

# DC Compressor Chiller application

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## Hardware and software requirements

Application Code	OSSTDmCHBE
Application Version	1.5.12
c.suite	≥ 4.2.29
O.S.	≥ 4.1.300
Hardware	c.pCOmini Enhanced, c.pCOmini High End, c.pCO Medium
Manual code	+030221546 EN, +030221545 IT

## Project description

With this application it is possible to manage high efficiency chiller with BLDC & scroll compressors:

1. Configurations
  - c.pCOmini (Enhanced or HighEnd): up to 1 circuit 2 compressors (up to 100kW of power output)
  - c.pCOmini Master-Slave (Master: Enhanced or HighEnd, Slave: Enhanced): up to 2 circuits 2+2 compressors (up to 200kW of power output)
  - c.pCOMedium: up to 2 circuits 3+3 compressors (up to 400kW of power output)
2. Compressor
  - Single/Tandem/Trio with BLDC+OnOff or OnOff only
  - Envelope management for BLDC (more than sixty models) and OnOff (Bitzer, Danfoss, Copeland) compressors
3. EEV
  - EVD Evolution on board
4. Plant
  - Chiller/Heatpump
  - Single evaporator

## 5. Source

- Air/Water or Water/Water
- OnOff or modulating fan/pump

## 6. Functions

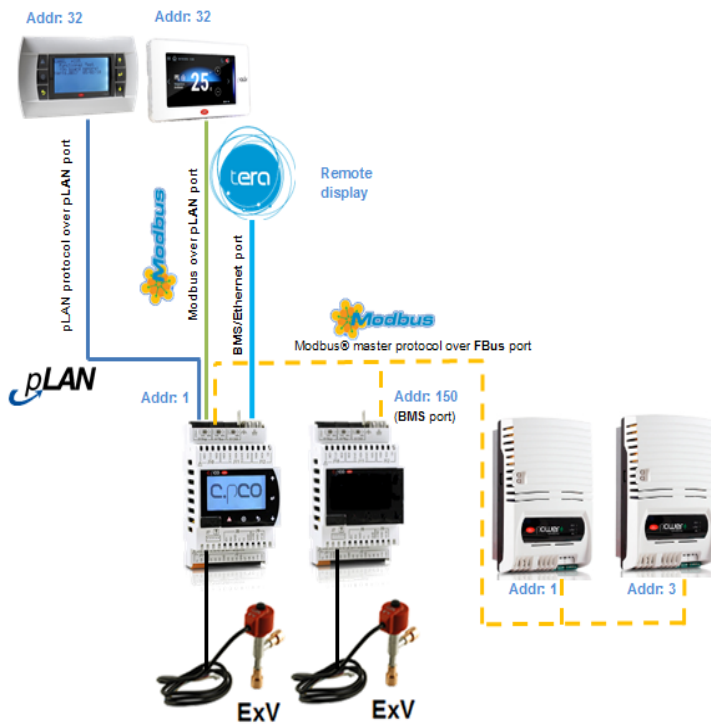
- Double PID (Startup, Running)
- Scheduler
- Low noise (for fan)
- FreeCooling
- Defrost management
- Setpoint compensation
- Oil management (Destabilization, Recovery and Equalization)
- Anti lock (for the devices)
- Anti frost for cold climate (for fan)
- Import/Export parameters
- Export Alarm history
- Export log

## IO configuration

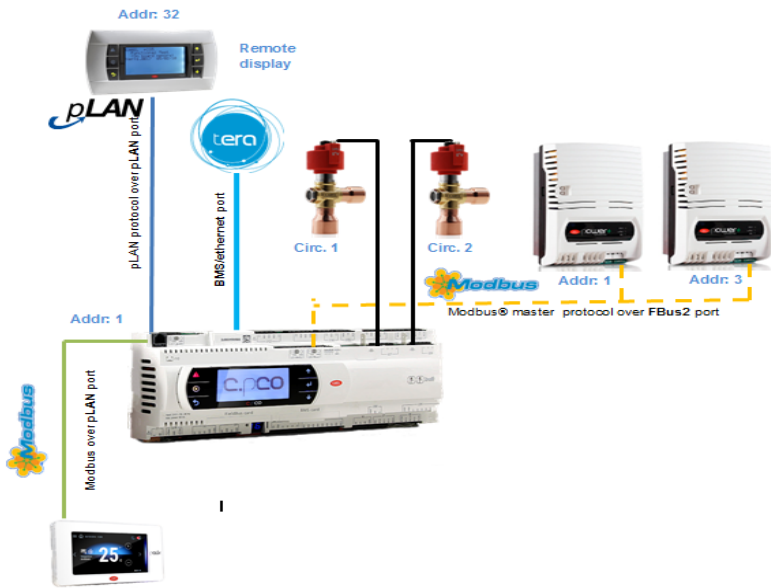
See the application manual for the I/O configuration

## Main default settings

c.pCOmini version



c.pCO Medium version



<b>pLAN addressing</b>	c.pCO	1
	PGDX	32
	PGD1	32, Private

<b>c.pCOmini Slave</b>	Protocol	Modbus Master on Fieldbus
	Address	150
	Baudrate	19200
	Parity	NONE
	Stopbit	2

<b>Power +</b>	Protocol	Modbus Master on Fieldbus /Fieldbus 2
	Address	1 and 3 (if present)
	Baudrate	19200
	Parity	NONE
	Stopbit	2

<b>Supervision</b>	Protocol	Modbus Slave on BMS/BMS 2/Ethernet
	Address	Set by display
	Baudrate	19200 (for BMS connection)
	Parity	NONE (for BMS connection)
	Stopbit	2 (for BMS connection)

<b>Quick configuration</b>	Menu A. Plant	Unit type (Chiller/Heatpump) and pumps number
	Menu B. ExV	EEV type and Pump-Down configuration
	Menu C. Compressors	Circuit number and configuration, compressor manufacturer and model, power distribution between compressors, refrigerant type
	Menu D. Power+	Type of BLDC motor
	Menu E. Source	A/W or W/W unit type and fan/pump type (number of pumps)

## Release notes

Following are notes about released versions of this application

Release	Dependencies	Notes
<b>1.5.12</b>	<ul style="list-style-type: none"> <li>• AlarmFreeze 1.2.0</li> <li>• Blackout_3 1.0.1</li> <li>• BLDC_TandemTrio 1.2.0</li> <li>• CAREL_BASIC_LIB 2.3.0</li> <li>• CheckRetainMem 1.2.0</li> <li>• CircDestabil 1.2.0</li> <li>• Comp_BLDC 2.0.24</li> <li>• COMP_MNG_LIB 1.3.0</li> <li>• DefrostCore 1.2.0</li> <li>• DevicesRotation_3 1.1.1</li> <li>• EVD_Emb_2 1.5.1</li> <li>• EVD_EVO_2 1.5.1</li> <li>• InverterPowerPlus 2.0.24</li> <li>• OilEqualization 1.2.0</li> <li>• OilRecovery 1.2.0</li> <li>• PID_Adv_2 1.0.0</li> <li>• PrbAlrm_2 1.0.1</li> <li>• PumpDown 1.2.0</li> <li>• Pumps 1.2.1</li> <li>• ReverseValve 1.2.1</li> <li>• SerialStatus 1.3.0</li> <li>• SourceFan 1.2.2</li> <li>• TZMng 1.0.0</li> <li>• VersionChk_2 1.0.1</li> </ul>	<p><b>Enhanced</b></p> <ul style="list-style-type: none"> <li>• PGDx management, touch terminal</li> <li>• Update library Comp_BLDC v.2.0.24 so new BLDC compressors are now available</li> <li>• Update library EVD_Emb_2 v.1.5.1</li> </ul> <p><b>Documentation</b></p> <ul style="list-style-type: none"> <li>• Enhanced paragraph PGdx</li> <li>• Updated the list of the compressor available (Appendix A).</li> </ul>

Release	Dependencies	Notes
1.5.7	<ul style="list-style-type: none"> <li>• AlarmFreeze 1.2.0</li> <li>• Blackout_3 1.0.1</li> <li>• BLDC_TandemTrio 1.2.0</li> <li>• CAREL_BASIC_LIB 2.3.0</li> <li>• CheckRetainMem 1.2.0</li> <li>• CircDestabil 1.2.0</li> <li>• Comp_BLDC 2.0.10</li> <li>• COMP_MNG_LIB 1.3.0</li> <li>• DefrostCore 1.2.0</li> <li>• DevicesRotation_3 1.1.1</li> <li>• EVD_Emb_2 1.4.0</li> <li>• EVD_EVO_2 1.5.1</li> <li>• InverterPowerPlus 2.0.10</li> <li>• OilEqualization 1.2.0</li> <li>• OilRecovery 1.2.0</li> <li>• PID_Adv_2 1.0.0</li> <li>• PrbAlrm_2 1.0.1</li> <li>• PumpDown 1.2.0</li> <li>• Pumps 1.2.1</li> <li>• ReverseValve 1.2.1</li> <li>• SerialStatus 1.3.0</li> <li>• SourceFan 1.2.2</li> <li>• TZMng 1.0.0</li> <li>• VersionChk_2 1.0.1</li> </ul>	<p><b>Fixed</b></p> <ul style="list-style-type: none"> <li>• Fixed wrong control of the not efficient FreeCooling alarm. Previously it was considered only the first circuit to identify the inefficiency of the FreeCooling. Now it has been added the control also of the second circuit's compressors, if configured. (CAREL_REF #521).</li> </ul> <p><b>Changed</b></p> <ul style="list-style-type: none"> <li>• OS compatibility: equal or greater than 4.1.005</li> <li>• Changed the default value of the power plus automatic default installation after a inverter substitution. Previously this function was disabled, now in case of substitution of the inverter, the application will automatically recognize the difference and will write the right compressor default parameters. (CAREL_REF #549).</li> </ul> <p><b>Enhanced</b></p> <ul style="list-style-type: none"> <li>• Added the possibility to choose the source setpoint modulation type. In the previous versions it was possible only to choose if enable or disable the prevent function for the OnOff compressors that controls the source setpoint modulation. Now it's possible to select the modulation type also with BLDC compressor configured, and it has been added also a safety limits to avoid too high or too low setpoint.</li> <li>• Added the support to the BACnet protocol (Only Server). (CAREL_REF #545).</li> <li>• Added the selection of the protocol type to be connected to the available ports. In the previous version it was fixed depending on the controller type, now it's possible to choose Modbus or BACnet for every ports available. Check the chapter "8.SUPERVISOR TABLE" for further informations.</li> </ul> <p><b>Documentation</b></p> <ul style="list-style-type: none"> <li>• Added new parameters (from Ge16 to Ge27) at paragraph "7.11 Settings: Serial Ports"</li> <li>• Updated description of the paragraph "8. SUPERVISOR TABLE"</li> <li>• Added new parameters (form E072 to E074) at paragraph "7.7 Source"</li> <li>• Updated description of the paragraph "6.13 Source fans".</li> </ul>

Release	Dependencies	Notes
1.5.6	<ul style="list-style-type: none"> <li>• AlarmFreeze 1.2.0</li> <li>• Blackout_3 1.0.1</li> <li>• BLDC_TandemTrio 1.2.0</li> <li>• CAREL_BASIC_LIB 2.3.0</li> <li>• CheckRetainMem 1.2.0</li> <li>• CircDestabil 1.2.0</li> <li>• Comp_BLDC 2.0.10</li> <li>• COMP_MNG_LIB 1.3.0</li> <li>• DefrostCore 1.2.0</li> <li>• DevicesRotation_3 1.1.1</li> <li>• EVD_Emb_2 1.4.0</li> <li>• EVD_EVO_2 1.5.1</li> <li>• InverterPowerPlus 2.0.10</li> <li>• OilEqualization 1.2.0</li> <li>• OilRecovery 1.2.0</li> <li>• PID_Adv_2 1.0.0</li> <li>• PrbAlrm_2 1.0.1</li> <li>• PumpDown 1.2.0</li> <li>• Pumps 1.2.1</li> <li>• ReverseValve 1.2.1</li> <li>• SerialStatus 1.3.0</li> <li>• SourceFan 1.2.2</li> <li>• TZMng 1.0.0</li> <li>• VersionChk_2 1.0.1</li> </ul>	<p><b>Fixed</b></p> <ul style="list-style-type: none"> <li>• Fixed wrong upper limit of the setpoint of the Discharge superheat. The discharge set limit was 45°C, now it has been increased up to 70°C (CAREL_REF Ticket#427).</li> <li>• Fixed the forcing on/off of the crankcase heater. In the previous version it was not possible to force on or off the crankcase heater because at every switch on of the controller the mode came back to "Auto" instead of "Forced On" or "Forced Off". Now it's possible to force always On or always Off the heater also after a switch on of the controller.</li> </ul> <p><b>Changed</b></p> <ul style="list-style-type: none"> <li>• OS compatibility: equal or greater than 4.1.005</li> <li>• Added the mode of the crank case heater to the retain variables. Previously the force on/off of the crank case heater was resetted at the start-up. Now it's possible to force always on or off the crank case heater, also switching off and on the unit.</li> <li>• Added the indication of the protection status of the valve in case of EVD EVO configured. Previously also with some valve protection active, the status shown in mask was always "On". Now it shows also "LowSH, MOP, LOP or HCondT".</li> <li>• Added the scaler of the compressor request. In case of customization of the maximum compressor speed, the regulation will be rescaled from 0 to the custom maximum speed. There is a specific mask where it is shown the request scaled and the request considering the manufacturer maximum speed (inside Info -&gt; Other Info -&gt; Power+ Info). (CAREL_REF Ticket#501)</li> <li>• Assigned to all the Retain parameters a default value. In this way if is performed an export of the configuration, there will be the indication of all the Retain parameters of the application.</li> </ul> <p><b>Enhanced</b></p> <ul style="list-style-type: none"> <li>• Update library Comp_BLDC v.2.0.10</li> <li>• Update library EVD_Emb_2 v.1.4.0</li> <li>• Update library EVD_EVO_2 v.1.5.1</li> <li>• Update library CheckRetainMem v.1.2.1</li> <li>• Update library COMP_MNG_LIB v.1.3.0</li> <li>• Update library VersionChk v.1.0.1</li> </ul> <p><b>Documentation</b></p> <ul style="list-style-type: none"> <li>• Updated the list of the compressor available (Appendix A).</li> </ul>

Release	Dependencies	Notes
1.5.5	<ul style="list-style-type: none"> <li>• AlarmFreeze 1.2.0</li> <li>• Blackout_3 1.0.1</li> <li>• BLDC_TandemTrio 1.2.0</li> <li>• CAREL_BASIC_LIB 2.3.0</li> <li>• CheckRetainMem 1.2.0</li> <li>• CircDestabil 1.2.0</li> <li>• Comp_BLDC 2.0.5</li> <li>• COMP_MNG_LIB 1.2.3</li> <li>• DefrostCore 1.2.0</li> <li>• DevicesRotation_3 1.1.1</li> <li>• EVD_Emb_2 1.3.0</li> <li>• EVD_EVO_2 1.3.0</li> <li>• InverterPowerPlus 2.0.5</li> <li>• OilEqualization 1.2.0</li> <li>• OilRecovery 1.2.0</li> <li>• PID_Adv_2 1.0.0</li> <li>• PrbAlrm_2 1.0.1</li> <li>• PumpDown 1.2.0</li> <li>• Pumps 1.2.1</li> <li>• ReverseValve 1.2.1</li> <li>• SerialStatus 1.3.0</li> <li>• SourceFan 1.2.2</li> <li>• TZMng 1.0.0</li> <li>• VersionChk_2 1.0.0</li> </ul>	<p><b>Fixed</b></p> <ul style="list-style-type: none"> <li>• Set the unit of measurement for Mask.WEB_EEVSetCirc1 and Mask.WEB_EEVSetCirc2 variables, in Celsius degrees (°C), in order to have the right UoM management in the web pages</li> <li>• Fixed Gas type selection, now the gas type is chosen automatically by the compressor. (CAREL_REF Ticket #416)</li> <li>• Fixed uncorrect management of suction pressure probe alarm due to overrange. Now the software gives an error if the probe value it's equal or greater then the maximum value. (CAREL_REF Ticket #425)</li> <li>• Fixed Wrong logs export. Now you can export all the logs. (CAREL_REF Ticket #450)</li> <li>• Fixed PWM management for hardware c.pCO Medium, now if the hardware is the c.pco medium is not allowed to select PWM type for the fans. (CAREL_REF Ticket #445)</li> <li>• Fixed the enabling of the mask for the EEV equalization pressure at the statrtup. (CAREL_REF Ticket #428)</li> <li>• Fixed index description of the parameters Cb02 and Cb03.</li> <li>• Fixed wrong informations in the EEV valve mask, now what you see in the mask is exactly what the valve uses to regulate. (CAREL_REF Ticket #421)</li> </ul> <p><b>Changed</b></p> <ul style="list-style-type: none"> <li>• OS compatibility: equal or greater than 4.1.000</li> </ul> <p><b>Enhanced</b></p> <ul style="list-style-type: none"> <li>• With the binary files will be provided a new web KIT in which there are custom web pages "DC compressor chiller application" for Service management of the unit.</li> <li>• Update library Backout_3 v.1.0.1</li> <li>• Update library Comp_BLDC v.2.0.5 so new BLDC compressors are now available.</li> <li>• Update library DevicesRotation_3 v.1.1.1</li> <li>• Update library EVD_Emb_2 v.1.3.0</li> <li>• Update library EVD_EVO_2 v.1.3.0</li> <li>• Update library PrbAlrm_2 v.1.0.1</li> <li>• Update library SerialStauts v1.3.0</li> <li>• Added the software wipe retain management. Now it's possible to wipe all the retain variables directly from the mask. (CAREL_REF Ticket #266)</li> <li>• Improvement of the total freecooling. Now the software can switch off the compressor in case of total freecooling condition in order to be more efficient and mantain the temperature with the lower consumption possible. (CAREL_REF Ticket #457)</li> <li>• Improved the Remote controls, now the software is able to understand when the BMS is offline. In this case the software ignore the remote request and the remote OnOff, and continue to regulates with the normal regulation. (CAREL_REF Ticket #420)</li> <li>• Improved the refrigerant selection controls. Now in case of c.pco medium and two circuits the refrigerant of the second circuit is forced by the first circuit. In this way it's not possible to have inconsistent configuration. (CAREL_REF Ticket #353)</li> </ul> <p><b>Documentation</b></p> <ul style="list-style-type: none"> <li>• User manual: added "Internet browser" chapter.</li> </ul>



Release	Dependencies	Notes
1.5.1	-	<p><b>Fixed</b></p> <ul style="list-style-type: none"> <li>• Wrong parameter in Comp_BLDC_Circ2 page linked to the input of BLDC comp FB. It was Comp_BLDC_Circ2.CurrCompCfg_PWRP_Circ1 instead of Comp_BLDC_Circ2.CurrCompCfg_PWRP_Circ2</li> <li>• Wrong input variable in the BLDC_TandemTrio FB: The input pin "BLDC_MaxSpeed_TT" is connected to the variable "InvInfoCirc2.UI_MotMaxOutFreq_rps", changed with the right variable "CfgEnvCtrl_BLDC_Circ1.Speed_MaxSpeedRpsCustom" (CAREL_REF Ticket #288)</li> <li>• Wrong Maximum speed management: the variables TT_FixOnThrsh and TT_FixOffThrsh could exceed the BLDC min and max speed, now they have been limited according to the min and max speed of the BLDC compressor. (CAREL_REF Ticket #289)</li> </ul> <p><b>Changed</b></p> <ul style="list-style-type: none"> <li>• OS compatibility: equal or greater than 3.0.001</li> <li>• Mask M_BLDC_Threshold: the parameters Ge39 and Ge40 will be shown even in case of 2 circuits with only 1 BLDC compressor, because used for the on threshold of the second BLDC circuit check</li> <li>• Reset of the Power+ baudrate and address: now the Data Communication Baudrate and Parity variables have been set as RETAIN and DEV variables, with the default value of 1 (=19200) for Baudrate, and 0 (=None 2 stop bits) for Parity. (CAREL_REF Ticket #277)</li> <li>• Forcing Power+ address could cause some troubles: now it is possible to set from mask the Address Base and read the Address Deepswitch value, in order to set the right Address for the Power+ (CAREL_REF Ticket #275)</li> <li>• DEV Configurations: parameter EEV_FastClosMoveRate changed from 50 to 150 (CAREL_Ref Ticket #276)</li> </ul> <p><b>Enhanced</b></p> <p>-</p> <p><b>Documentation</b></p> <ul style="list-style-type: none"> <li>• User manual: parameter Ge15 there was a wrong default value (10ms), it has been fixed with the right value (40ms).</li> <li>• User manual: added parameters Ge18 Base Address [032], Ge19 Deepswitch Addr. [121] for Power+ Circuit 1 and Ge20 Base Address [032] and Ge21 Deepswitch Addr. [121] for Power+ Circuit 2</li> </ul>

Release	Dependencies	Notes
1.5.0	-	<p><b>Fixed</b></p> <ul style="list-style-type: none"> <li>• In mask S_AInOffset2 the text of EN language "Water intel temp.:" has been corrected in "Water inlet temp.:" (CAREL_Ref Ticket #265)</li> <li>• The unit status in main mask, in Italian language, has a wrong text ("Off da teastiera"), it has been corrected in "Off da tastiera". (CAREL_Ref Ticket #274)</li> <li>• Wrong Italian description parameters E051, inn mask S_DefrostSyncro. It has been corrected in "0 : INDIPENDENTE; 1 : SEPARATO 2 : SIMULTANEO;" (CAREL_Ref Ticket #279)</li> <li>• Wrong management of parameter A023 (ChgOverTyp) in case of c.pCO Mini Master with 2 circuit. Now the master retains the value of this parameter until the slave board returns online. (CAREL_Ref Ticket #280)</li> </ul> <p><b>Changed</b></p> <ul style="list-style-type: none"> <li>• tERA/WEB configuration version has been changed from 1.1 to 1.6</li> </ul> <p><b>Deprecated</b></p> <p>-</p> <p><b>Enhanced</b></p> <p>-</p>

Release	Dependencies	Notes
1.4.0	-	<p><b>Fixed</b></p> <ul style="list-style-type: none"> <li>• EnableOn property in mask Info_DIn_Active2ndSetP (CAREL_Ref Ticket #228).</li> <li>• Description in mask Info_AOut_SrcFan2Circ1 (Language EN) (CAREL_Ref Ticket #236).</li> <li>• Min. and Max. parameters for A011 and A012 (set HP variables and modify constant value) (CAREL_Ref Ticket #242).</li> <li>• Parameters management of the EVD EVO in case of valve type different from Carel ExV (CAREL_Ref Ticket #234).</li> <li>• Variable in mask Info_DIn_OvldComp3Circ1 (set the variable of the compressor 3 instead 2) same for circuit 2 (CAREL_Ref Ticket #258).</li> </ul> <p><b>Changed</b></p> <ul style="list-style-type: none"> <li>• Format in mask of Ca19 and Ca20 to io2 (CAREL_Ref Ticket #243).</li> <li>• Limit max. in mask of Cb04 to 200.0 (CAREL_Ref Ticket #243).</li> <li>• Limit min. in mask of Cb14 to 0.1 (CAREL_Ref Ticket #244).</li> <li>• UoM management aligned to the changes in the OS (CAREL_Ref Ticket #246). NB: UoM kPa of SI is not supported due to the field range in mask.</li> <li>• The Discharge temperature Probe alarm for NTC HT, in case of disconnection or below 0.0°C, is now delayed of 60 s from compressor on. In other conditions the alarm is triggered as standard (for example "Probe short-circuited" case).</li> <li>• Some not used variables have been set as "Disabled" in tERA/WEB configuration.</li> <li>• tERA/WEB configuration version has been changed from 1.0 to 1.1.</li> </ul> <p><b>Deprecated</b></p> <p>-</p> <p><b>Enhanced</b></p> <ul style="list-style-type: none"> <li>• Added in mask the enabling of Remote OnOff (Ge16) and Remote Power Request (Ge17) commands (CAREL_Ref Ticket #249).</li> </ul>

Release	Dependencies	Notes
<b>1.2.0</b>	<ul style="list-style-type: none"> <li>• AlarmFreeze 1.2.0</li> <li>• Blackout_3 1.0.0</li> <li>• BLDC_TandemTrio 1.2.0</li> <li>• CAREL_BASIC_LIB 2.3.0</li> <li>• CheckRetainMem 1.2.0</li> <li>• CircDestabil 1.2.0</li> <li>• Comp_BLDC 2.0.2</li> <li>• COMP_MNG_LIB 1.2.3</li> <li>• DefrostCore 1.2.0</li> <li>• DevicesRotation_3 1.1.0</li> <li>• EVD_Emb_2 1.1.0</li> <li>• EVD_EVO_2 1.2.0</li> <li>• InverterPowerPlus 2.0.2</li> <li>• OilEqualization 1.2.0</li> <li>• OilRecovery 1.2.0</li> <li>• PID_Adv_2 1.0.0</li> <li>• PrbAlarm_2 1.0.0</li> <li>• PumpDown 1.2.0</li> <li>• Pumps 1.2.1</li> <li>• ReverseValve 1.2.1</li> <li>• SerialStatus 1.2.1</li> <li>• SourceFan 1.2.2</li> <li>• TZMng 1.0.0</li> <li>• VersionChk_2 1.0.0</li> </ul>	<p><b>Fixed</b></p> <ul style="list-style-type: none"> <li>• Division by 0 due to Speed_SwitchOffSpeedRate variable not initialized.</li> <li>• Parameters and alarms import/export functions from UI.</li> <li>• Slave network setting from UI: linked to variables the BMS communication parameters.</li> <li>• Power+ offline due to the modbus timeout parameter management (new Comp_BLDC Lib).</li> <li>• Corrected the delete alarm logs function (from UI).</li> <li>• BLDC envelope points: removed the division by 100 before Press. to Temp. conversion.</li> <li>• Defrost: drive the BLDC to the changeover speed on request.</li> <li>• Start-Run PID: added a control during PID changeover to avoid step variation.</li> </ul> <p><b>Changed</b></p> <ul style="list-style-type: none"> <li>• Updated library Comp_BLDC 2.0.2.</li> <li>• Replaced the FBs POU with the standard FB libraries: <ul style="list-style-type: none"> <li>- AlarmFreeze 1.2.0.</li> <li>- BLDC_TandemTrio 1.2.0.</li> <li>- CircDestabil 1.2.0.</li> <li>- DefrostCore 1.2.0.</li> <li>- OilEqualization 1.2.0.</li> <li>- OilRecovery 1.2.0.</li> <li>- PumpDown 1.2.0.</li> <li>- Pumps 1.2.1.</li> <li>- ReverseValve 1.2.1.</li> <li>- SerialStatus 1.2.1.</li> <li>- SourceFan 1.2.2.</li> <li>- TZMng 1.0.0.</li> </ul> </li> <li>• Power+ ready to go management to be aligned with the Offline alarm delay.</li> <li>• Set the Power+ command delay to 40ms.</li> <li>• Removed Unit Off control to the Alarm Export.</li> <li>• Added 20s delay to the Offline alarm of the EVD EVO.</li> <li>• EVD Offline alarm: ExV valve closes (in case of).</li> </ul> <p><b>Deprecated</b></p> <p>-</p> <p><b>Enhanced</b></p> <ul style="list-style-type: none"> <li>• Added negative compensation of the setpoint.</li> <li>• Added a ramp to reach the low noise setpoint.</li> <li>• Added export log function from UI.</li> </ul>

Release	Dependencies	Notes
<b>1.1.1</b>	-	<ul style="list-style-type: none"> <li>• First official release</li> <li><b>Fixed</b></li> <li>-</li> <li><b>Changed</b></li> <li>-</li> <li><b>Deprecated</b></li> <li>-</li> <li><b>Enhanced</b></li> <li>-</li> <li><b>Documentation</b></li> <li>-</li> </ul>