

Technical Bulletin

Number	029
Subject	Setting Optional Inputs and Outputs (Indoor)
Date	21 February 2011

Introduction

This is a step-by-step guide to enabling additional functions on Hitachi Utopia and Set-Free products (Indoor Unit set-up). These follow the installation of a PCC-1A adapter.

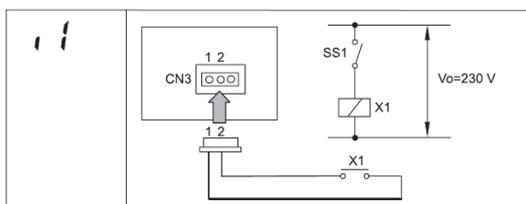
Please be aware that there are up to TWO INPUTS and THREE OUTPUTS available. These are shown as "i1" and "i2" throughout this document. Each INPUT ("i1" and "i2") is the physical connection to the indoor PCB. After this you can set up a number of different commands for that INPUT to take.

	PCB Connection	Pins	Function Number*	Default Settings
Input Settings	CN3	1-2	03	Function 1 – remote ON/OFF of the unit
	CN3	2-3	06	Cancellation of commands from the remote control switch after forced stoppage
Output Settings	CN7	1-2	01	Operation Signal
		1-3	02	Alarm Signal
	CN8	1-2	06	Thermo-ON Signal during Heating

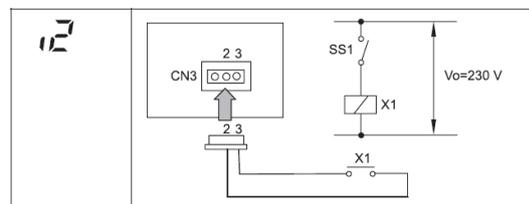
Input Settings.

Please refer to Introduction for explanation of Inputs

All input and output configurations are subject to the way the PCC-1A has been wired onto and from the indoor pcb to a third party system such as fire alarm shut down or remote thermostat.



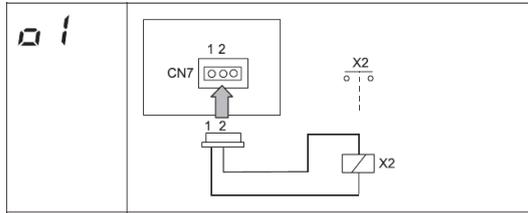
i1 switches 1 and 2 on CN3 (pcb input)



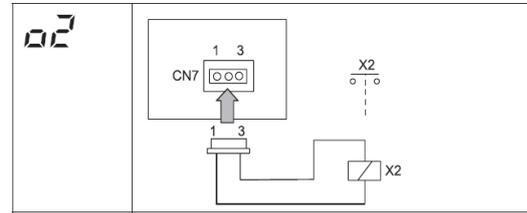
i2 switches 2 and 3 on CN3 (pcb input)

Note that each input has a series of options to instruct the use to suit the application. See pages 3 and 4 for instructions.

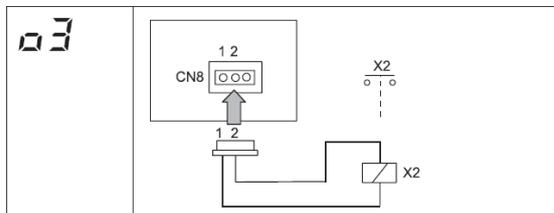
Output Settings.



01 switches 1 and 2 on CN7 (pcb output)



02 switches 1 and 3 on CN7 (pcb output)



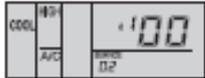
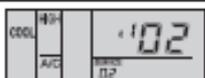
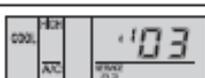
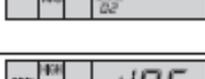
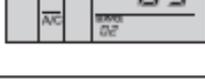
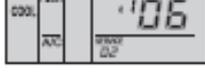
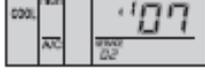
03 switches 1 and 2 on CN8 (pcb output)

Note that each output has a series of options to instruct the use to suit the application. See pages 3 and 4 for instructions.

Component Specification

Component		Manufacturer or Specifications	Remarks
Auxiliary relay (X2)		OMRON Mini Power Relay Model: MY1F or Equivalent	Voltage between relay terminals 12 Vdc - 75 mA
(SS1) (X1) contact (Example)		Manual Type	Voltage between terminals of the 230V - 5 mA contactor
3P Connector cable		De Optional part PCC-1A (capable of connecting the JST Connector XHP-3)	Five cords with connectors as one set
Wire (control)	Voltage: 12V DC.	0.5 mm ²	
Wire (power)	Voltage 230V	2.0 mm ²	

Input Settings.

Display Remote Control (Input signal)	Indic.	Input signal	Application	Port
	00	Not Set	Not Set	CN3
	01	Control by means of the field-supplied room thermostat (cooling)	This signal allows to control the unit by means of an external thermostat. This could reduce cooling problems in summer for certain applications.	CN3
	02	Control by means of the field-supplied room thermostat (heating)	This signal allows to control the unit by means of an external thermostat. This could reduce the problems due to stratification of indoor air	CN3
	03	Function 1 - remote ON/OFF of the unit (by contact)	This signal allows to control the stoppage and start-up of the system from a remote place. This optional function is very useful to hotels and offices buildings to control the indoor units from building management system.	CN3
	04	Function2 - turns unit ON. (by pulse)	This signal allows to control the start-up of the system from a remote place. This optional function is very useful in hotels and office buildings to control the indoor units from the building management system.	CN3
	05	Function2 - turns unit OFF. (by pulse)	This signal allows to control the stoppage of the system from a remote place. This optional function is very useful in hotels and offices to control the indoor units from the building management system.	CN3
	06	Cancellation of Commands from Remote Control Switch After Forced Stoppage	This signal stops the indoor unit and cancels the commands from the remote control while it is activated.	CN3
	07	Setting of the cooling mode or the heating mode	This signal provides a control to change the operation mode from a remote place.	CN3
	08	Input signal for the UP/DOWN grille (not available)	Not Available	CN3

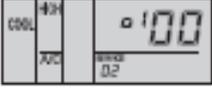
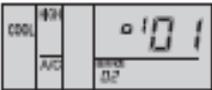
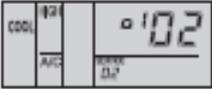
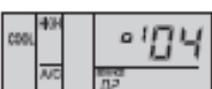
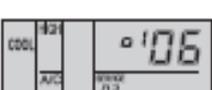
Note:

If using one input commands, program as "i1"

If using two input commands, program as "i2"

- **If just using time clock on/off then this is a default setting and does not need to be programmed via the controller**

Output Settings.

Remote Control Display (Output signal)	Indic.	Output signal	Application	Port
	00	Not Set	Not Set	CN7 or CN8
	01	Operation Signal	This signal allows to control the status of the machine at all times; it is very useful for centralized applications	CN7 or CN8
	02	Alarm Signal	This signal allows to activate mechanisms that protect from and warn of possible failures in the unit; it is very useful for rooms that must always be air-conditioned	CN7 or CN8
	03	Cooling Signal	This signal allows to control the status of the compressor. It is very useful to control the THERMO-OFF of the indoor units..	CN7 or CN8
	04	Thermo-ON signal during cooling	It is very useful to control requests from the indoor unit to activate the compressor.	CN7 or CN8
	05	Heating signal	This signal allows to control the status of the compressor. It is very useful to control the THERMO-OFF of the indoor units.	CN7 or CN8
	06	Thermo-ON signal during heating	It is very useful to control requests from the indoor unit to activate the compressor.	CN7 or CN8

Note:

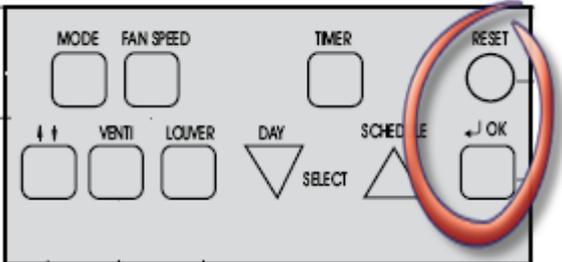
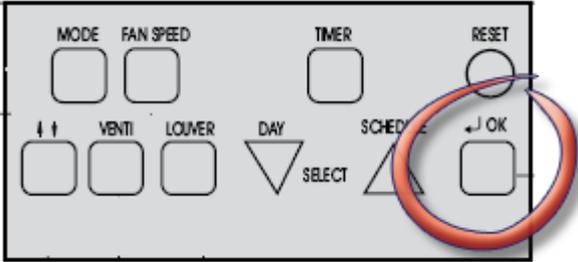
If using one output commands, program as "o1"
 If using two output commands, program as "o2"
 If using three output commands, program as "o2"

- **If using time operation (run) signal on pins 1&2 then this is a default setting and does not need to be programmed via the controller**

Technical Bulletin

- If using time alarm signal on pins 1&3 then this is a default setting and does not need to be programmed via the controller

Method (do not use for defaults)

Instruction	Status
<p>1) Ensure Remote Controller is "OFF"</p> <p>2) Press "OK" and "RESET" together for more than three seconds</p> 	<p>Service Mode status "01" will appear in the bottom window.</p> 
<p>3) Press the temperature "UP" button to move to Service Mode "02"</p> 	<p>Service Mode status "02" will appear in the bottom window.</p>  <p>Service Mode "02" is what we need to enter in order to set up optional inputs.</p>
<p>4) Press "OK"</p> 	<p>Address "01" "01" will show in top window.</p>  <p>The first "00" digits represent the indoor unit address. The second "00" digits represent the outdoor (Refrigerant Number) unit address.</p>

5) Press the Temperature Down button once

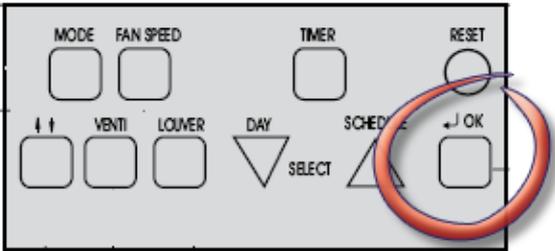


Address display in top window will change from "00" "00" to "AA" "AA" (all units)

This setting is the most advisable when doing any modification.

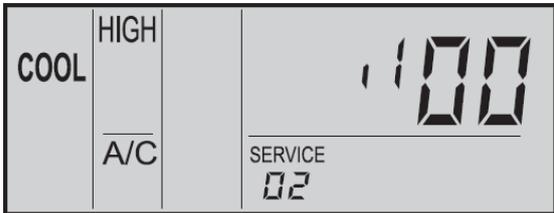
You would only select a specific indoor unit if you were commissioning a large group of units, such as a number of fan coils on a VRF system.

6) Press "OK"

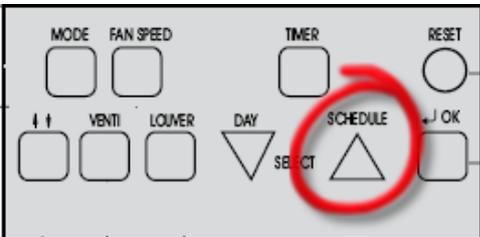


Optional input setting "i1" will appear in the middle-top right window.

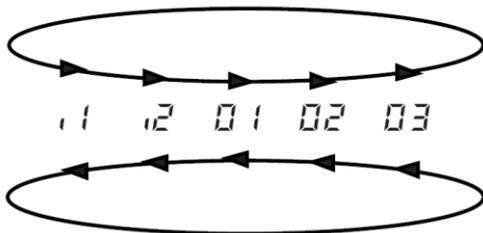
To the right of this will be the current status of this optional input.



6) Press "SCHEDULE" continuously to scroll through to required Input or Output code.



Required Input or Output will appear in the middle- top window.

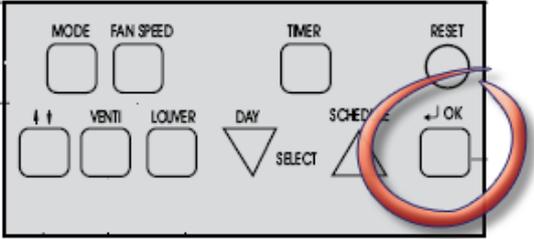


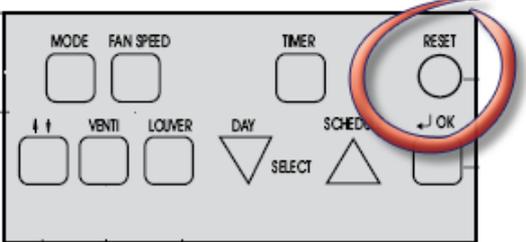
7) Press "OK" to select INPUT or OUTPUT mode.

By continuously pressing "OK", you can select the required INPUT or OUTPUT condition by scrolling through the numbers.

In this case we have selected **Input 1, 03**

Technical Bulletin

 <p>A diagram of a remote control panel with various buttons: MODE, FAN SPEED, TIMER, RESET, VENTI, LOUVER, DAY, SCHEDULE, and SELECT. The RESET button is circled in red.</p>	 <p>A digital display showing 'COOL' on the left, 'HIGH' above 'A/C' in the middle, and '103' in large digits on the right. Below the digits, it says 'SERVICE 02'.</p>
<p>(See page 1-3 for full list of functions)</p>	

<p>8) Press "RESET"</p>	<p>Remote controller will return to normal operation mode.</p>
 <p>A diagram of a remote control panel with various buttons: MODE, FAN SPEED, TIMER, RESET, VENTI, LOUVER, DAY, SCHEDULE, and SELECT. The RESET button is circled in red.</p>	
<p>9) Turn remote controller "ON"</p>	<p>Normal Operation. (For this example, press MODE button to ensure AUTO operation is working)</p>