Technical Bulletin

Number	P011f
Subject	Panasonic - Wine cellar and special rooms for low temperature applications – CZ-RTC5 controllers
Date	13 November 2018

This document has been prepared by Logicool Air Conditioning & Heat Pumps Limited. It is based on existing Panasonic recommendations using units from the PACi range for special applications not only for standard heating and cooling ones.

The purpose of this product information bulletin is to explain in detail these special applications that need cooling to maintain rooms between 8ºCWB and 24ºCWB (10ºCDB-30ºCDB). To do that's in terms of enthalpy is needed to oversize indoor unit, and set up some parameters.

Applications may include:

- Wine storage 14°C
- Food prep 12°C
- Gymnasiums 16°C
- Clean room 16°C

Note: Due to these special applications of the system the following aspects should be taken in account:

- Is important to think about some solution to probably condensation in louver when selected wall is mounted, ceiling or 4 ways cassette indoor unit, and in grills when duct type indoor unit are used. In those cases Panasonic cannot be responsible of any damage as a result of condensation, and installer has to provide some special insulation in those parts and also for base pan.
- Due to higher running hours to maintain cooling temperature, maintenance and filter cleanings processes have to be more often and careful.
- PACi system cannot control relative humidity, but can manage an ON/OFF external humidifier if is needed by using additional setting in indoor unit, as usual in PACi or ECOi.
- Those special applications are not tested under ErP regulation, so we do not have "official" capacity and consumption tables and energy label. Please explain clearly to your customer.

System Information		16°CDB, 13°CWB 50% RH / 35°C		14°CDB, 13°CWB 55% RH / 35°C		14°CDB, 13°CWB 60% RH / 35°C	
Outdoor Unit	**Indoor Unit**	**Total Cooling Capacity kW (Nom) Min – Max**	**Sensible Cooling Capacity KW (Nom)**	**Total Cooling Capacity kW (Nom) Min – Max**	**Sensible Cooling Capacity KW (Nom)**	**Total Cooling Capacity kW (Nom) Min – Max**	**Sensible Cooling Capacity KW (Nom)**
U-50PE1E5	S-71PK1E5A	4.9 (1.7 – 5.6)	3.75	4.9 (1.7 – 5.6)	3.55	4.9 (1.7 – 5.6)	3.42
U-71PE1E5A/8A	S-100PK1E5A	6.9 (1.9 - 8.0)	5.43	6.9 (1.9 - 8.0)	5.06	6.9 (1.9 - 8.0)	4.85
U-50PE1E5	U-71PF1E5A	4.9 (1.7 – 5.6)	3.75	4.9 (1.7 – 5.6)	3.52	4.9 (1.7 – 5.6)	3.32
U-71PE1E5A/8A	S-125PF1E5A	6.9 (1.9 - 8.0)	5.30	6.9 (1.9 - 8.0)	4.95	6.9 (1.9 - 8.0)	4.66
U-100PE1E5A/8A	S-140PF1E5A	9.3 (2.5 – 10.6)	6.23	9.3 (2.5 – 10.6)	6.03	9.3 (2.5 – 10.6)	5.16
U-125PE1E5A/8A	S-140PF1E5A	11.6 (3.0 – 12.5)	6.40	11.6 (3.0 – 12.5)	6.08	11.6 (3.0 – 12.5)	5.78
U-50PE1E5	S-71PT2E5A	4.9 (1.7 – 5.6)	3.48	4.9 (1.7 – 5.6)	3.21	4.9 (1.7 – 5.6)	2.97
U-71PE1E5A/8A	S-125PT2E5A	6.9 (1.9 – 8.0)	6.09	6.9 (1.9 – 8.0)	5.94	6.9 (1.9 – 8.0)	5.85
U-100PE1E5A/8A	S-140PT2E5A	9.3 (2.5 – 10.6)	6.28	9.3 (2.5 – 10.6)	6.14	9.3 (2.5 – 10.6)	5.93
U-125PE1E5A/8A	S-140PT2E5A	11.6 (3.0 – 12.5)	6.84	11.6 (3.0 – 12.5)	6.54	11.6 (3.0 – 12.5)	6.02

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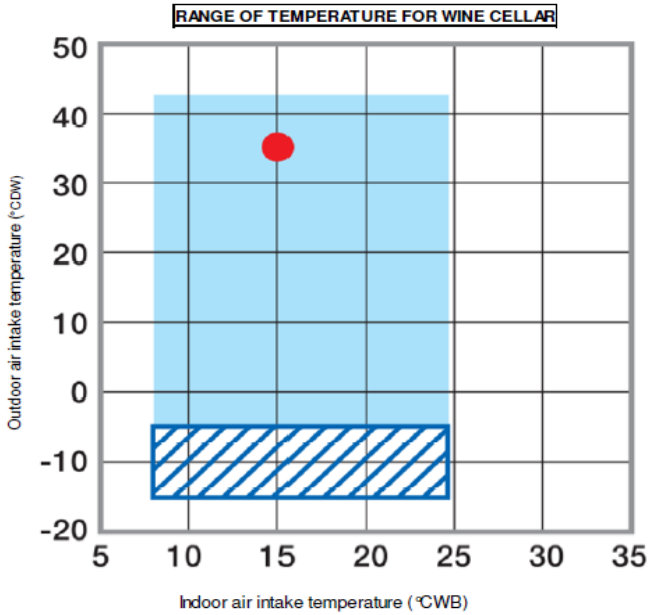
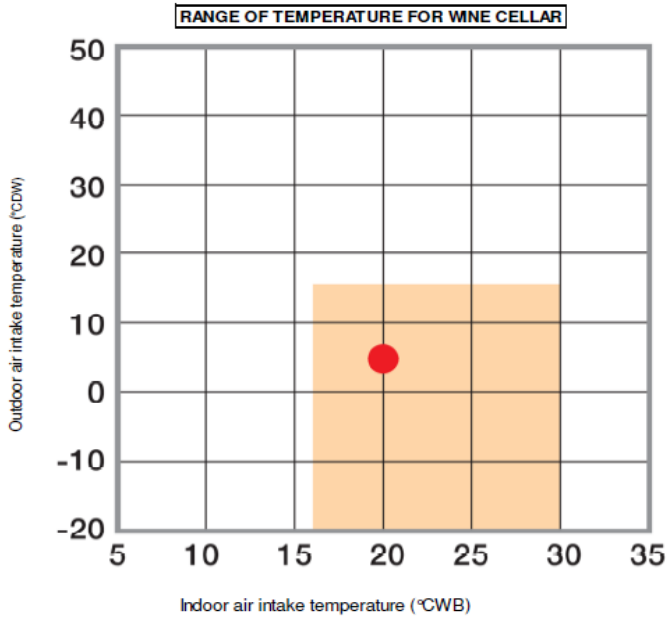
Range of Temperature:





Only allowed if it has been installed wind protection and snow protection.

Point where is stablished cooling and heating capacity for this purpose.

Range of Temperature for Wine Cellar		
Cooling Capacity	**Indoor**	8 - 24°CWB
	Outdoor	-5 (-15*)—43°CDB
Heating Capacity	**Indoor**	16—30°CDB
	Outdoor	-20—15°CWB

*** Only when has been installed wind protection and snow protection is allowed.**

Compatibility Table:

Application	Single Split Combination						Twin Split Combination		
Cooling Capacity	4.9kW	6.9kW	9.3kW	11.6kW	13.6kW	18.5kW	13.6kW	18.5kW	23.2kW
Heating Capacity	5.6kW	8.0kW	11.2kW	14.0kW	15.0kW	22.4kW	13.6kW	22.4kW	28.0kW
PACi Outdoor Model	U-50PE1E5	U-71PE1E5A U-71PE1E8A	U-100PE1E5A U-100PE1E8A	U-125PE1E5A U-125PE1E8A	U-140PE1E5A U-140PE1E8A	U-200PE1E8	U-140PE1E5A U-140PE1E8A	U-200PE1E8	U-250PE1E8
PACi Indoor Model							**PACi Indoor Model**		
Wall Mount	S-71PK1E5A	S-100PK1E5A					S-100PK1E5A + S-100PK1E5A		
Cassette	S-71PU1E5A	S-125PU1E5A	S-140PU1E5A	S-140PU1E5A			S-100PU1E5A + S-100PU1E5A	S-125PU1E5A + S-125PU1E5A	S-140PU1E5A + S-140PU1E5A
Ducted	S-71PF1E5A	S-125PF1E5A	S-140PF1E5A	S-140PF1E5A			S-100PF1E5A + S-100PF1E5A	S-125PF1E5A + S-125PF1E5A	S-140PF1E5A + S-140PF1E5A
Under Ceiling	S-71PT2E5A	S-125PT2E5A	S-140PT2E5A	S-140PT2E5A			S-100PT2E5A + S-100PT2E5A	S-125PT2E5A + S-125PT2E5A	S-140PT2E5A + S-140PT2E5A
Large Static Ducted					S-200PE2E5A	S-250PE2E5A			

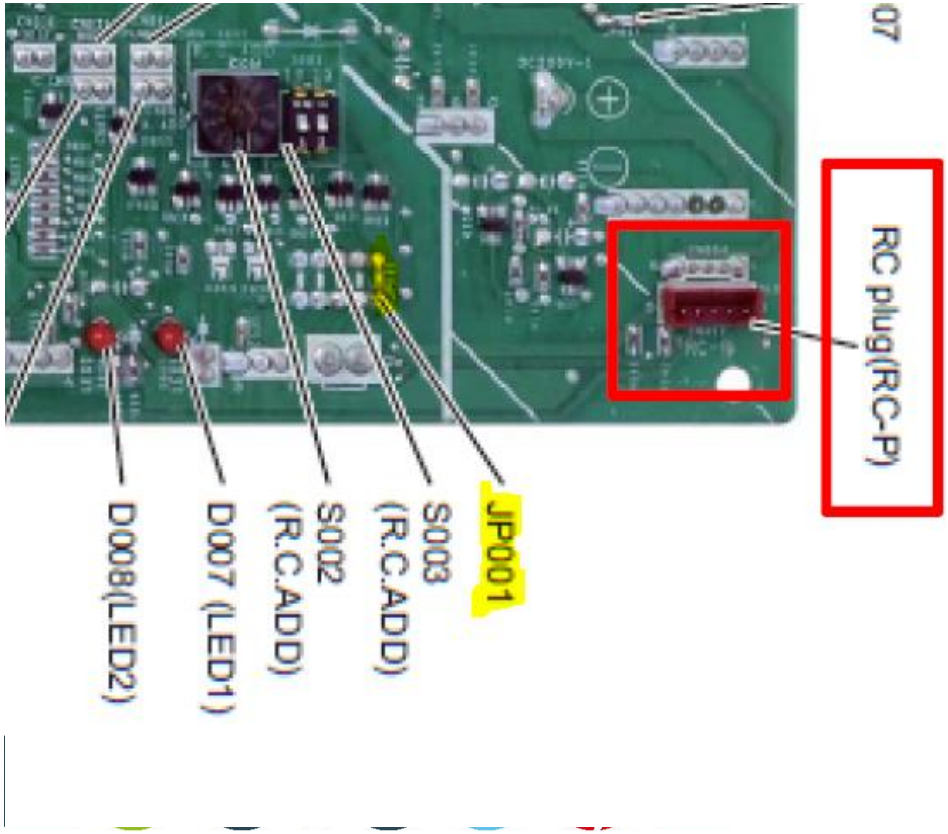
Settings are mandatory:

We must remember that these combinations are NOT STANDARD and it is mandatory to do some set up to 'turn' the system in to a "Special Wine Cellar" application. For all those settings one CZ-RTC4 is required to set up.

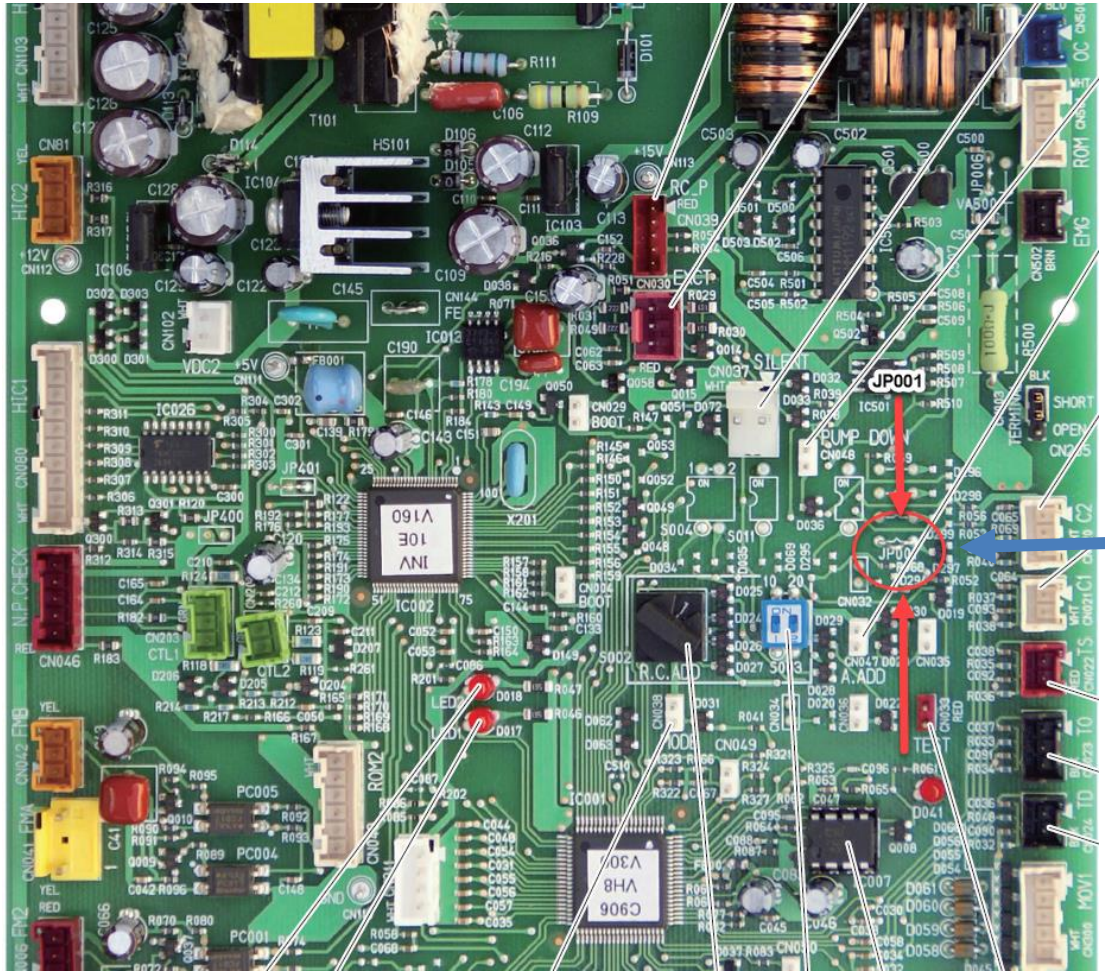
Step 1

Cutting jumper JP001 in Outdoor Unit Control PCB:
In all outdoor unit PCB close to S002 and S003 there is a wire jumper called JP001, this can be cut by using some snips.

U50 – U140 PCB



U200 – U250 PCB



JP001. Check location in comparison to Rotary Switch and MOV plugs

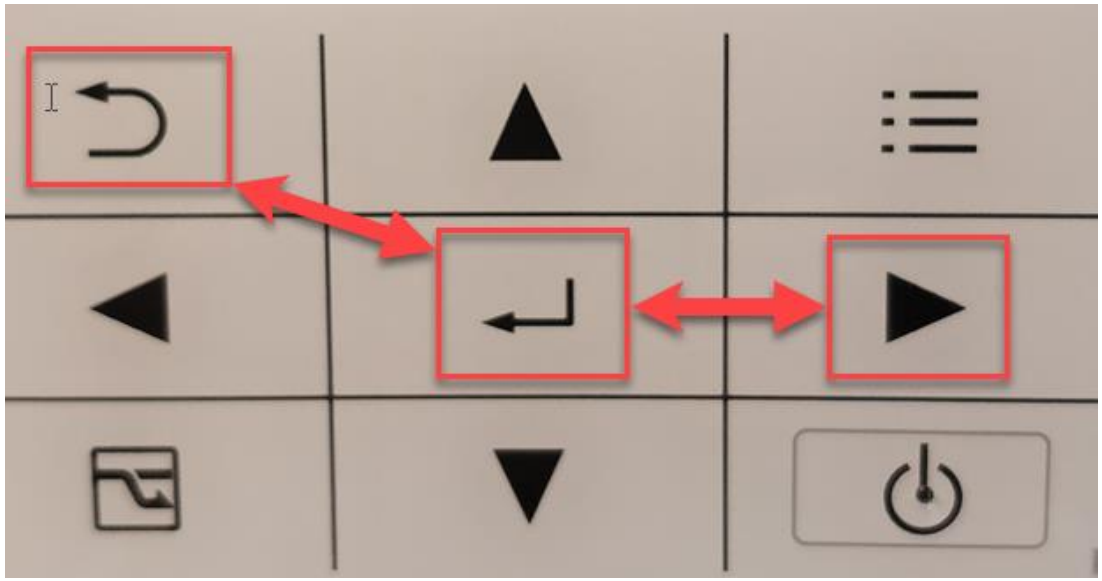
Now connect the CZ-RTC5 Controller to the indoor unit as per a normal installation.

The following settings detail how to set the unit into "COOLING ONLY (OPTION 0F)", "MAX TEMPERATURE (OPTION 1F)" and "MINIMUM TEMPERATURE (OPTION 20)". All of these settings are optional but for Low Temperature we advise that you set all of these.

Step 2:

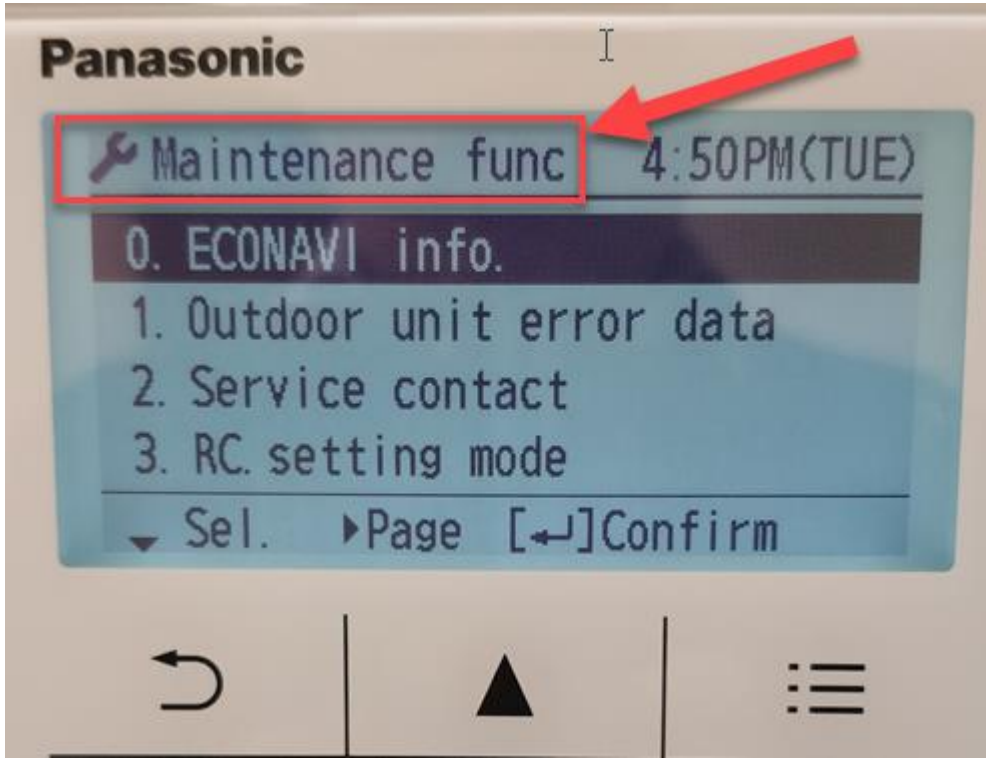
Second change is related to Indoor Unit:

1) **Press RETURN, ENTER and RIGHT to enter "MAINTENANCE FUNCTION"**

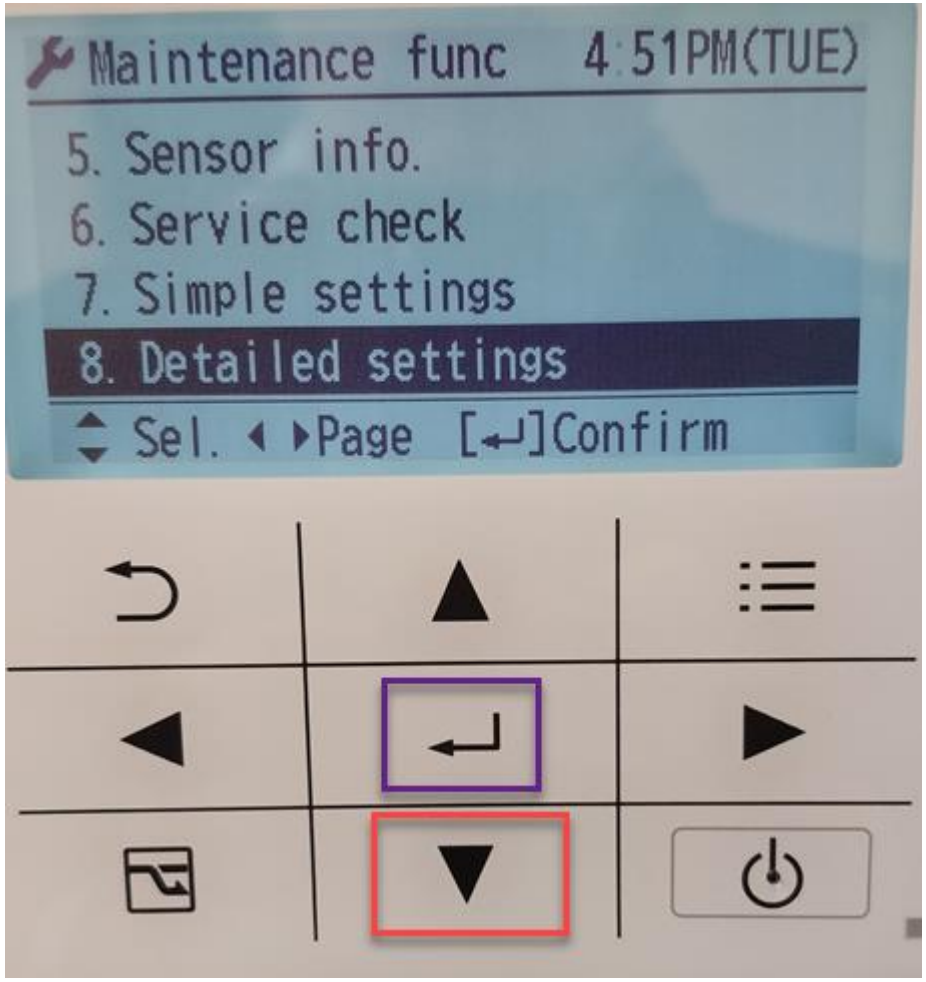


2) This screen will appear.

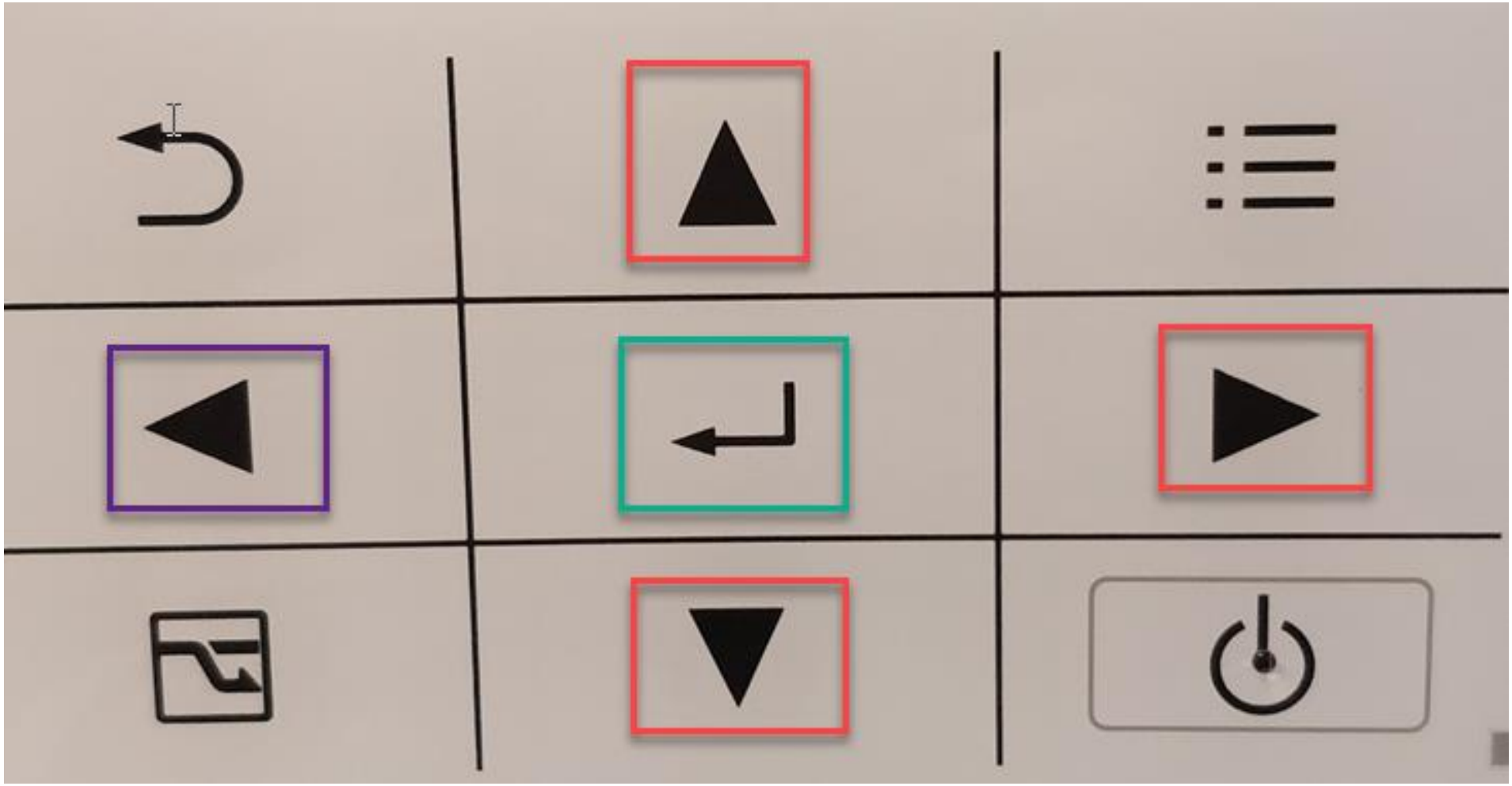
a. Press the down arrow to select "8 – detailed settings"



3) **Then press ENTER**



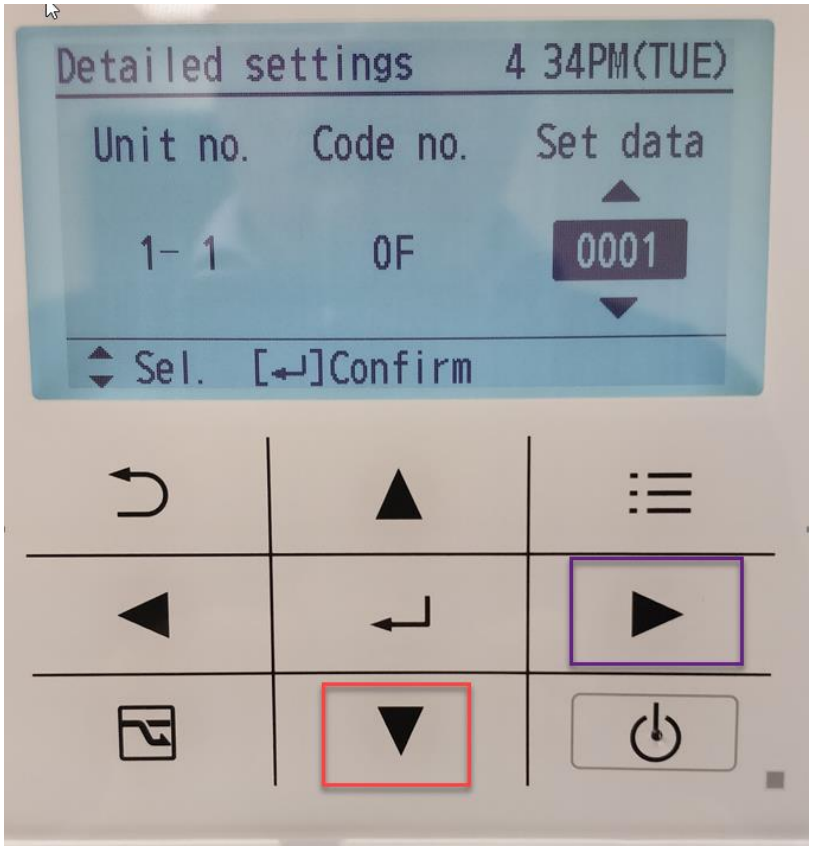
4) You will use the "UP", DOWN", "LEFT", "RIGHT" and "ENTER" keys to navigate the menus



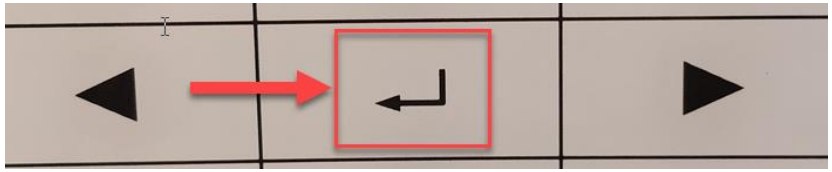
5) "UNIT No. 1-1" appears on the left.

a. Press "RIGHT" button to access "Code No".

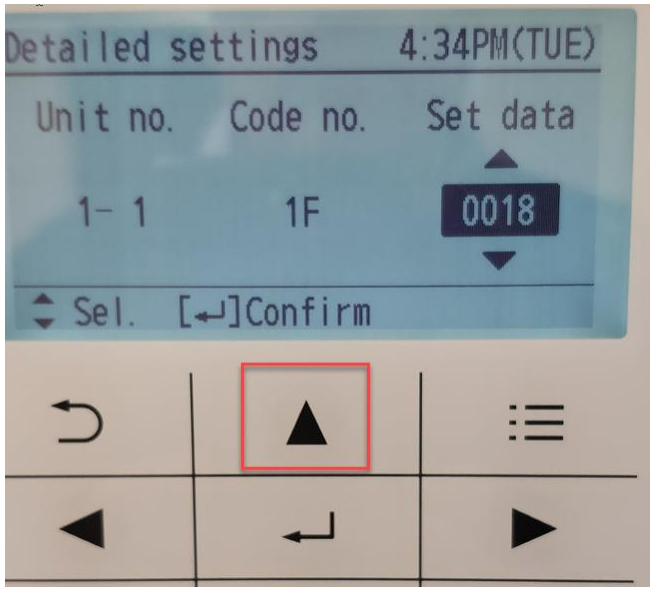
b. **Then press "DOWN" button to select Code No OF. This allows you to lock the unit into COOLING ONLY MODE**
c. **Then press RIGHT to select "SET DATA"**
d. **Then press "UP" or "DOWN" to select "0001"**



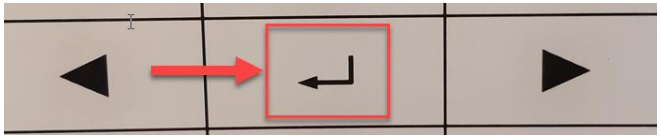
6) **PRESS ENTER otherwise the setting will not be stored**



7) Press "LEFT" to return to "CODE no"
   a. Use "UP" to select "1F" – This is for MAXIMUM TEMPERATURE SETTING
   b. Press "RIGHT" to select "Set Data"
   c. Press "UP" or "DOWN" to select the MAXIMUM TEMPERATURE SETTING
   d. This example shows a maximum temperature setting of 18℃

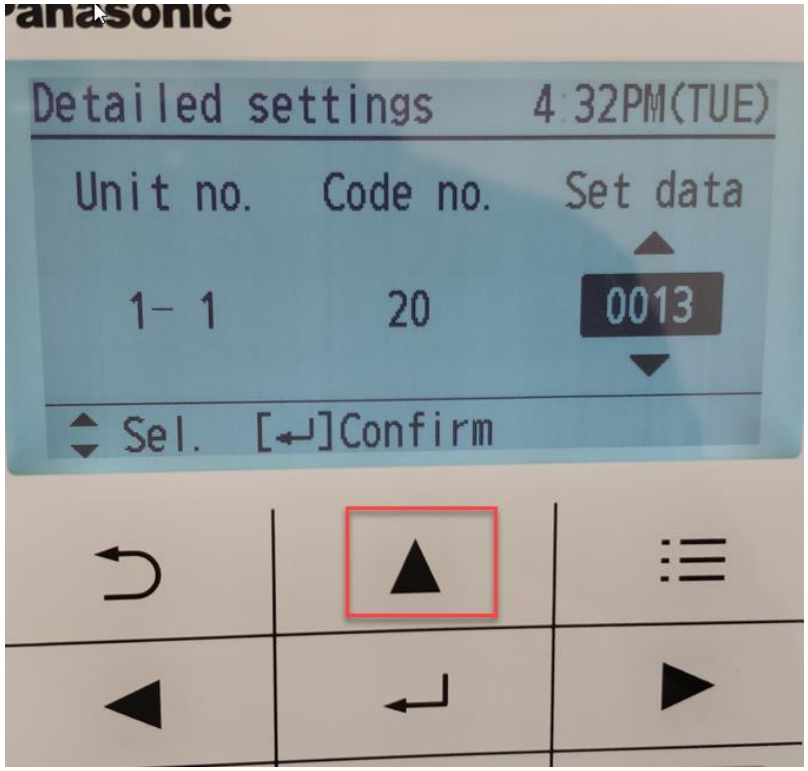


Remember to press "ENTER"

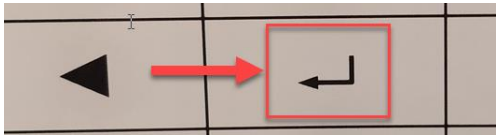


8) Press "LEFT" to return to "CODE no"
   a. Use "UP" to select "20" – This is for MINIMUM TEMPERATURE SETTING

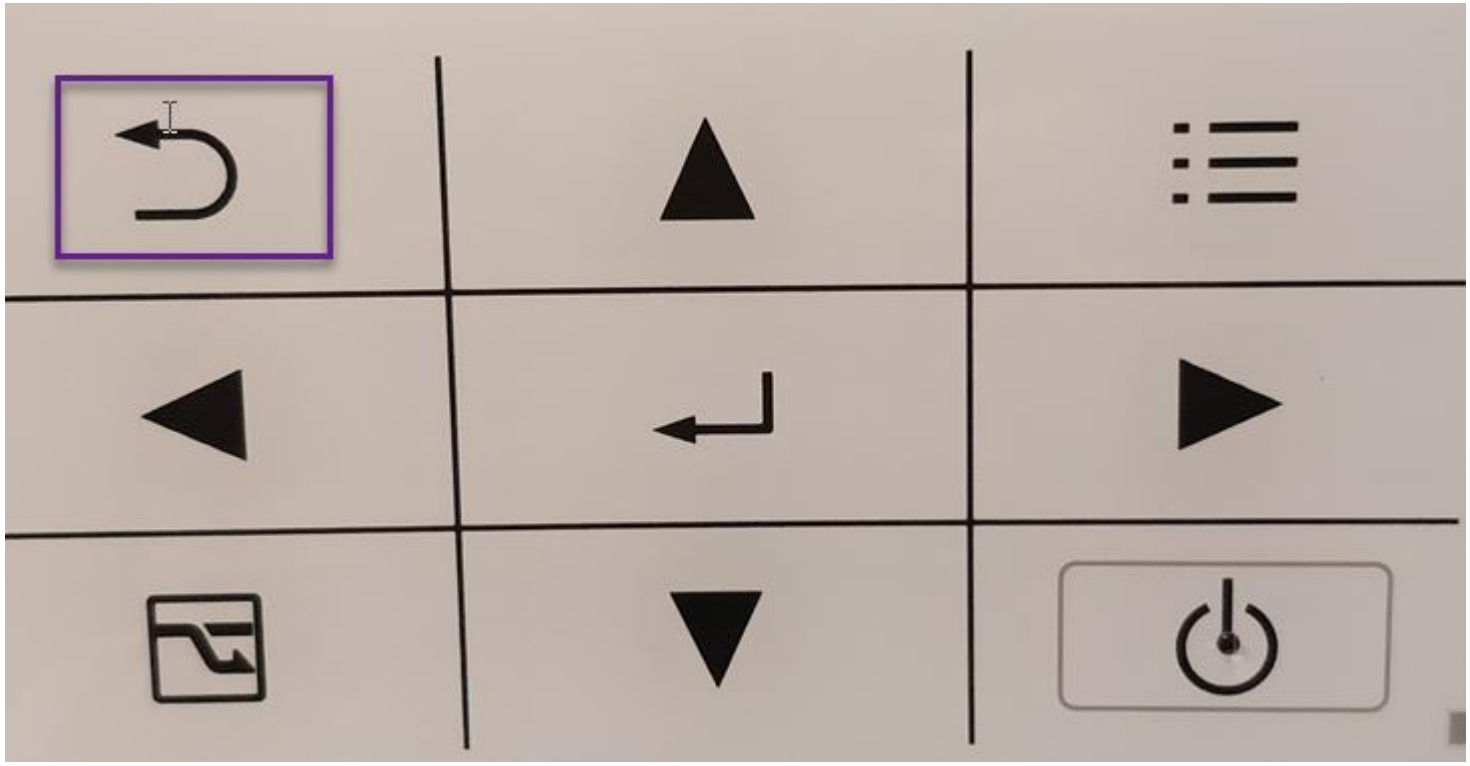
b. **Press "RIGHT" to select "Set Data"**
c. **Press "UP" or "DOWN" to select the MINIMUM TEMPERATURE SETTING**
d. **This example shows a maximum temperature setting of 13°C**
e. **REMEMBER TO PRESS ENTER**



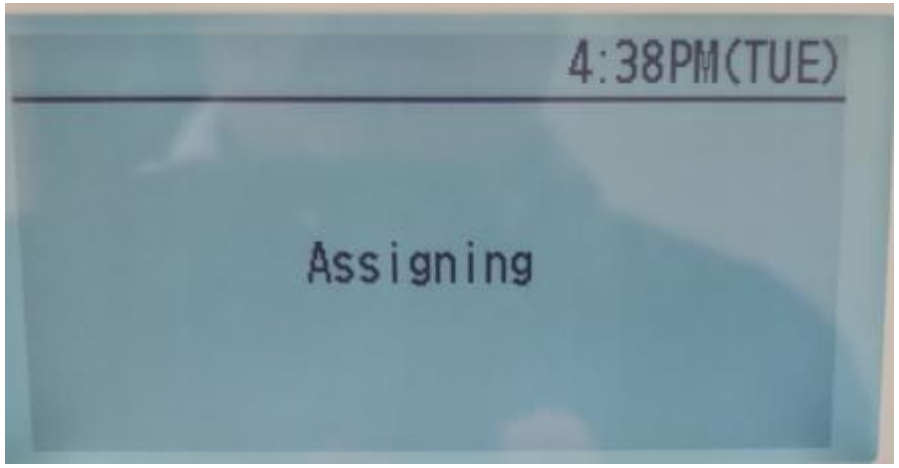
Remember to press "ENTER"



9) Now press "RETURN" to exit the DETAILED SETTINGS MENU



10) Finally, when you go to restart the controller it will say "ASSIGNING" to add these new settings.


4:38PM(TUE)
Assigning