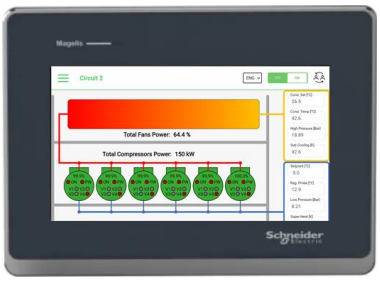
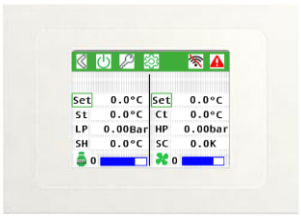
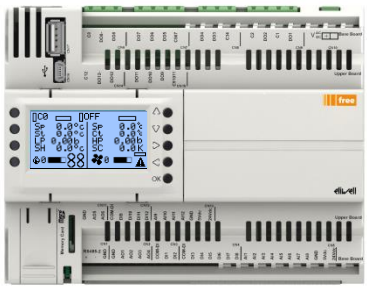
Baseline Chiller -Heat Pump-Rack Application

Quick Start Guide - OEM







1. Document History

Document Revision History				
Version	**Date yyyy/mm/dd**	**Authors**	**Modifications Details**	**Sw Release**
1.0	2021/02/23	T. Tremonti	Document Creation	Application 2.7.15 HMI Touch 1.11

2. Introduction

The purpose of this document is to provide to the end user the minimum competencies to use the Rack/Chiller application.

The User Manual “Baseline_CH-HP-CR_UserManual_1.9_EN”shall be used and can’t be replaced by this document.

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

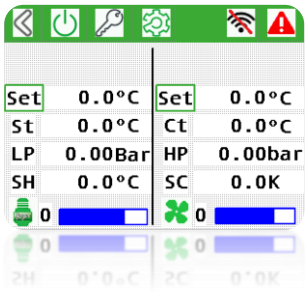
3. Part numbers

P/N	Description	Note
AVD126006I500	AVD12600/C/L/U/I	Main controller
AVP100W0P0500	AVP1000 /P WHITE	Remote display Option 1
EVK1000000B00	FREE EVK1000	Remote display Option 2
HMISTW6200	4"W touch panel display, 1Ethernet, USB host&device, 24VDC	Remote display Option 3
HMISTW6400	7"W touch panel display, 2Ethernet, USB host&device, 24VDC	Remote display Option 4
HMISTW6500	10"W touch panel display, 2Ethernet, USB host&device, 24VDC	Remote display Option 5
HMISTW6600	12"W touch panel display, 2Ethernet, USB host&device, 24VDC	Remote display Option 6
HMISTW6700	15"W touch panel display, 2Ethernet, USB host&device, 24VDC	Remote display Option 7
EVE1020000500	CAN IO expansion	
XVD420H485030	Electronic Expansion Valve driver	

4. User interface option

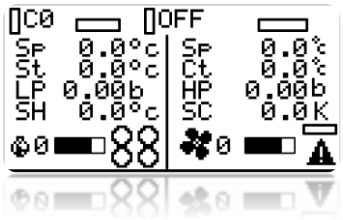
The user can control the application using the follow Human Machine Interface (HMI)

Touch color HMI



The Touch color HMI is a user interface dedicated for the end user operation
On-Off, setpoints, alarm monitoring and reset are easily available in the landing page.
A system overview is available in the landing page and detailed information are available base on the active user password.

PLC HMI

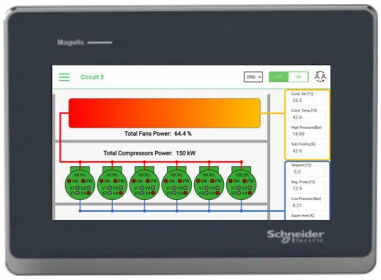


The OnBoard PLC HMI is a graphical user interface dedicated for the service and the basic operation.
It can be used also for the commissioning and allow the user to Save the Configuration end export in a USB memory.
The data logger file in CSV format can also be exported via USB in a dedicated form.
On-Off, setpoints, alarm monitoring and reset are easily available in the landing page.
A system overview is available in the landing page and detailed information and all parameter are available base on the active user password.

Web Server HMI PC

The Web server is a complete responsive Web interface that can be used either for basic operation or for service / troubleshooting. It has been developed to minimize the commissioning operation and reduce the commissioning time.
The web page is organized to help the user to easily find the required parameters.
Configuration parameters can be exported in a USB memory in a dedicated form.
The data logger file in CSV format can also be downloaded via Web server.
A real time chart is available to trace the behavior of the process variable.
On-Off, setpoints, alarm monitoring and reset are easily available in the landing page.
A system overview is available in the landing page.

Touch Color HMI up to 15" with Harmony PLC ST6W



The Web server is a complete with the web HMI of the Harmony series.
https://www.se.com/ww/en/product-range/65770-harmony-st6/13428910798-web-hmi/

From 4" to 15 "

4.1. Program a PLC with the default settings

To program an empty PLC AVD 12600 with the default setting copy the file present in folder USB_CH-HP-CR_42IO_APP-PAR of the zip file USB_CH_HP_CR_2.X.yy.zip in an empty USB memory and plug in an unpowered PLC.
Power up the controller and wait until the PLC complete the programming operation.

4.2. Program the PLC webserver

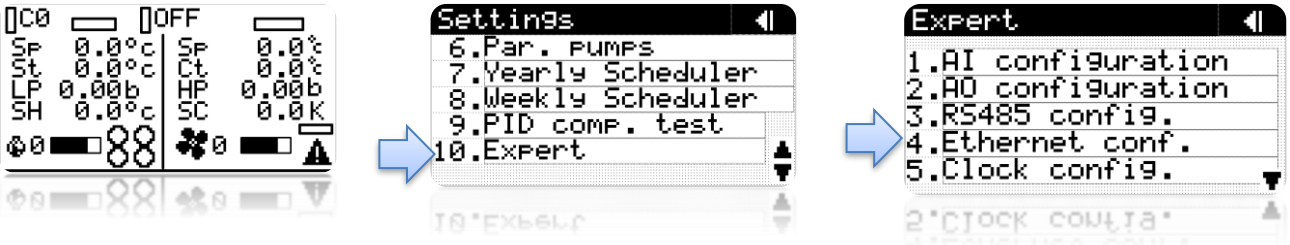
To add this feature copy the files present in the folder USB_CH-HP-CR_WEB of the zip file USB_CH_HP_CR_2.X.yy.zip in an empty microSD card and plug the micro SD card and then plug the micrSD card in the controller.

4.3. Configure Web server access

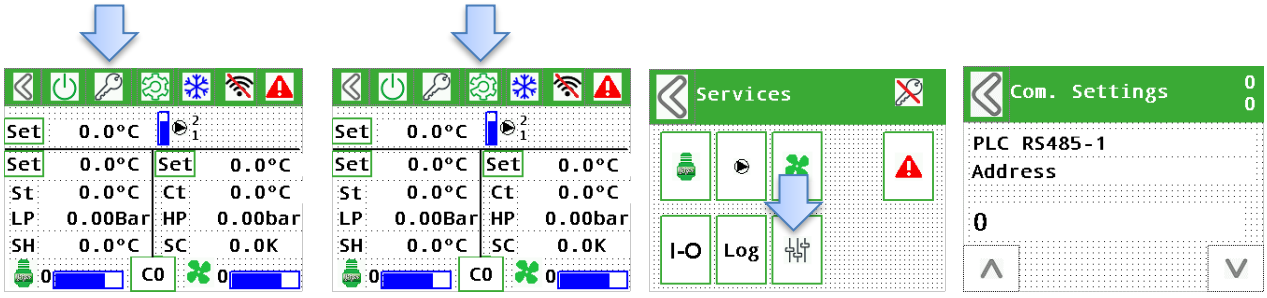
To use the web server for remote monitoring and data logging the Ethernet port shall be configured.
A direct connection PC to PLC will allow the user to get access to the webserver application.
The default parameter for the Ether port are

	PLC	PC/Laptop
IP Configuration	10.0.0.100	10.0.0.99
Net Mask	255.255.255.0	255.255.255.0
Default Gateway	10.0.0.1	10.0.0.1

The default credential to login to the web server page are:
User “oper1”
Password “1”
The IP configuration can be modified in the local HMI. From Home press 3 second OK to enter in the password Form and enter the Level 1 Password then follow the next navigation option.



The IP configuration can be modified in the Touch HMI. From the Home the kay button and enter then L3 password Form and enter the Level 1 Password then follow the next navigation option.



4.4. Configure Unit feature

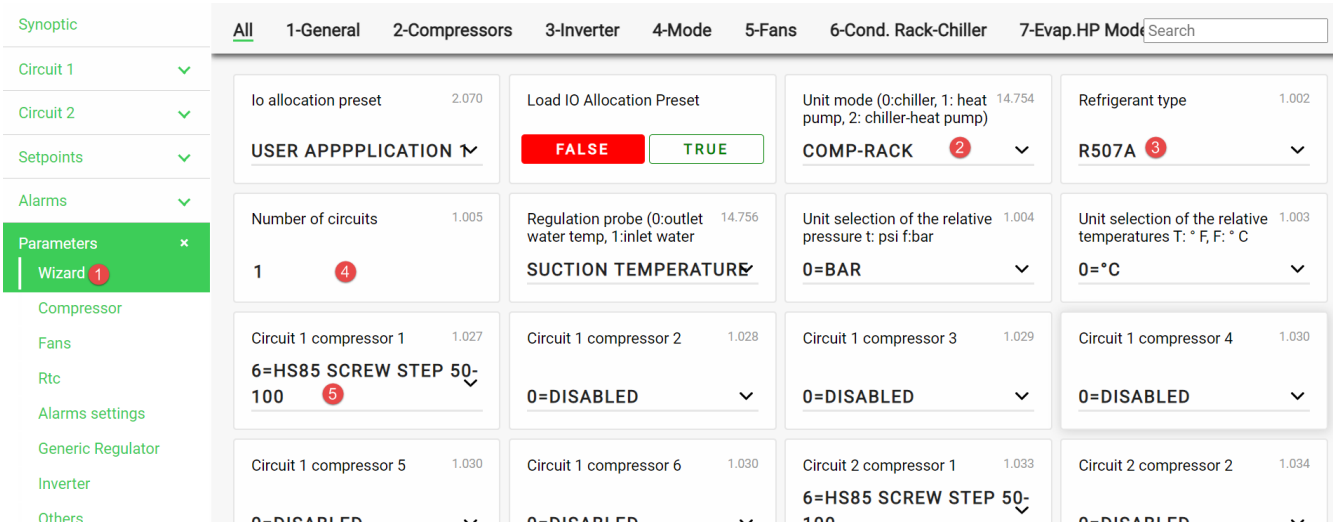
Access to the PLC webserver by entering the default IP address of the PLC 10.0.0.100 and access with the admin right

User: admin

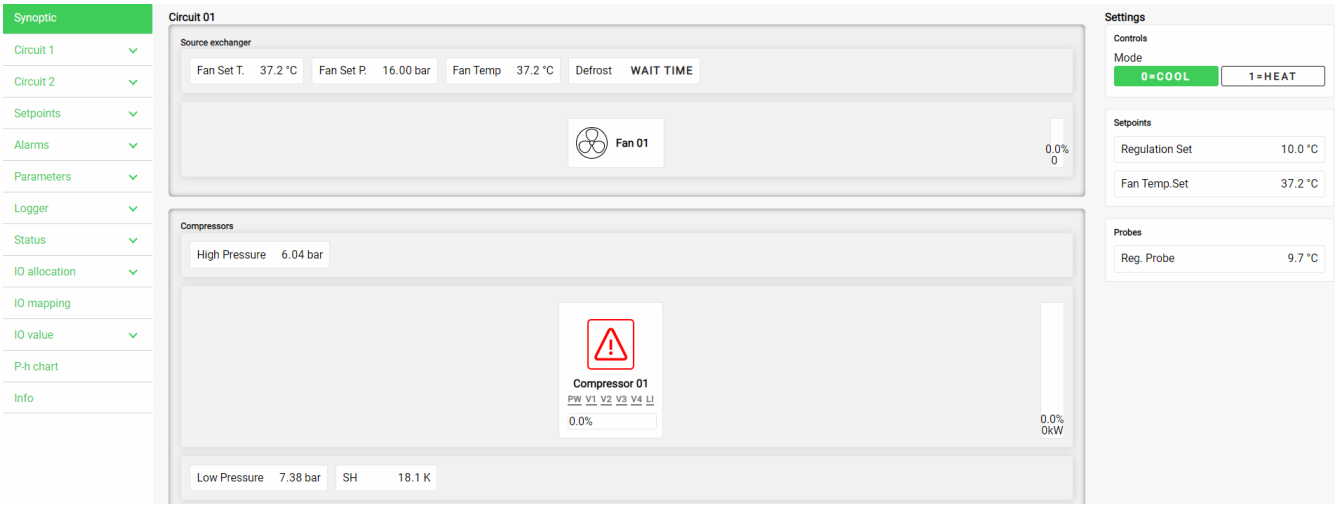
Password: admin

Select wizard page and check the requested configuration.

1. Select Wizard page.
2. Select compressor Rack unit or Chiller/HP unit.
3. Select refrigerant type.
4. Specify the number of circuits.
5. Specify the compressor model.



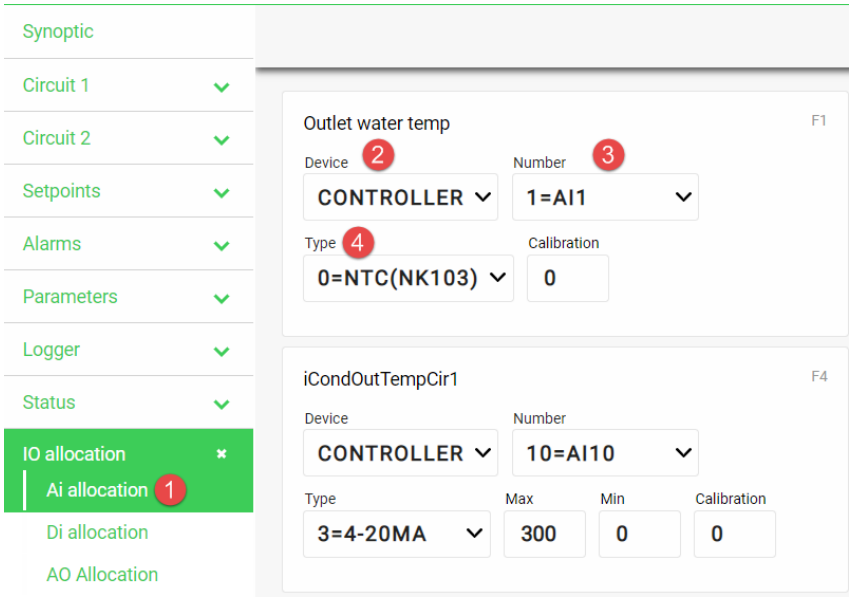
The synoptic page will be automatically update according with your configuration



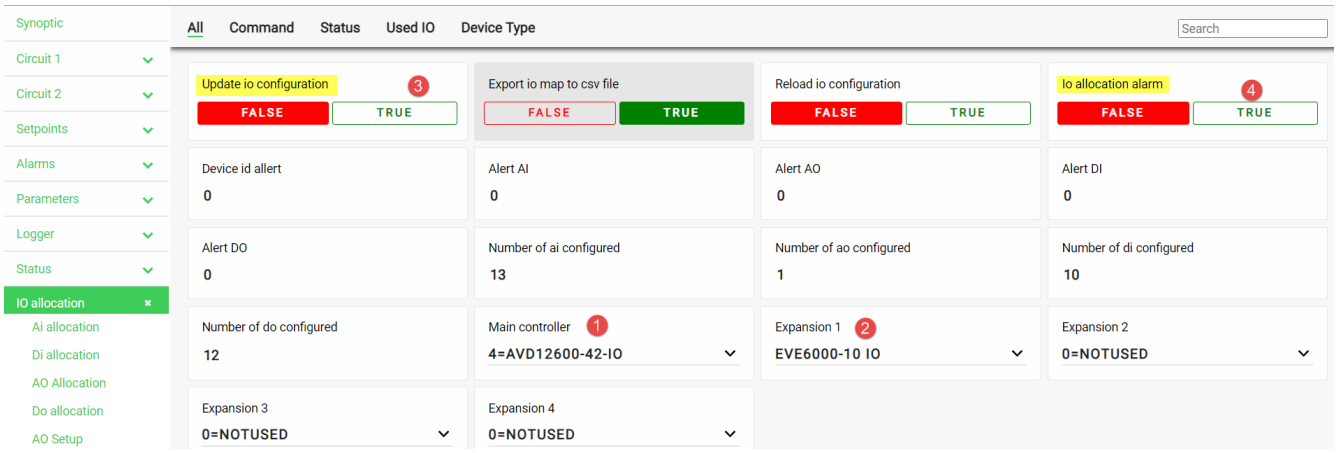
5.1. Configure IO Allocation

Access to the PLC webserver by entering the default IP address of the PLC 10.0.0.100

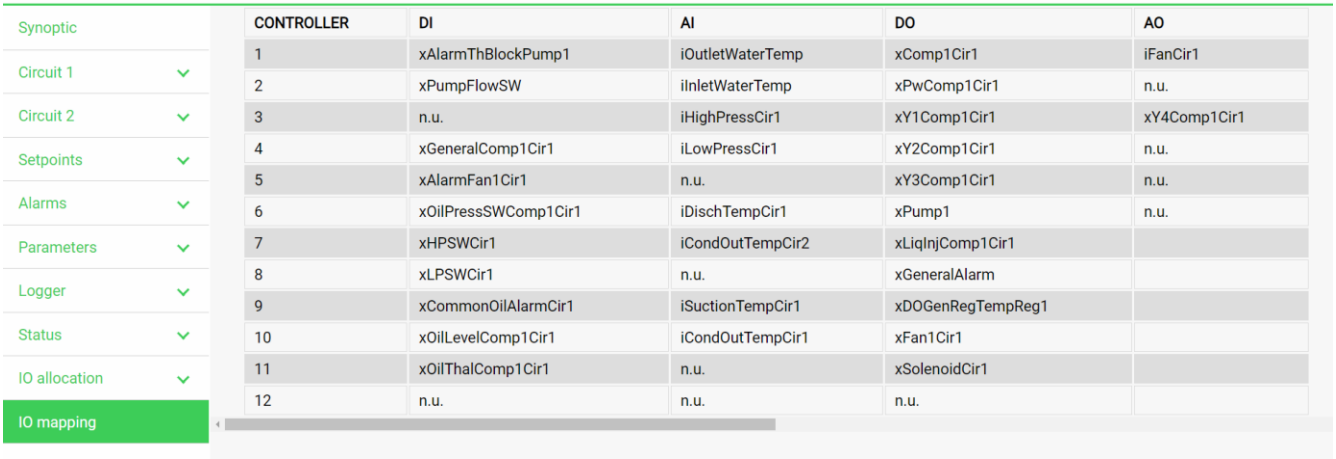
1. Select the Ax allocation page and specify the IO position for each Input and Output
2. Select the device (PLC or EXPANSION)
3. Select Allocation number (AI1, AI2 ecc)
4. Select the correct Ax type.



1. Check the correct PLC model
2. Check the correct Expansion Model if any.
3. Apply the change and wait untile the IO Map has been exported in the CSV file.
4. Check allocation error.



The IO mapping overview (PLC and expansion) will be available in a dedicated page.



CONTROLLER	DI	AI	DO	AO
1	xAlarmThBlockPump1	iOutletWaterTemp	xComp1Cir1	iFanCir1
2	xPumpFlowSW	iInletWaterTemp	xPwComp1Cir1	n.u.
3	n.u.	iHighPressCir1	xY1Comp1Cir1	xY4Comp1Cir1
4	xGeneralComp1Cir1	iLowPressCir1	xY2Comp1Cir1	n.u.
5	xAlarmFan1Cir1	n.u.	xY3Comp1Cir1	n.u.
6	xOilPressSWComp1Cir1	iDischTempCir1	xPump1	n.u.
7	xHPSWCir1	iCondOutTempCir2	xLiqInjComp1Cir1	
8	xLPSWCir1	n.u.	xGeneralAlarm	
9	xCommonOilAlarmCir1	iSuctionTempCir1	xDOGenRegTempReg1	
10	xOilLevelComp1Cir1	iCondOutTempCir1	xFan1Cir1	
11	xOilThalComp1Cir1	n.u.	xSolenoidCir1	
12	n.u.	n.u.	n.u.	

5.2. Configuration setting

The unit configuration setting can be exported in an empty USB memory using a dedicated menu.

Plug the empty USB memory in the controller.

1- Select others from the parameter menu

2- Select configuration

3- Select export configuration to USB

4- Select confirm and wait until the configuration status will be set to completed.