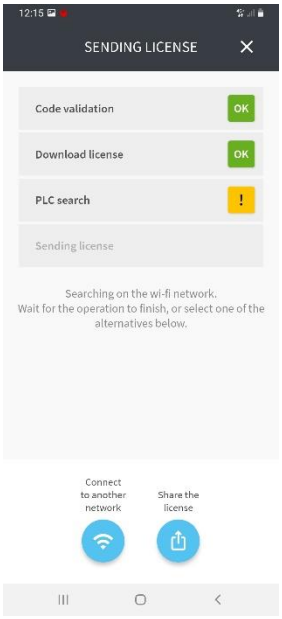


Otherwise, an error will occur and a retrieving procedure will be needed.

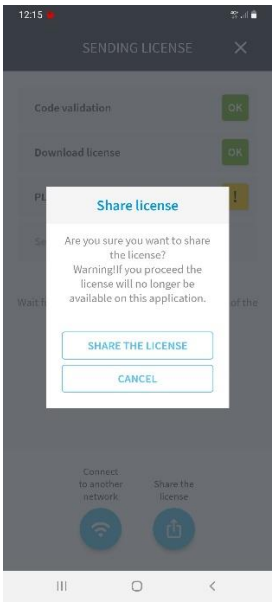


Step 5. License Sharing

This is an alternative step available in case of impossibility to properly execute Step 3 and/or Step 4.



Clicking on button "`Share The License`" the following popup will appear:



Confirming the selection of "`Share the license`" a smartphone system sharing menu will open and will be possible to select different sharing platform (mail, cloud, etc.).

Note! Opening the system menu for license sharing automatically remove the license from the "`pending licences`" list (refer to chapter 3.2.4) regardless of the outcome of the sharing. If needed, execute a license retrieve to recovery it.

Once shared the license file (named for example "license_JRX2OA-L4IJG-2NNSX-5CID4-3RQGI.ucf"), it's necessary to follow few steps:

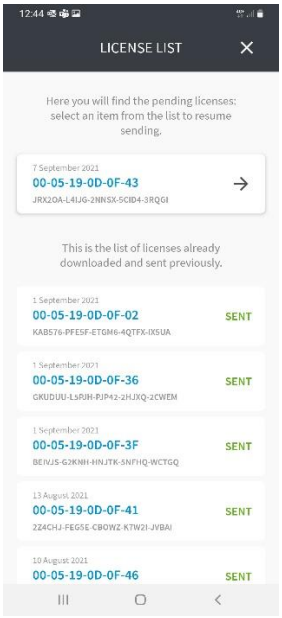
1. Download the license file on an empty USB.
2. Connect USB to PLC
3. Turn off PLC power supply and wait 5 seconds
4. Turn on PLC power supply and wait LED solid green before removing USB

At this point the EVCO HMI parameter [22.12]'s value should be "`On`" and license file should be automatically deleted from USB.

Note! If license download is still not ok, please contact your local service.

3.2.4 License list

The mobile app provides a list of all licenses generated and downloaded on a PLC via itself. This list is available on the main menu through the “License List” button.



As shown in the picture the list is divided into two groups:

a. Pending licenses
   On the top there are the licenses generated but still not downloaded on PLC. Clicking on the arrow in the right corner of a pending license it’s possible to resume the procedure from the “`PLC Search`” of step 4.

b. Already downloaded licenses
   On the bottom there are the licenses already downloaded and sent. No actions are allowed for these licenses.

4 TEMPERATURE SENSOR FOR MASTER SLAVE CONTROL FUNCTION

The Unit Controller can have a maximum of 3 slaves.

4.1 Electrical Connection:

For information on M/S regarding electrical connection, please refer to specific documentation **D-EIOOC00604-22 (MasterSlave)**

4.1.1 Probes connection

		End1	End2
EWWQ-KC	System temperature (Master Slave) Cold Loop	B5	M
	System temperature (Master Slave) hot Loop	B6	M
EWLQ-KC	System temperature (Master Slave) Cold Loop	B5	M

Common leaving water temperature sensor has to be connected to the chiller Master using the customer terminal block (Master/Slave Temperature Sensor). Refer to the unit wiring diagram for terminals enumeration.

4.2 Mechanical installation

For common leaving water temperature sensor positioning please refer to specific documentation **D-EIOOC00604-22 (MasterSlave Manual)**.

4.3 Software configuration

For software configuration refer to specific documentation **D-EIOOC00604-22 (MasterSlave Manual).**

5 WATER IN TEMPERATURE SENSOR

5.1 Kit composition

Water inlet temperature sensor kit includes the components listed in table below.

Water inlet temperature sensor kit	
Item	**Quantity**
Water temperature probe	1
Brass socket 1/4"	1
Reduction 1/2" - 1/4"	1

Table 2-Water inlet temperature sensor kit

In Figure 3 are represented the components of the kit.

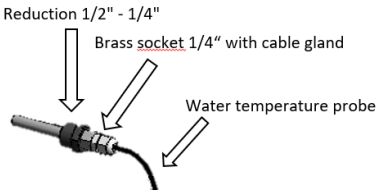


Figure 3- Components of the kit

It is required in order to measure the inlet water temperature of the heat exchangers.

For standard units EWWQ-KC are provided two kits to measure these parameters:

- Inlet evaporator water temperature
- Inlet condenser water temperature

For condenser-less units EWLQ-KC is provided just one kit to measure the inlet evaporator water temperature.

5.2 Water Sensor installation

The temperature probe is inserted in the temperature well.
See Figure 4 for the position of inlet evaporator and condenser water temperature probes.

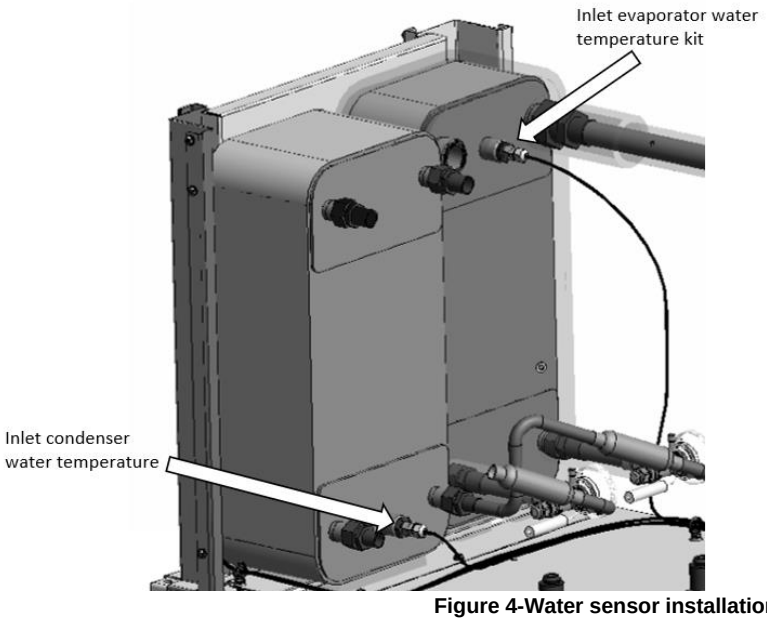
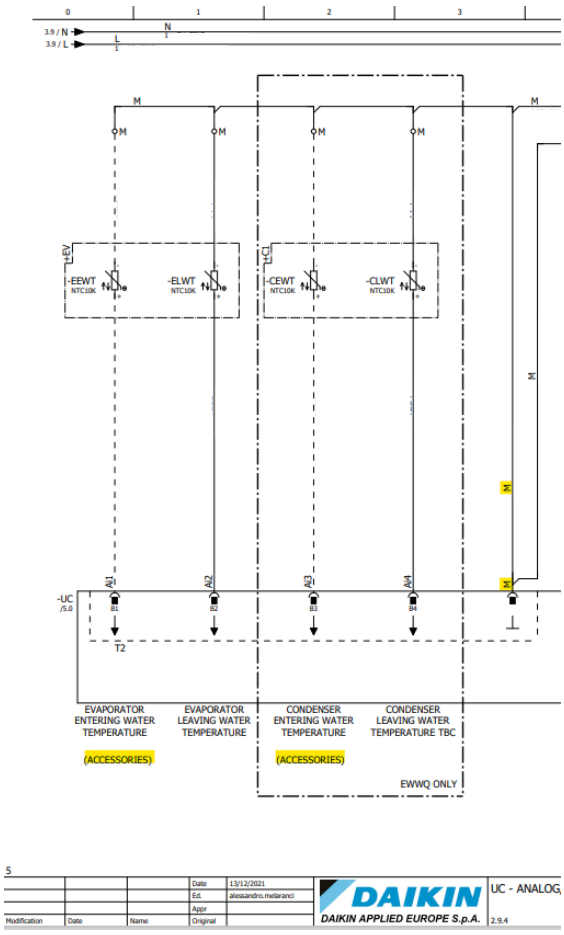


Figure 4-Water sensor installation

5.3 Electrical connection

Water temperature probes do not have electrical polarity, so the two terminals are equivalent.
Below are listed the electrical connection for KC series:

		Cable terminal 1	Cable terminal 2
EWWQ-KC	Evaporator IN (Accessory kit)	B1	M
	Evaporator OUT	B2	M
	Condenser IN (accessory kit)	B3	M
	Condenser OUT	B4	M
EWLQ-KC	Evaporator IN (Accessory kit)	B1	M
	Evaporator OUT	B2	M



5.4 Software Configuration

With this command is possible activate automatically inlet water temperature sensor reading:

- EWWQ-KC → both evaporator and condenser sensors are enabled
- EWLQ-KC → only evaporator sensor is enabled

For HMI EvCo:

1- Go in menu 15.00 next scroll to page 15.03 and set ON to enable the sensor/s.

Menu	Parameter	Range	Default	Description	R/W
15 "Customer configuration"	03 (Circuit 1 Capacity)	Off-On	Off	Press "On" for activate the probes	R/W

2- Go to menu 20 and scroll to page 20.01 and select on. The PLC will reboot to enable the changes.

Menu	Parameter	Range	Default	R/W
20 "PLC"	01(Apply Changes)	Off-On	Off	W

For HMI Siemens:

1- Go in Commission Unit → Configuration → Options → EWT Sensor Enable and select On.

2- In the same page (Commission Unit → Configuration → Options) Scroll up or Down for found Apply Changes select it and press On. The PLC will reboot to enable the changes.

6 COMPRESSOR JACKET KIT

Compressor jacket kit helps to reduce the compressor acoustic emissions. It is composed by two insulating rubber pieces and it is represented in Figure 5.

Figure 5-Compressor jacket kit

Be sure that the top unit panel is disassembled before installing the compressor jacket kit (Figure 6). The compressor jacket shall be installed from the top of compressor as represented in Figure 7.

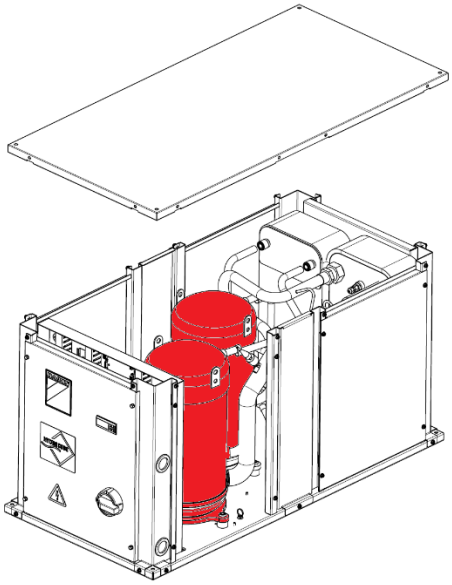


Figure 6-Compressor jacket kit

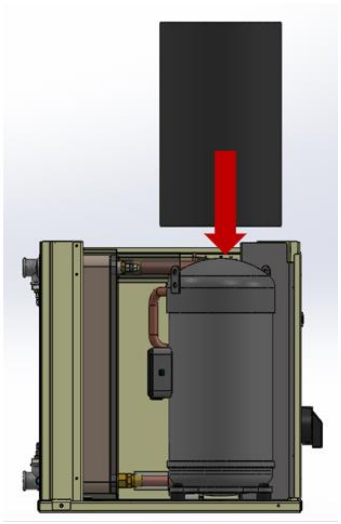


Figure 7-Compressor jacket kit

7 EXTERNAL HMI

7.1 Introduction

The following chapters will be divided into two parts:
1)follow the first part to move from EvCO to Siemens
2)follow the second part to move from Siemens to EvCO

7.2 Software Configuration

1)To exchange the EvCO interface with a Siemens, perform the following steps:

Step 1:
go to EvCO menu 15.00 and select page 15.16, changing the value from 1 to 0.

Menu	Parameter	Range	Default	Description	R/W
15 "Service Configuration"	15.16 (**HMI Sel**)	1=EvCO 0=Siemens	1=EvCO	Use to swap one interface for another	R/W

Step 2:
Go in menu 20, scroll to page 20.01 and select On

Menu	Parameter	Range	Default	R/W
20 "PLC"	01**(Apply Changes)**	Off-On	Off	W

The controller will restart, and it will no longer be possible to use the EvCO HMI.

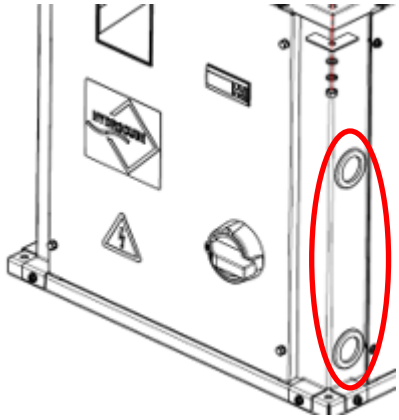
2)To exchange the Siemens interface with a EvCO, perform the following steps:

Step 1:
Go in Commission Unit → Configuration → Options → HMI Selection and select EvCO.

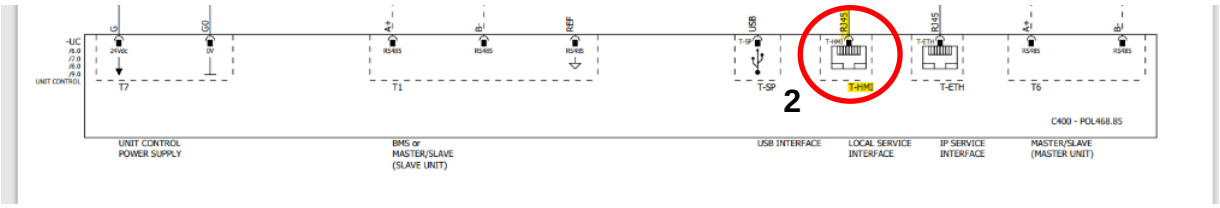
Step 2:
In the same page (Commission Unit → Configuration → Options) Scroll up or down for found Apply Changes select it and press On. The PLC will reboot to enable the changes.

7.3 Electrical Connection

1)For the electrical connection in case of **EvCO→Slemens** perform following steps:



Slot (1) for accessories



Step 0:
Remove electrical power supply from the unit. Turn to 0 position the main switch handle
Step 1:
Remove the Metal Panel and access the controller.
Step 2:
Disconnect the RJ-45 cable of EvCO HMI to the ***T-HMI port (2)*** of the controller
Step 3:
Guide the external HMI cable through the ***slot (1)*** at the mid right side of the electrical panel.
Step 4:
Connect the RJ-45 cable of Siemens HMI to the ***T-HMI port (2)*** of the controller.
Step 5:
Assemble the metal panel of the electrical cabinet.

The external interface can now be available.

2)For the electrical connection in case of **Siemens→EvCO** perform following steps:

Step 0:
Remove electrical power supply from the unit. Turn to 0 position the main switch handle
Step 1:
Remove the Metal Panel and access the controller.
Step 2:
Disconnect the RJ-45 cable of Siemens HMI to the ***T-HMI port (2)*** of the controller and pull it out of the ***slot (1)***.
Step 3:
Taking care not to over-pull the contacts, plug the RJ-45 cable from the EvCO HMI into the ***T-HMI port (2)*** on the controller.
Step 4:
Assemble the metal panel of the electrical cabinet.

8 LIFTING KIT

The lifting kit is necessary to properly lift the unit whenever is needed a unit displacement.

Lifting Kit	
Description	**Q.ty**
Lifting Angular Support	4
M8 Eyebolt	4
Bolt M8X30 UNI 5739-8,8	4

The kit is composed by the items listed in Table *3*.

Lifting Kit	
Description	**Q.ty**
Lifting Angular Support	4
M8 Eyebolt	4
Bolt M8X30 UNI 5739-8,8	4

Table 3-Lifting kit

See Figure 8 for the correct installation of lifting kit.

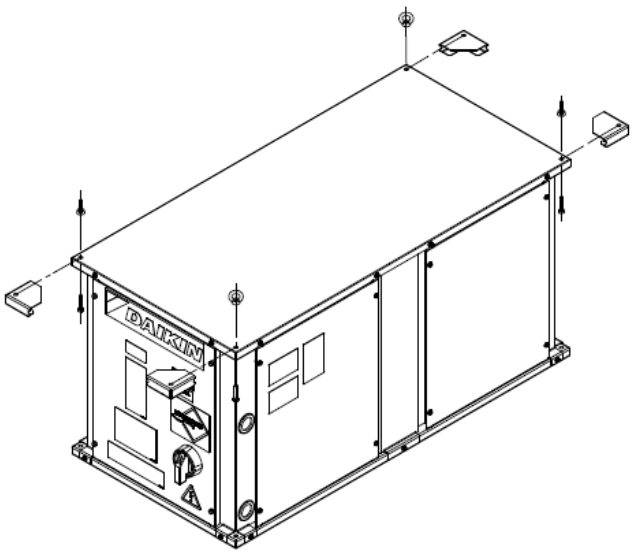


Figure 8-Correct installatin of lifting kit

Below is represented the correct unit lifting
(
Figure 9).

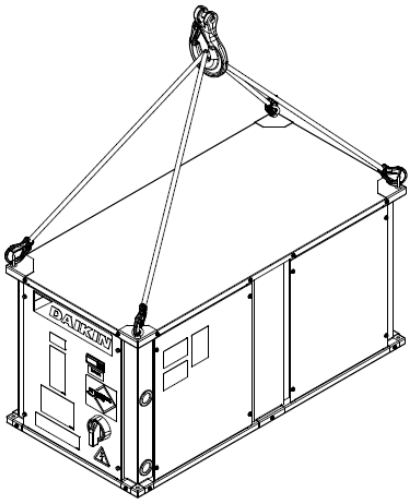


Figure 9-Correct unit lifting

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