REV	02
Date	11/2022
Supersedes	D-EIOOC00310-22_01EN

Master Slave
D-EIOOC00310-22_02EN

Air Cooled chiller/heat pump with scroll inverter compressors
Water Cooled chiller/heat pump with scroll compressors

EWYT~CZ / EWAT~CZ / EWWQ~KC / EWLQ~KC

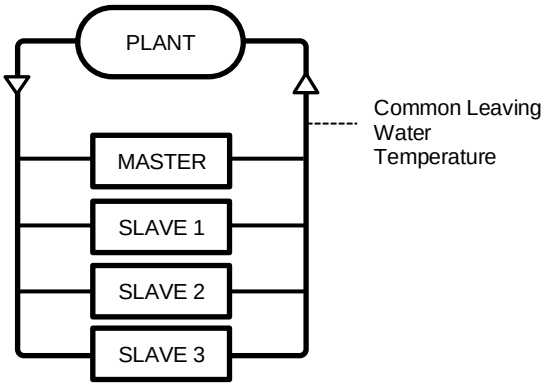
Contents

1 MASTER SLAVE OVERVIEW

This document describes Master Slave (MS) control logic. MS control is a common control feature to manage multiple chillers interconnected through serial communication Konnex, where one chiller defined as the Master gets the control of all chillers defined Slaves.

Only chillers belonging to the same series can be integrated in the same MS system.

MS controls a multi-chiller plant with maximum 4 units, 1 Master + up to 3 Slaves, which are connected in parallel in the water circuit. Temperature control is performed on the basis of the Common Leaving Water Temperature (CLWT) measured by an additional temperature sensor installed on the plant supply pipe.



Master performs a so-called Partial control of each Slave unit in the system.

Partial Control -The Master controls the On/Off state and sets its water setpoint to every Slave unit in the system. After the staging command sent by Master, each Slave regulates its capacity autonomously on the basis of its own leaving water temperature. In this way user can regulate the CLWT.

***Master Slave** does not provide any additional function for plant pump control. Each chiller can only starts or stops its primary/backup pumps*

2 MASTER SLAVE OPERATION

In this section the functionalities and configuration of MS are explained.

2.1 Configuration

Basic set up of the MS requires to set two simple parameters available in the unit configuration menu. Notice that, for Web HMI, "Connectivity Kit" is required.

HMI EVCO Registers [15.04] and [15.07]

Register	Default	Value	Description
[15.04] Address	None	0 = Standalone 1 = Master 2 = Slave1 3 = Slave2 4 = Slave3	Define if the chiller belongs or not to the Master Slave network. Standalone: Current unit does not belong to the Master Slave network Master: Current unit is part of a network and it is defined Master Slave 1: Current unit is part of a network and it is defined Slave 1 Slave 2: Current unit is part of a network and it is defined Slave 2. This address can be assigned only if the parameter **M/S Num Of Unit** = 3 or 4 Slave 3: Current unit is part of a network and it is defined Slave 3. This address can be assigned only if the parameter M/S Num Of Unit = 4 To avoid configuration alarm some rules in the address assignment have to be always respected: - Master unit have to be always present - Units in the same network cannot have same address. Example: If in a network there are 3 chillers then them have to be addressed like : Master – Slave 1 – Slave 2. Any other addressing will generate a configuration alarm
[15.07] SCM Number of Units	2	2,3,4	Indicate the number of chiller belonging to Master Slave network. This parameter have to be set only in the chiller Master, in all Slave units it can be let at default value as ignored.

Web HMI Path: Main Menu → Commission Unit → Configure Unit

Setpoint/Sub-Menu	Default	Range	Description
M/S Address	Standalone	Standalone Master Slave 1 Slave 2 Slave 3	Define if the chiller belongs or not to the Master Slave network. Standalone: Current unit does not belong to the Master Slave network Master: Current unit is part of a network and it is defined Master Slave 1: Current unit is part of a network and it is defined Slave 1 Slave 2: Current unit is part of a network and it is defined Slave 2. This address can be assigned only if the parameter M/S Num Of Unit = 3 or 4 Slave 3: Current unit is part of a network and it is defined Slave 3. This address can be assigned only if the parameter M/S Num Of Unit = 4 To avoid configuration alarm some rules in the address assignment have to be always respected: - Master unit have to be always present - Units in the same network cannot have same address. Example: If in a network there are 3 chillers then them have to be addressed like : Master – Slave 1 – Slave 2. Any other addressing will generate a configuration alarm
M/S Num Of Unit	2	2,3,4	Indicate the number of chiller belonging to Master Slave network. This parameter have to be set only in the chiller Master, in all Slave units it can be let at default value as ignored.

When the basic configuration is completed the MS system is ready to work with the standard settings:

1. ***No standby chiller set***
2. ***No chiller priority set***

For more details related to the Standby chiller and Chiller priority refer to the sections 4 and 2.5.1.

2.2 System Enable

System startup and shutdown is performed applying normal chiller enable commands to the Master unit.

- Local/Remote switch
- HMI Enable

- Network Enable

All Slave units maintain the previous enable commands which are read by the Master and used to define which units are ready to receive the staging command. In order to have the system fully operating all Slave units have to be enabled.
When a unit is enabled but has not received the staging command yet, Master included, the following unit status will be displayed on the controller main page: "Off: Master Disable"
To disable the Master unit without stop the entire system set the parameter Master Enable to Disable. When this setting is performed the Master does not provide cooling capacity to the system but at the same time continues to manage all Slave units.
This parameter is available in the Options menu of the Master unit, refer to the section 3.2.2.

2.3 System water setpoint

Thermostat control is performed comparing the CLWT with the setpoint of the Master chiller. This setpoint is sent to all Slaves through the serial communication. As for standalone chiller application the options *Setpoint Reset* and *Double Setpoint* can be applied to the Master unit in order to modify the system temperature target.
On Slave chillers the parameter Active Setpoint**,** available in the main menu, always displays the target received by the master except the cases of alarm communication or Standalone Mode. In these cases local setpoint will be displayed.

2.4 System Operating Mode: Cool/Heat

The MS system only operates properly if all units are set in the same operating mode. Current operating mode cannot be set only on the Master but has to be defined, as in the Master, for all Slaves. If slave's mode doesn't match the master one, slave unit automatically becomes unavailable for system operations.

2.5 Thermostat control

In this section is explained how the MS logic manages the On\Off and the capacity level of each unit. The first three subsections define when and which chiller will be started or stopped. In the fourth subsection the capacity level control will be explained.

2.5.1 Staging control - Stage Up

When the system is enabled, Master immediately sends a staging command to the first chiller ready, in order to start at least one water pump, ensuring that the temperature sensors could return the correct water temperature value.
The stage up of the other units occurs only if all of following conditions are occurring:

1. Cool mode → Controlled Temperature > Setpoint + **Stage Up DT**
   Heat mode → Controlled Temperature < Setpoint - **Stage Up DT**
2. **Stage Up Timer** has elapsed
3. Load of each running unit is greater that the parameter Load Threshold

The third condition allows to modify the number of unit used to provide the cooling capacity level requested by plant.

- If this parameter is set at the maximum value (100%) a new chiller will be started only if the units already on have reached their full capacity. In this case the system always minimizes the number of units in on state.
- If this parameter is set to the minimum value (30%) the control logic will distribute as much as possible the requested load between all available units limiting the capacity of each compressor/circuit.

2.5.2 Staging control - Stage down

When the system is disabled all unit are immediately disabled. During the thermostat control the stage down occurs only when all of following conditions are verified:

1. Cool mode → Controlled Temperature < Setpoint - **Stage Down DT**
   Heat mode → Controlled Temperature > Setpoint + **Stage Down DT**
2. **Stage Down Timer** has elapsed

Shutdown of last unit running occurs only when the system is turned off.

2.5.3 Staging sequence

The following table shows the conditions used to define which unit will be started or stopped after a staging command. The logic analyses the conditions according to the order in table. If the condition 1 does not provide any unit, as all unit have same priority, then condition 2 will be checked. If also the condition 2 does not provide any unit then the condition 3 will be checked and so on up to the last condition.

Conditions	Next Chiller to start	Next Chiller to stop
1st	Highest priority	Lowest priority
2nd	Lowest number of starts	Lowest load
3rd	Lowest running hours	Highest running hours
4th	Lowest address	Highest number of starts
5th	-	Lowest address

Priority Condition - User can define a staging priority for one, a part or all units. Priority default values are all set to 1 (i.e. all units have same priority). Value 1 indicates the highest priority, value 4 indicates the lowest priority. Priority values can be modified on the Master chiller controller (refer to section 3.2.4).

Example 1: Slave *2 has to be started always as first while all other units have to cycle to balance number of starts and running hours*

Unit	***Priority***
Master	*2*
Slave 1	*2*
Slave 2	*1*
Slave 3	*2*

Example 2: Master *and* Slave *1 have the highest priority and have to cycle among them to balance number of starts and running hours.* Slave *2 has medium priority.* Slave *3 has the lowest priority*

Unit	***Priority***
Master	*1*
Slave 1	*1*
Slave 2	*2*
Slave 3	*3*

Balancing Conditions - If the user does not set any priority, the units will be always started and stopped to guarantee the balancing of running hours and number or starts. This strategy optimizes the lifetime of compressors, inverters, capacitors and all the others unit components.

2.6 Minimum leaving water temperature value

When the complete control is selected, it is required to set the parameter "minimum evaporator leaving water temperature", available in the *Thermostat control* 3.2.3 menu. By default this parameter is set to 4°C like the minimum admissible water setpoint for chillers working in plants without glycol. In plants working with the chilled water lower than 4°C (plants with glycol) it is necessary set this parameter to the minimum safety evaporator leaving water temperature value that every units can reach, according to the glycol percentage of the specific plant. Please note that this value could be lower than the chilled water setpoint.

2.7 Operation with a communication alarm

All Slave units communicate through a serial communication with the Master unit. If during the normal functioning a communication failure occurs the system operates with the following behavior:

- The Slave unit that has lost the communication with the Master starts to operate in Standalone mode following its local settings
- If present, Standby Chiller is enabled

2.8 Standalone Mode Option

For each Master Slave unit, it is possible enable the **Standalone Mode**. Unit in this state is temporary disconnected from the system and operates following its local settings.

- Each Slave unit in Disconnect mode is seen as not available by Master
- If Master is Disconnected all Slaves are forced to work in Disconnect mode.

This function can be used to easily perform maintenance operation on one or more chillers of the MS system without a need to change the address settings.

3 MASTER/SLAVE SETUP AND MONITORING

In this section are listed all menus, parameters and data related to Master/Slave setup and monitoring for both HMI EVCO (standard) and HMI4WEB (web interface available with "Connectivity Kit").

3.1 HMI EVCO

Parameter	Default	Range	Description
[16.00] Start Up Limit	2.7°C	0.5…5.0°C	Offset respect the active setpoint for the unit startup.
[16.01] Shut Dn Limit	1.5°C	0.5…5.0°C	Offset respect the active setpoint for the unit shutdown.
[16.02] Stage Up Time	5min	0min…20min	Minimum time between the start of two chillers
[16.03] Stage Dn Time	5min	0min…20min	Minim time between the stop of two chillers
[16.04] Threshold	60%	30...100%	Threshold of load that have to reach all units running before start of a new chiller
[16.05] PrioSlave#1	1	1-4	Start Up / Shut Down priority of the chiller Master Priority = 1 → highest priority Priority = 4 → lowest priority
[16.06] PrioSlave#2	1	1-4	Start Up / Shut Down priority of the chiller Master Priority = 1 → highest priority Priority = 4 → lowest priority This menu is visible only if the parameter **M/S Num Of Unit** has been configured at least with value 3
[16.07] PrioSlave#3	1	1-4	Start Up / Shut Down priority of the chiller Master Priority = 1 → highest priority Priority = 4 → lowest priority This menu is visible only if the parameter M/S Num Of Unit has been configured at least with value 3
[16.08] MasterPriority	1	1-4	Start Up / Shut Down priority of the chiller Master Priority = 1 → highest priority Priority = 4 → lowest priority
[16.09] Master Enable	Enable	Enable Disable	This parameter allows to enable or disable locally the Master Chiller. When this parameter is set to disable the Master chiller does not provide cooling capacity to the system but continues to manage all Slave units.
[16.10] Standby Chiller	None	0 = None 1 = Auto 2 = Master 3 = Slave1 4= Slave2 5 = Slave3	Standby chiller selection.
[16.11] Cycling Type	Time	Time, Sequence	Cycling type of standby chiller if previous parameter **Standby Chiller** is set as **Auto.**
[16.12] Interval Time	7 Days	1…365	Define the interval time (expressed in day) for the cycling of standby chiller
[16.13] Switch Time	00:00:00	00:00:00…23:59:59	Define the time within the day when will be performed the switch of the standby chiller
[16.14] Temp Compensation	No	No,Yes	Enabling of Temperature Compensation function
[16.15] Tmp Cmp Time	120 min	0…600	Time constant of Temperature Compensation function
[16.16] Alarm Code	0	0..511	Master/Slave Alarm word. Each bit represents: Bit_0 = Common LWT Alarm Bit_1 = Slave Communication Error Bit_2 = Slave 1 Communication Error Bit_3 = Slave 2 Communication Error Bit_4 = Slave 3 Communication Error Bit_5 = Slave 1 Missing Bit_6 = Slave 2 Missing Bit_7 = Slave 3 Missing Bit_8 = Master Missing
[16.17] Units States	0000	0000..3333	This register summarizes all Master and Slaves' States in one 4-digit word. Each digit, starting from most significant one, represents the state of Master, Slave1, Slave2 and Slave3 with following codification: 0 = Off 1 = Run 2 = Alarm 3 = Communication Error

3.2 HMI4WEB

Web HMI Path: Main Menu → View/Set Unit → Master/Slave

Setpoint/Sub-Menu	Default	Range	Description
Data	▶	-	Submenu Data. This link is available only on the Master unit
Options	▶	-	Submenu Options. This link is available only on the Master unit
Thermostat	▶	-	Submenu Thermostat Ctrl. This link is available only on the Master unit
Timers	▶	-	Submenu Timers. This link is available only on the Master unit
Standby	▶	-	Submenu Standby Chiller. This link is available only on the Master unit
Standalone Mode	No	No,Yes	Parameter to disconnect the unit by the Master Slave system. When this parameter is set to Yes the unit follows all local settings.

3.2.1 Data

In this menu are collected all main data related to Master Slave function.

Setpoint/Sub-Menu	Default	Range	Description
Next On=	-	-,Master, Slave 1, Slave 2, Slave 4	Display next chiller that will be starts
Next Off=	-	-,Master, Slave 1, Slave 2, Slave 4	Display next chiller that will be stopped
Standby=	-	-,Master, Slave 1, Slave 2, Slave 4	Display the actual standby chiller
Switch Date	-	dd/mm/yyyy	Display the day in which the standby chiller will be cycled
Switch Time	-	hh:mm:ss	Display at which time of the switch day the standby chiller will be cycled
Plan Load=	-	0%...100%	Display the actual plant load
Avg EWT	-	-	Display the actual average entering water temperature value
Mst State=	-	Off, On, Alarm, Comm Err	Display the actual state of the Master
Sl1 State=	-	Off, On, Alarm, Comm Err	Display the actual state of the Slave 1
Sl2 State=	-	Off, On, Alarm, Comm Err	Display the actual state of the Slave 2
Sl3 State=	-	Off, On, Alarm, Comm Err	Display the actual state of the Slave 3
Mst Standalone=	-	No, Yes	Display if the standalone mode if active on the Master
Sl1 Standalone	-	No, Yes	Display if the standalone mode if active on the Slave 1
Sl2 Standalone	-	No, Yes	Display if the standalone mode if active on the Slave 2
Sl3 Standalone	-	No, Yes	Display if the standalone mode if active on the Slave 3
Mst Load=	-	0%...100%	Display the actual load of the Master
Sl1 Load=	-	0%...100%	Display the actual load of the Slave 1
Sl2 Load=	-	0%...100%	Display the actual load of the Slave 2
Sl3 Load=	-	0%...100%	Display the actual load of the Slave 3
Mst LWT=	-	-	Display the Master leaving water temperature
Sl1 LWT=	-	-	Display the Slave1 leaving water temperature
Sl2 LWT=	-	-	Display the Slave2 leaving water temperature
Sl3 LWT=	-	-	Display the Slave3 leaving water temperature
Mst EWT=	-	-	Display the Master entering water temperature
Sl1 EWT=	-	-	Display the Slave1 entering water temperature
Sl2 EWT=	-	-	Display the Slave2 entering water temperature
Sl3 EWT=	-	-	Display the Slave3 entering water temperature
Master Hrs=	-	-	Master running hours
Slave 1 Hrs=	-	-	Slave 1 running hours
Slave 2 Hrs=	-	-	Slave 2 running hours
Slave 3 Hrs=	-	-	Slave 3 running hours
Master Starts=	-	-	Master number of starts
Slave 1 Starts=	-	-	Slave 1 number of starts
Slave 2 Starts=	-	-	Slave 2 number of starts
Slave 3 Starts=	-	-	Slave 3 number of starts

3.2.2 Options

Setpoint/Sub-Menu	Default	Range	Description
Master Priority=	1	1…4	Start Up / Shut Down priority of the chiller Master Priority = 1 → highest priority Priority = 4 → lowest priority
Slave 1 Priority=	1	1…4	Start Up / Shut Down priority of the chiller Slave 1 Priority = 1 → highest priority

			Priority = 4 → lowest priority
Slave 2 Priority=	1	1…4	Start Up / Shut Down priority of the chiller Slave 2. Priority = 1 → highest priority Priority = 4 → lowest priority This menu is visible only if the parameter **M/S Num Of Unit** has been configured at least with value 3
Slave 3 Priority=	1	1…4	Start Up / Shut Down priority of the chiller Slave 3. Priority = 1 → highest priority Priority = 4 → lowest priority This menu is visible only if the parameter **M/S Num Of Unit** has been configured at least with value 4
Master Enable=	Enable	Enable Disable	This parameter allows to enable or disable locally the Master Chiller. When this parameter is set to disable the Master chiller does not provide cooling capacity to the system but continues to manage all Slave units.

3.2.3 Thermostat control

Setpoint/Sub-Menu	Default	Range	Description
Stage Up DT=	2.7°C	0.5…5.0°C	Offset respect the active setpoint for the unit startup.
Stage Dn DT =	1.5°C	0.5…5.0°C	Offset respect the active setpoint for the unit shutdown.
Threshold=	60%	30...100%	Threshold of load that have to reach all units running before start of a new chiller
Stage Up Time=	5min	0min…20min	Minimum time between the start of two chillers
Stage Dn Time=	5min	0min…20min	Minim time between the stop of two chillers

3.2.4 Timers

Setpoint/Sub-Menu	Default	Range	Description
Stage Up Timer=	-	-	Actual delay for new chiller stage up
Stage Dn Timer=	-	-	Actual delay for new chiller stage down
Clear Timers=	Off	Off Reset	This command, visible only with service password, can be used to reset to zero the Stage Up/Dn Timer.

3.2.5 Standby Chiller

Setpoint/Sub-Menu	Default	Range	Description
Standby Chiller=	No	No, Auto, Master, Slave 1, Slave 2, Slave 3	Standby chiller selection
Cycling type=	Time	Time, Sequence	Cycling type of standby chiller if previous parameter **Standby Chiller** is set as **Auto**
Interval Time=	7 Days	1…365	Define the interval time (expressed in day) for the cycling of standby chiller
Switch Time=	00:00:00	00:00:00…23:59:59	Define the time within the day when will be performed the switch of the standby chiller
Tmp Cmp=	No	No,Yes	Enabling of Temperature Compensation function
Tmp Comp Time=	120 min	0…600	Time constant of Temperature Compensation function

4 STANDBY CHILLER

Master Slave function allows to define a standby chiller. The standby chiller is normally off and becomes operating only when one of following conditions occurs:

1. At least one chiller is in alarm state.
2. At least one of the Slave chillers is in communication alarm with the Master chiller.
3. At least one chiller is not enabled.
4. Function Temperature Compensation is enabled and the water temperature setpoint is not reached with the system at full load.

Below is explained step by step how to set all changeable parameters in order to configure the standby chiller according to the user requirements.

Step 1 : Standby Chiller Selection.

Setpoint/Sub-Menu	Default	Range	Description
Standby Chiller	No	No Auto Master Slave 1 Slave 2 Slave 3	No = There are not standby chiller in the Master Slave network Auto = One of the chillers of the Master Slave network will be always selected as standby chiller. Standby chiller cycling will be performed according to the configuration set through the parameters **Cycling Type** and **Interval Time** Master = Master chiller is always set as standby chiller Slave 1 = The Slave 1 chiller is always set as standby chiller Slave 2 = The Slave 2 chiller is always set as standby chiller Slave 3 = The Slave 3 chiller is always set as standby chiller

Step 2 : Standby Chiller Cycling Type.

Define the Standby chiller cycling type. These parameters have to be set only if the parameter **Standby Chiller** is set as **Auto.**

Setpoint/Sub-Menu	Range	Description
Cycling Type	Time, Sequence	Time = Next Standby chiller will be the chiller with most running hours at changeover time Sequence = Next standby chiller will be selected according to the following sequences: - network with one slave: Master → Slave 1 → Master - network with tow slaves: Master → Slave 1 → Slave 2 → Master - network with three slaves: Master → Slave 1 → Slave 2 → Slave 3 → Master

Step 3 : Standby Chiller Cycle Time.

Define the Standby chiller cycle time. These parameters have to be set only if the parameter **Standby Chiller** is set as **Auto**

Setpoint/Sub-Menu	Default	Range	Description
Interval Time	7 Days	1…365	Define the interval time (expressed in day) for standby chiller cycling.
Switch Time	00:00:00	00:00:00…23:59:59	Define the time within the day when the standby chiller will be cycled.

Step 4 : Temperature Compensation function

Temperature compensation function allows to start the Standby chiller when all other units are running at full capacity and the controlled temperature does not reach the water setpoint.

After standby chiller enable by temperature compensation, real staging commands will follow normal thermostat control procedure.

Setpoint/Sub-Menu	Default	Range	Description
Tmp Cmp	No	No, Yes	No = The standby chiller becomes operating only in the following cases: 1. At least one chiller is in alarm state. 2. At least one of the Slave chillers is in communication alarm with the Master chiller. 3. At least one chiller is not enabled. Yes = Standby chiller will operate in all previous cases and if all the other chillers are running at the maximum capacity and the water temperature setpoint is not reached for at least a specific time defined by the parameter Tmp Comp Time
Tmp Comp Time	120 min	0…600	Time constant in which the system must be at maximum capacity and the setpoint not reached before that the standby chiller will be enabled.

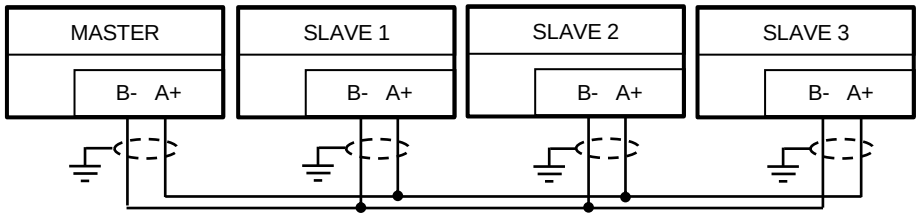
5 ELECTRICAL CONNECTION

In this section are reported the electrical connections necessary for the correct operation of `Master Slave` function.

5.1 Modbus RTU bus

The following diagram shows how to connect the chillers between them to establish the `Master Slave` network. Starting from first chiller connect in parallel all terminals RTU [A+ / B-] of each controller, accessible on the customer terminal board. Refer to the unit wiring diagram for the enumeration of the terminals.

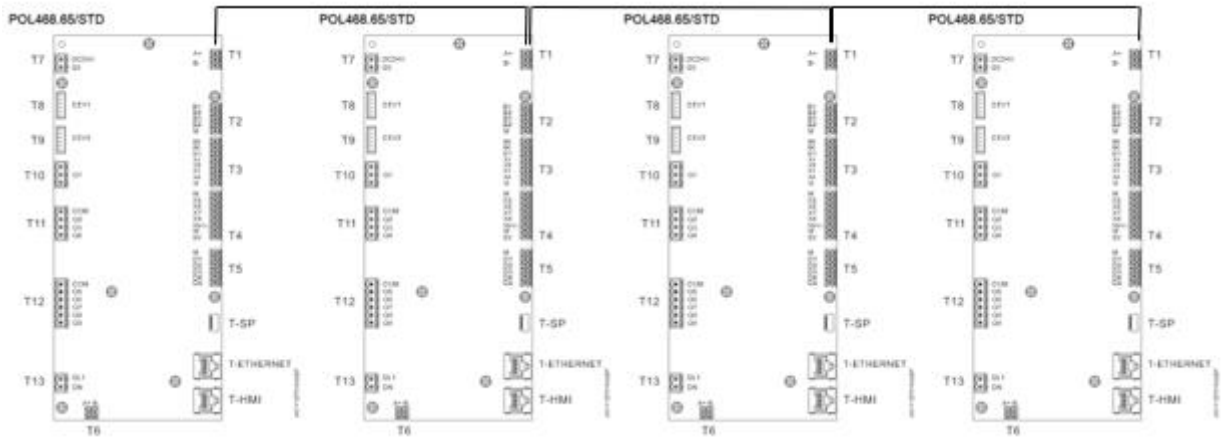
A shielded twisted pair cable must be used to make the connection.



- Bus cable length between 2 units Max. 700 m
- Total bus cable length Max. 1,000 m

5.1.1 For C400 Controller

Connect the T1 Port of first Unit with T1 Port of second unit, with appropriate cable, passing through the **dedicated slots.** Reaped this step for all additional unit.



5.2 Cozmon leaving water temperature sensor

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.

6 TROUBLESHOOTING

In this section are reported all alarm related to the master slave function.

6.1 Common Evaporator Leaving Water Temperature sensor fault

This alarm can occur when the sensor used to measure the common leaving water temperature is broken or not connected to the chiller defined master.

Symptom	Cause	Solution
Every unit in the Master Slave Network works in local mode. EVCO HMI's alarm icon is blinking and register [16.16]'s value is different from 0 (see chapter 3.1 for bits coding). Bell's led of the master Web HMI (Connectivity kit required) is blinking String in the alarm list: +Common LWTSen String in the alarm log: ±Common LWTSen String in the alarm snapshot: Common LWTSen	Sensor is broken.	Check for sensor integrity.
		Check correct sensors operation according information about kOhm (kΩ) range related to temperature values.
	Sensor is shorted.	Check if sensor is shorted with a resistance measurement.
	Sensor is not properly connected (open).	Check for absence of water or humidity on electrical contacts.
		Check for correct plug-in of the electrical connectors.
		Check for correct sensors wiring according with wiring diagram.

6.2 Slave X Communication Alarm

This alarm is displayed only on the Master unit and it occurs every time that there is communication error between Master and Slave.

Symptom	Cause	Solution
The Slave unit works in local mode. EVCO HMI's alarm icon is blinking and register [16.16]'s value is different from 0 (see chapter 3.1 for bits coding). Bell's led of the master Web HMI (Connectivity kit required) is blinking String in the alarm list: +Slave X CommAlm String in the alarm log: ±Slave X CommAlm String in the alarm snapshot: Slave X CommAlm	Cable broken	Check for cable integrity
	Connection wrong	Check the polarity +/- of the connection cable between Master and Slave

6.3 Master Communication Alarm

This alarm, dual to the previous, is displayed only on the Slave unit and it occurs every time that there is communication error between Master and Slave.

Symptom	Cause	Solution
The Slave unit works in local mode. EVCO HMI's alarm icon is blinking and register [16.16]'s value is different from 0 (see chapter 3.1 for bits coding). Bell's led of the slave Web HMI (Connectivity kit required) is blinking String in the alarm list: +Master CommAlm String in the alarm log: ± Master CommAlm String in the alarm snapshot: Master CommAlm	Cable broken	Check for cable integrity
	Connection wrong	Check the polarity +/- of the connection cable between Master and Slave

6.4 Slave X Missing

This alarm, displayed on the Master unit, occurs when there is a configuration error of Master Slave function.

Symptom	Cause	Solution
All system Master Slave cannot start EVCO HMI's alarm icon is blinking and register [16.16]'s value is different from 0 (see chapter 3.1 for bits coding).	There is more than one unit configured with the same address and consequently the unit with the address in alarm is not configured	Check all address assigned to each unit of the master slave network

Bell's led of the master Web HMI (Connectivity kit required) is blinking String in the alarm list: +Slave X Missing String in the alarm log: ± Slave X Missing String in the alarm snapshot: Slave X Missing	The parameter "M/S Num of Unit" is set incorrectly	Verify that the number of unit set in this parameter is the same of the number of unit that really belong to the Master Slave network

6.5 Master Missing

This alarm, displayed on the Slave unit, occurs when there is a configuration error of Master Slave function.

Symptom	Cause	Solution
All system Master Slave cannot start EVCO HMI's alarm icon is blinking and register [16.16]'s value is different from 0 (see chapter 3.1 for bits coding).	There is more than one unit configured with the same address and consequently the unit with the address in alarm is not configured	Check all address assigned to each unit of the master slave network
Bell's led of the slave Web HMI (Connectivity kit required) is blinking String in the alarm list: +Slave X Missing String in the alarm log: ± Slave X Missing String in the alarm snapshot: Slave X Missing	The parameter "M/S Num of Unit" is set incorrectly	Verify that the number of unit set in this parameter is the same of the number of unit that really belong to the Master Slave network

DAIKIN APPLIED EUROPE S.p.A.
Via Piani di Santa Maria, 72 - 00072 Ariccia (Roma) - Italia
Tel: (+39) 06 93 73 11 - Fax: (+39) 06 93 74 014
http://www.daikinapplied.eu