

cPCO

Split system A/C controller










Display

Main display

1. **Date, Day, Time**
2. **Condenser fan work**
3. **Compressor work**
4. **Mode –**
 - a. **COOLING** – cooling mode, refrigerant pressure is controlled according Cooling set point.
 - b. **HEATING** – heating mode, refrigerant pressure is controlled according Heating set point
 - c. **FAN** – (Only for AC80) Only fan of Air handling unit work
5. **Status**
 - a. **Off** – switched off by remote control
 - b. **NO-DEMAND** – No request from indoor units to work (switched off or temperature is reached)
 - c. **START UP DELAY** – Wait minimum off time between stop and next start of compressor
 - d. **ACCELERATING** – Soft start of compressor
 - e. **Work** – normal work, unit control refrigerant pressure according set-point
 - f. **OIL CYCLE** – oil return cycle
 - g. **ALARM** – Unit is on alarm state
 - h. **DEFROST** – defrost cycle
6. **Outdoor temperature °C**
7. **Refrigerant pressure to indoor units, high pressure on heating mode, low pressure on cooling mode**



Buttons

Keypad			
Button	Descr.	Backlighting	Functions
	Alarm	White/Red	pressed together with Enter, accesses the screens managed by operating system.
	Prg	White/Yellow	-
	Esc	White	go back up one level
	UP	White	increase the value.
	Enter	White	confirm the value
	DOWN	White	decrease the value
	Select pLAN address	-	<ul style="list-style-type: none"> pressed briefly: the pLAN address is displayed brighter pressed repeatedly: increase the address release: after a few seconds, the brightness is dimmed and the pLAN address is saved

Alarms



In case of alarm system status changes to “ALARM” and alarm button flashing in red.

Press button alarm to mute signal and open alarm menu. By up and down arrows, you can check all active alarms

ALARMS

Alarm	Description	Reset
Air temperature probe defect	Outdoor air temperature probe failure	Auto
Pipe temperature probe defect	Outdoor unit heat-exchanger coil temperature probe failure	Auto
Suction pressure probe defect	Pressure transmitter failure	Auto, after 5minutes
Fan overload protection	Condenser fan overload protection from motor overload protection in control panel	Manual
Compressor overload protection	Compressor overload protection by VFD	Manual
Compressor overheated	Compressor is stopped by internal thermal protection located in compressor junction box	Manual
Compressor oil level low	Compressor oil-level protection	Manual
Low pressure protection	Alarm by low pressure switch. Auto reset after 5minutes, unless it happens 3 times per hour – then manual clearing is required	Auto/ Manual
High pressure protection	Alarm by high pressure switch.	Manual
Inverter communication timeout	Loss of communication RS485 with compressor VFD	Auto
Indoor fan overload protection	Indoor fan overload from VFD of fan	Manual

Indoor fan communication timeout	Loss of communication RS485 with fan VFD	Auto
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Alarm RESET

With Up/Down buttons go to screen



Hold ALARM button for 3 seconds to RESET ALARM

Program mode

For entering in program mode press PRG button



Insert user password - **1234**

Changing working pressure setpoints

By Up/Down button select Set-point menu and press ENTER



Changing refrigerant setpoints in cooling and heating mode



Press Enter for selecting Cooling SP, with Up/Down buttons choose new set-point for cooling mode, press enter to select Cooling diff(erence) and again with Up/Down buttons choose new cooling difference set-point.

Press Enter for selecting Heating SP, with Up/Down buttons choose new set-point for heating mode, press enter to select Heating diff(erence) and again with Up/Down buttons choose new heating difference set-point.

In both modes pressure regulation is $SP(\text{Setpoint}) \pm \text{Diff(erence)}$

Recommended Cooling set-point: min. 3.5bar to 5.0bar

Warning: if Cooling set-point is lower than 3.5bar it has risk of indoor coil icing

Recommended Heating set-point: min. 15.0bar to 20.0bar

Warning: High values of set-points increase compressor load and risk of compressor over-heating and over-load

Defrost parameters



Defrost 8.2°C – Outdoor pipe fin coil exchanger temperature

Startup time – Interval between two defrost cycles

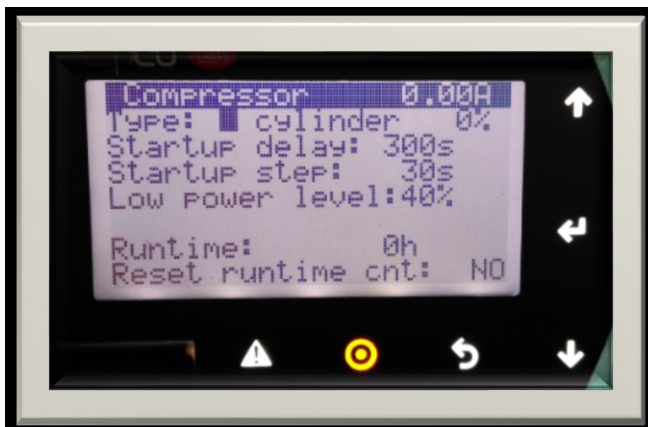
Startup temp – difference between outdoor temperature and pipe temperature above which defrost cycle is allowed

Max temp. – Maximum temperature of coil when defrost stop

Max time – Maximum duration of defrost cycle

Comp. speed – Compressor speed during defrost

Compressor parameters



Compressor 0.00A : Compressor current

Type : 4 cylinder or 2 cylinder and “50%” – power of compressor

Startup delay: Delay between stop and next start of compressor

Startup step : Compressor increasing power delay

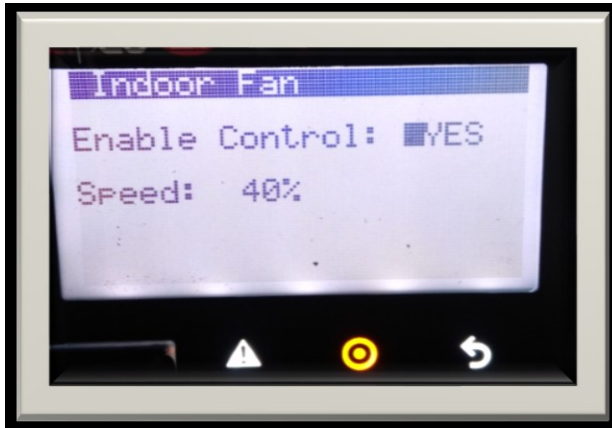
Low power level : Compressor power above unit is switched off

Runtime: Compressor running hours

Reset runtime cnt: Reset compressor hours by Yes selection

Indoor fan

Indoor fan control menu. Valid only for unit with AHU (AC80)



Enable Control: Yes/No

Choose **NO** for multi-split units

Choose **Yes** for air-handling unit

Speed: Air handling unit fan speed from 0%..100%

RS485 communication

Controller cPCO communicate with compressor VFD and AHU fan VFD via RS-485 modbus communication

MODBUS-RTU 19200 , 8 bits, even parity, 1stop

Compressor VFD address: 1

Fan VFD address : 2