AUGUST 23, 2023

CC200 ADV RELAY CONFIGURATION (CC CC200-SM-RC)
RELAY CONFIG EXT (CC200-SM-RCE)

(REV 20.1.64+)

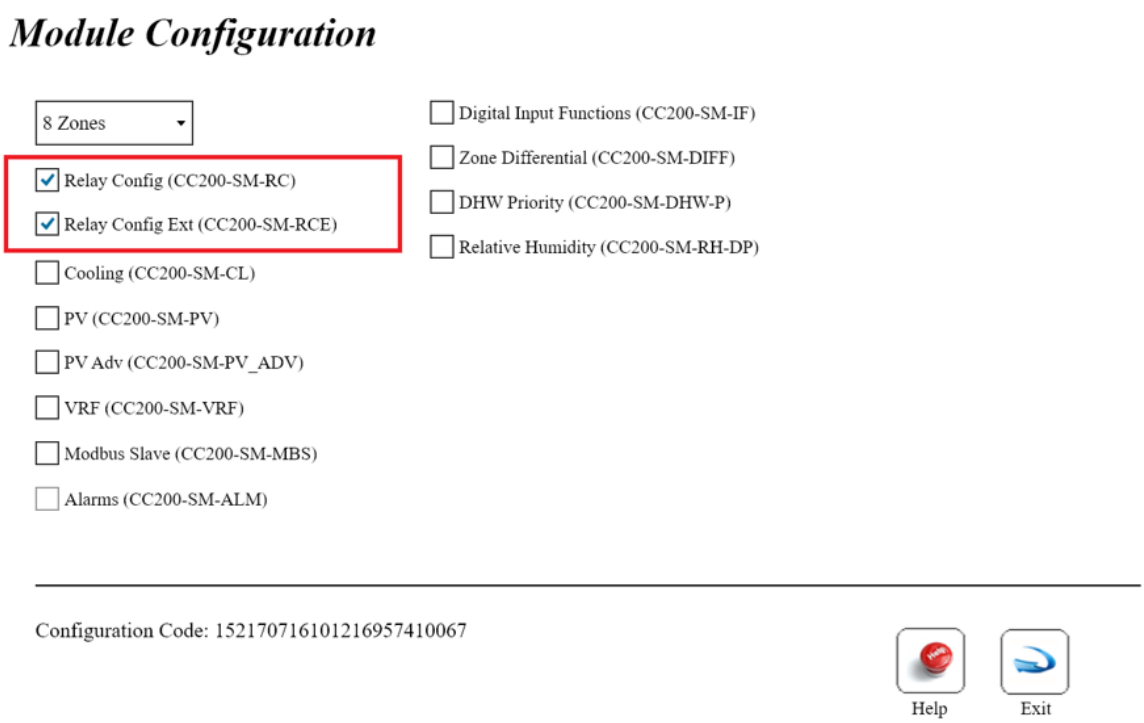
CRIOSU CONTROLS

Table of Contents

Introduction

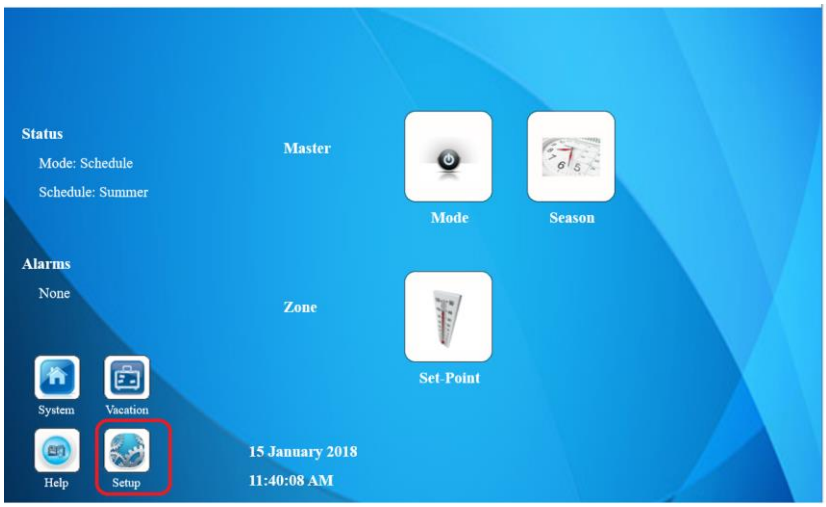
Configuration of relay outputs for complex heating & cooling systems.

Module Requirements

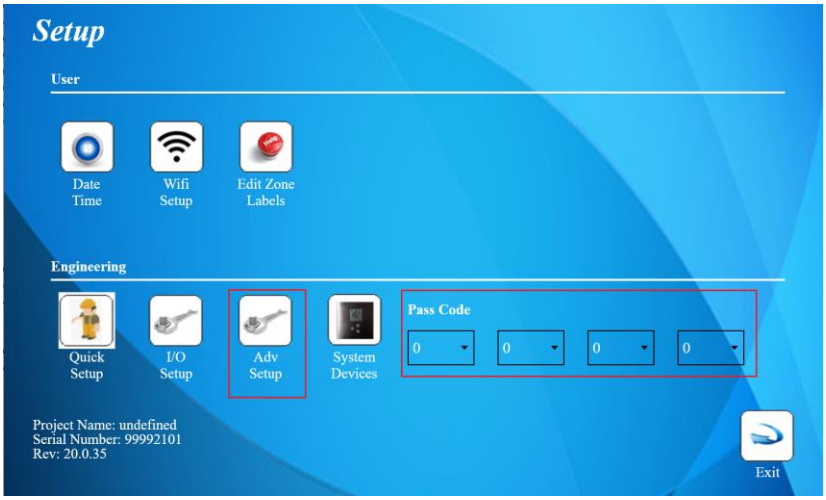


Access Advanced Relay Configuration

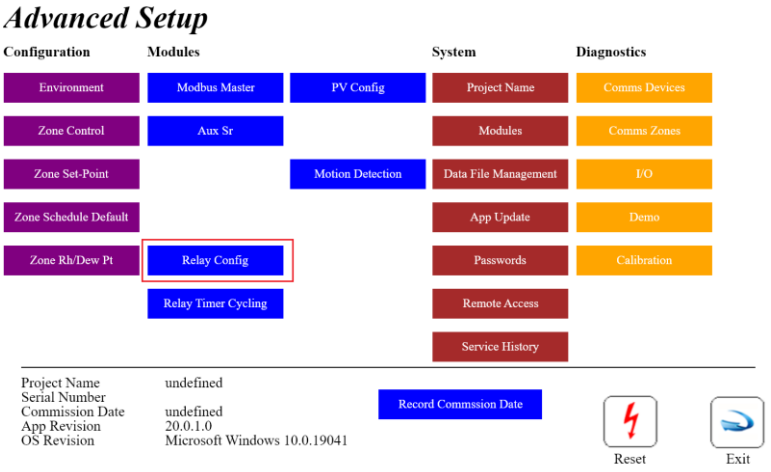
Step 1. Press "Setup" on the Home Screen



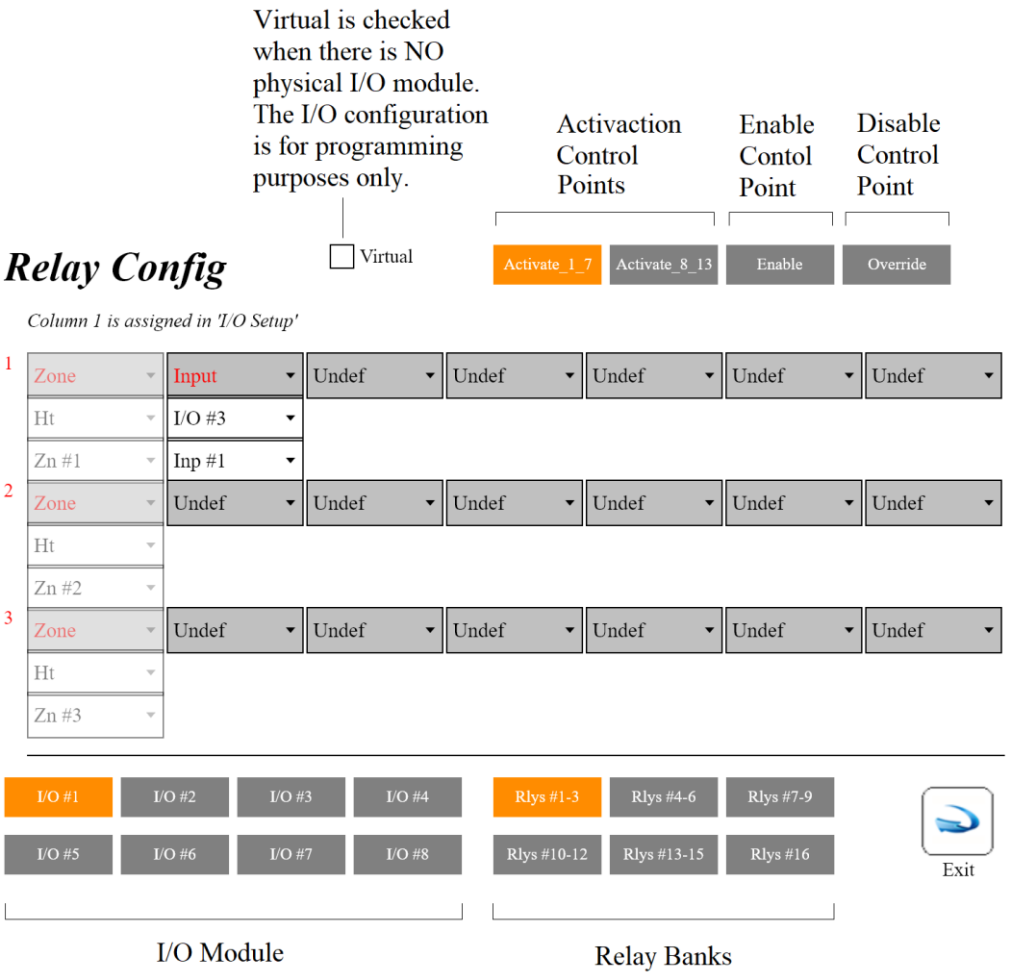
Step 2. Enter "Pass Code" and press "Advanced" on the Setup Screen



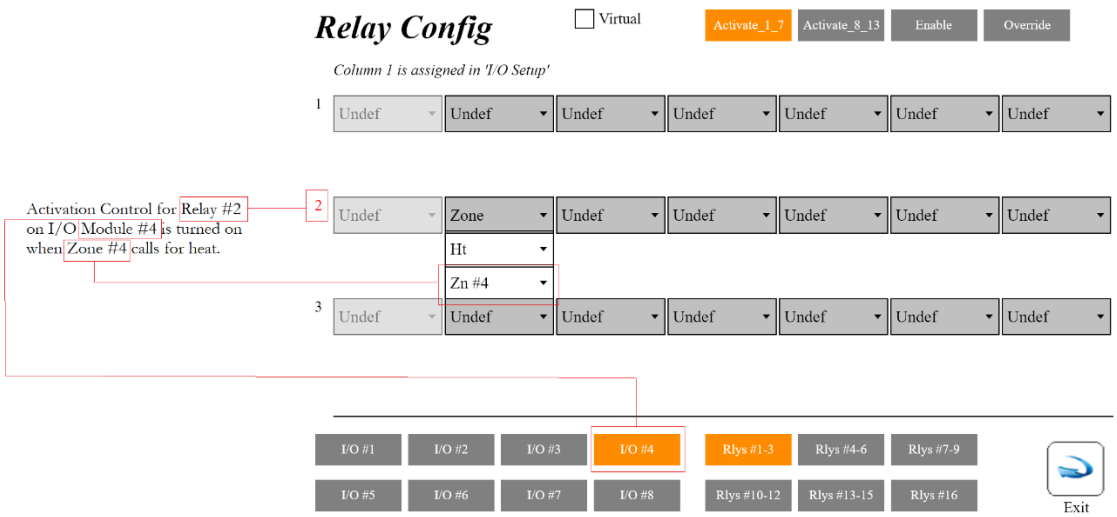
Step 3. Press "Relay Configuration"



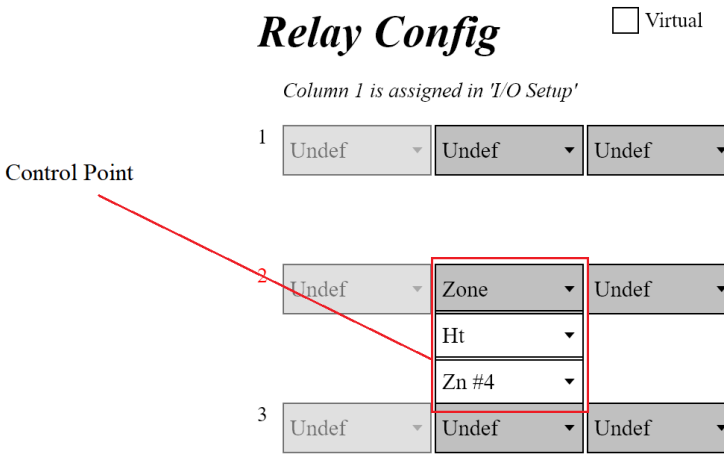
Relay Configuration (CC200-SM-RC)



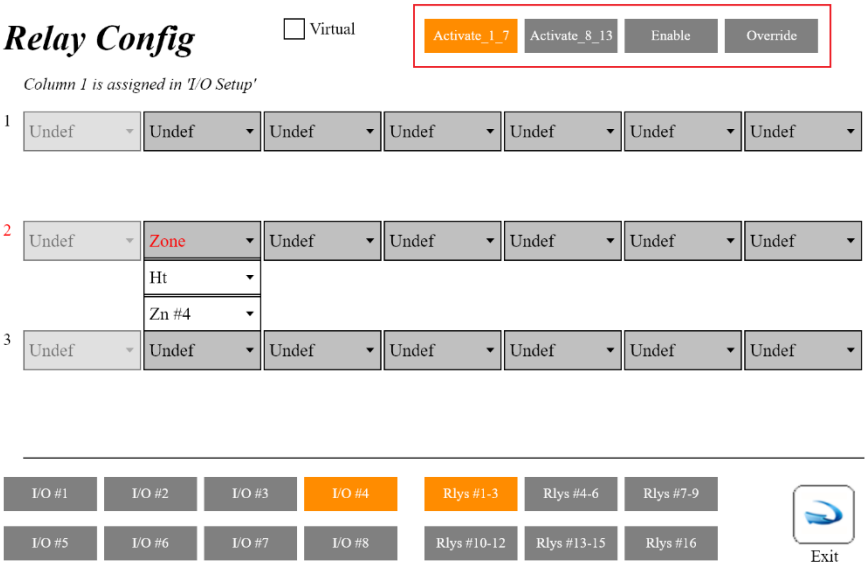
A button with an orange background indicates that the button is active. For instance, in the following, an Activation Control for Relay #2 on I/O Module #4 is turned on when Zone #4 calls for heat.



Relay Control Points



Control Points are used to set the ON/OFF state of a relay output. There are thirteen Activation controls, one Enable Control and two Override controls.



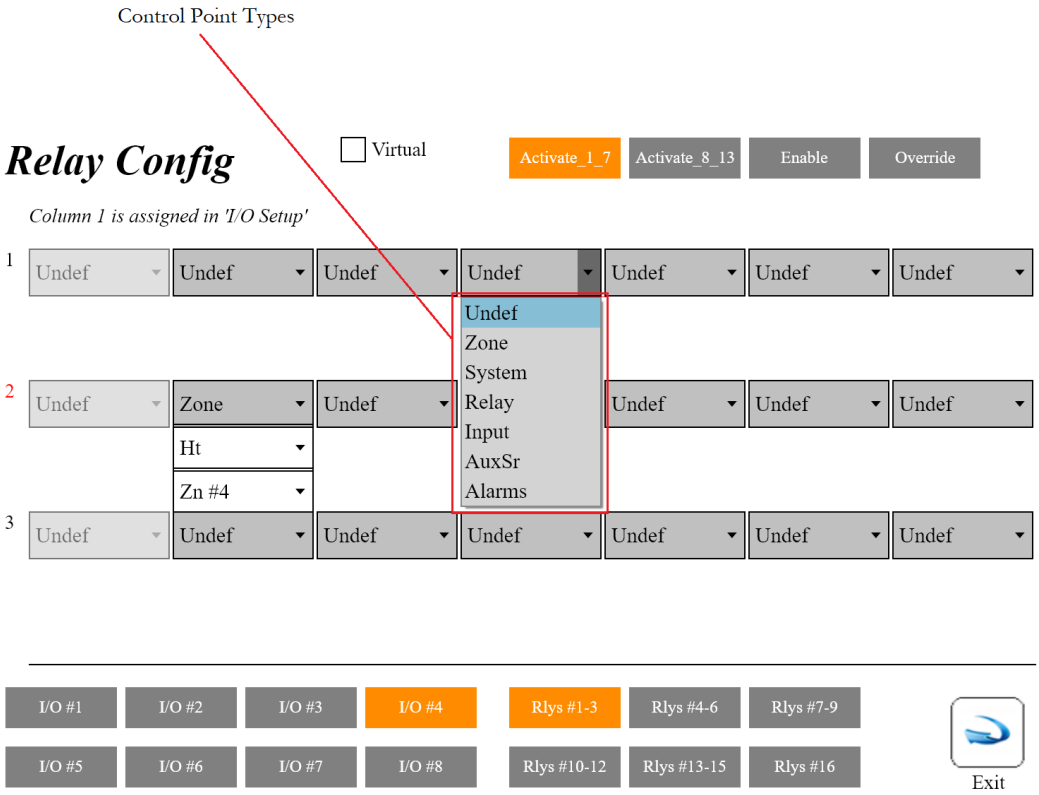
Any Active Activation control will turn the relay ON.

The Enable Control may be used to act as an enable for the Activation controls. If used, the Activation controls will only control the relay when the Enable Control point is Active.

An Override control may be used to turn OFF a relay output regardless of the state of the Enable or Activation controls.

Control Point Types

There are several types of Control points. These consist of: Zone, System, Relay, Input, Aux Sr and Alarm.



Control Point Description

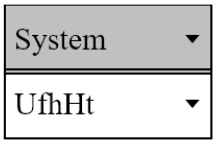
Type	Description
Zone	Zone Ht — Zone Type Control Zn #1 — Zone Index (1-32)

Control	Operation
Ht	Active when zone is calling for heat.
Cl	Active when zone is calling for cooling.
F1	Active when zone cooling is at or exceeds Fan 1 threshold. (T ≥ SP+DB+F1) T: Zone Temperature SP: Zone Setpoint

	DB: Zone DeadBand F1: Zone F1
F2	Active when zone cooling is at or exceeds Fan 2 threshold. (T ≥ SP+DB+F2) T: Zone Temperature SP: Zone Setpoint DB: Zone DeadBand F2: Zone F2
F3	Active when zone cooling is at or exceeds Fan 3 threshold. (T ≥ SP+DB+F3) T: Zone Temperature SP: Zone Setpoint DB: Zone DeadBand F2: Zone F3
HC	Active when zone heating or cooling. Not active when in dead band. Note: Heating & cooling from a single water source e.g. HP . If a zone cooling, any HC zone heating will close.
Sch	Active when SCHED zone is ON Note: These is NO temperature control.
RH	
Ch1	Active when a Zone Channel 1 (Air Temp) is less than the Set-point. The Zone Schedule is ignored. (TCh1 < SP) TCh1: Zone CH1 Temperature SP: Zone Setpoint
Ch2	Active when a Zone Channel 2 (Probe Temp) is less than the Set-point. The Zone Schedule is ignored. (TCh2 < SP) TCh1: Zone CH1 Temperature SP: Zone Setpoint

	z:Diff	See *Manual-Eng-ZoneDifferential.pdf*

System



System Type Flags

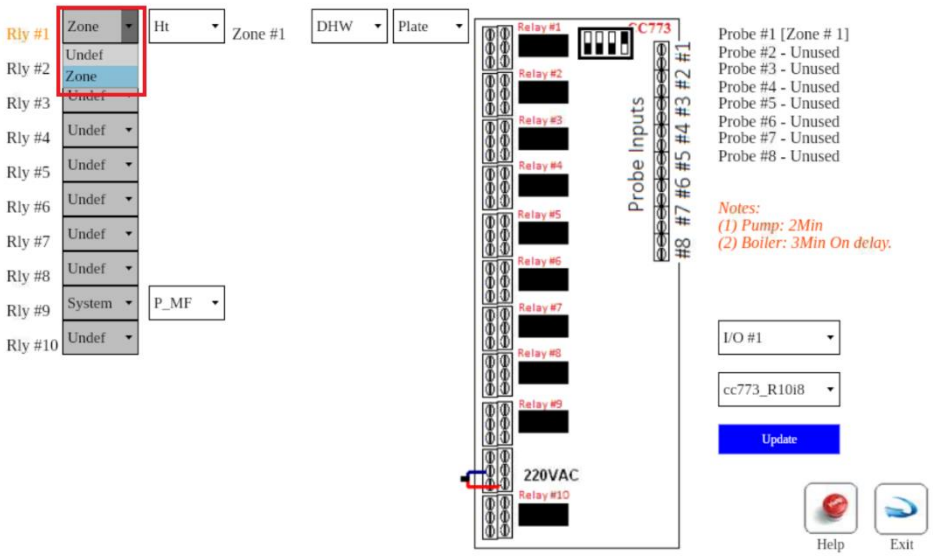
UfhHt	Active when any **UFH or UPROBE** zone calling in the system. *(IsSysUfhHeating)* Override if any relay is configured with **SyClOH** flag is Active. *(IsSysCoolingOverrideHeating)*
RadHt	Active when any **Rad (radiator)** zone calling in the system. (IsSysRADHeating) Override if any relay is configured with **SyClOH** flag is Active. *(IsSysCoolingOverrideHeating)*
DhwHt	Active when any **DHW** zone is calling for Heat in the system. *(IsSysRADHeating)* Override if any relay is configured with **SyClOH** flag is Active. *(IsSysCoolingOverrideHeating)*
Boiler	Active when any **DHW** (IsSysDHWHeating) **OR** Active if any U**FH or UPROBE or RAD or PROBE** zone is calling for heat in the system *(IsSysHeating)* Override if any relay is configured with **SyClOH** flag is Active. *(IsSysCoolingOverrideHeating)*
P_MF	Active when any **UFH or UPROBE** zone calling in the **on the associated IO Module**. *(IsSysUfhHeating)* Override if any relay is configured with **SyClOH** flag is Active. *(IsSysCoolingOverrideHeating)*

	SysHt	Active when any **UFH or UPROBE or RAD or PROBE** zone is calling for heat in the system *(IsSysHeating)* Override if any relay is configured with **SyClOH** flag is Active. *(IsSysCoolingOverrideHeating)*
	SysCl	Active when any Zone is calling for Cooling in the system. *(IsSysCooling)*
	SysClR	Active when any Zone is calling for Cooling in the system but overridden when the relative humidity any zone is any zone exceeds the relative humidity set-point threshold.
	SysEHt	Active when any **E-ufh** (Electric UFH) zone is calling in the system. *(IsSysEUFHHeating)* Override if any relay is configured with **SyClOH** flag is Active. *(IsSysCoolingOverrideHeating)*
	ClovOH	Active when any Zone is calling for Cooling in the system. *(IsSysCooling)* ***Note: When this Flag is used it will set the IsSysCoolingOverrideHeating flag whix is used as an cooling override for system flags:*** **UfhHt, RadHt, DhwHt, EUfhHt , SysHt and MF**
Relay	Relay I/O #1 — I/O Module (1-8) Rly #1 — Relay Output (1-16)	
Input	Input I/O #1 — I/O Module (1-8) Inp #1 — Digital Input (1-8)	

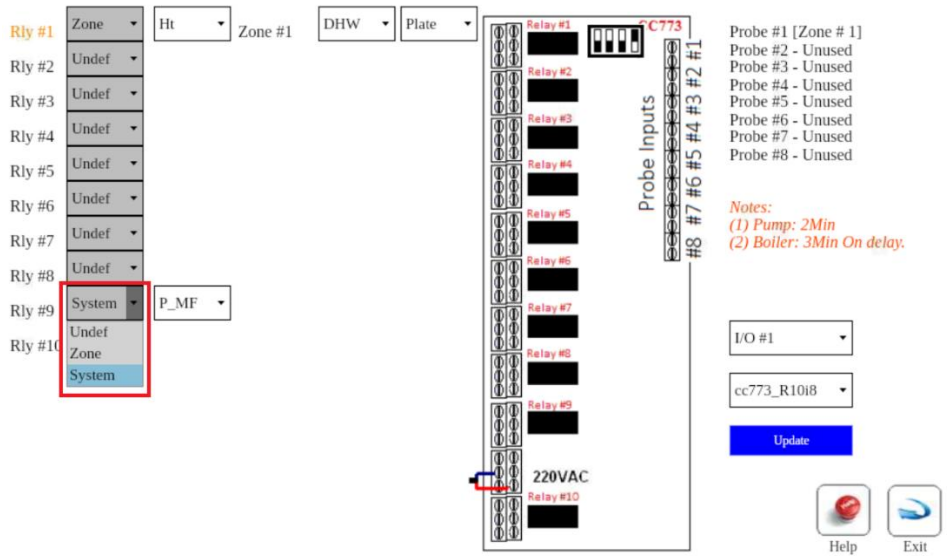
Aux Sr	AuxSr Sr #1 — Aux Sensor (1-8) T>C1S1 — Aux Sensor Type
Alarm	

Relay Config Control Point Extensions for I/O Setup [Relay Config (CC200-SM-RC)]

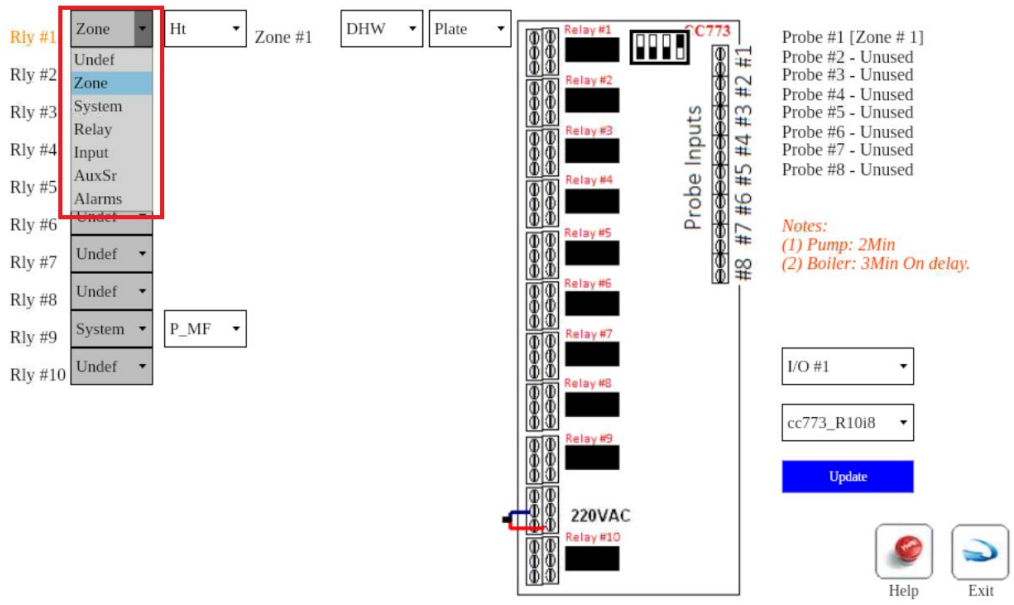
The Relay Control Point Types for the I/O Setup is limited to "Zone" for Relays 1-8



and limited to "Zone, Setup " for Relays 9,10.

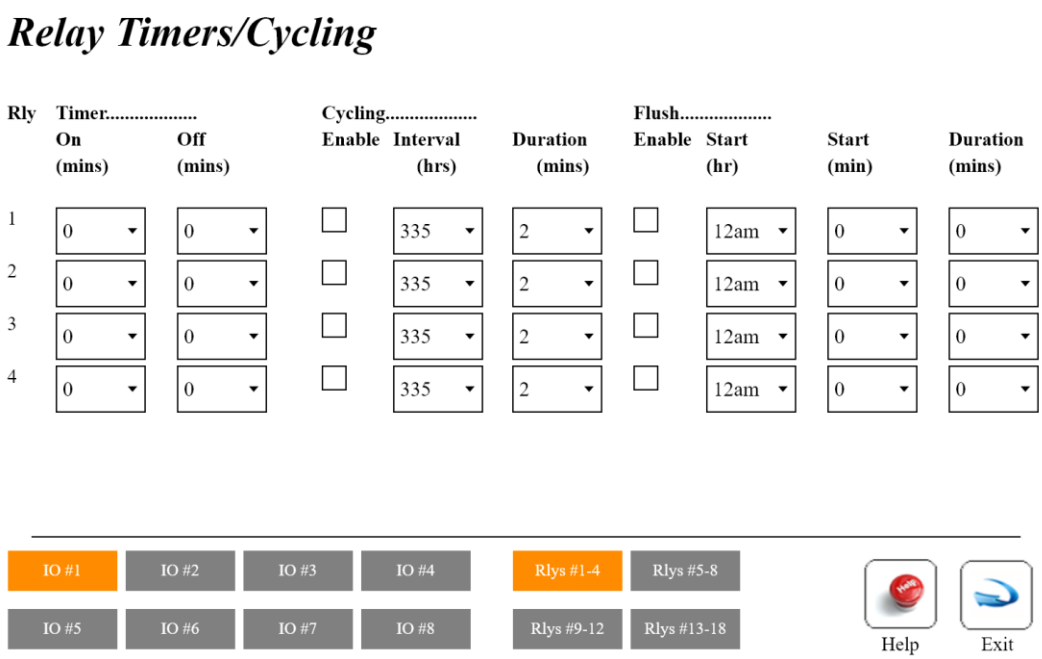


The "Relay Config Control Point Extensions for I/O Setup" module ("Relay Config Ext CC200-SM-RCE") enables all control point types for all relays.



Relay ON/Off, Cycling and Flush Timer Control

ON/Off, Cycling and Flush Timer Control is associated with each relay output. In order of priority the Flush timer control is assigned the highest priority followed by the Cycle timer control and finally the ON/Off Timer Control

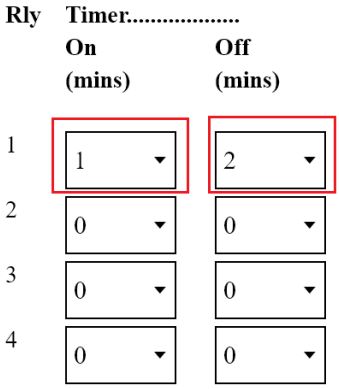


On/Off Timer Control

The ON Timer delays the Relay ON activation for the programmed number of minutes.

The OFF Timer delays the Relay OFF activation for the programmed number of minutes.

In the following example, Relay #1 will be turned ON one minute after its activation and turned OFF two minutes after its deactivation.

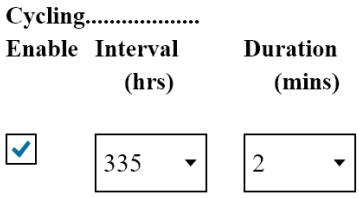


Cycle Timer Control

The output is turned ON for a programmed duration (mins) when a relay has not been activated ON for a programmed interval (hours).

Cycle timer control must be enabled.

In the following example, Cycle Timer is enabled. The relay output will turn ON for 2 minutes is there is no relay activation for 335 hours.

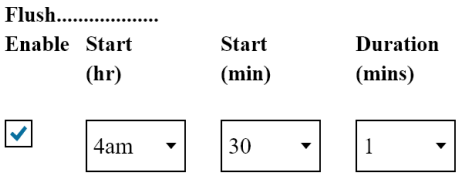


Flush Timer Control

The Flush timer Control will turn a Relay Output ON every day at a programmed time and for a programmed duration.

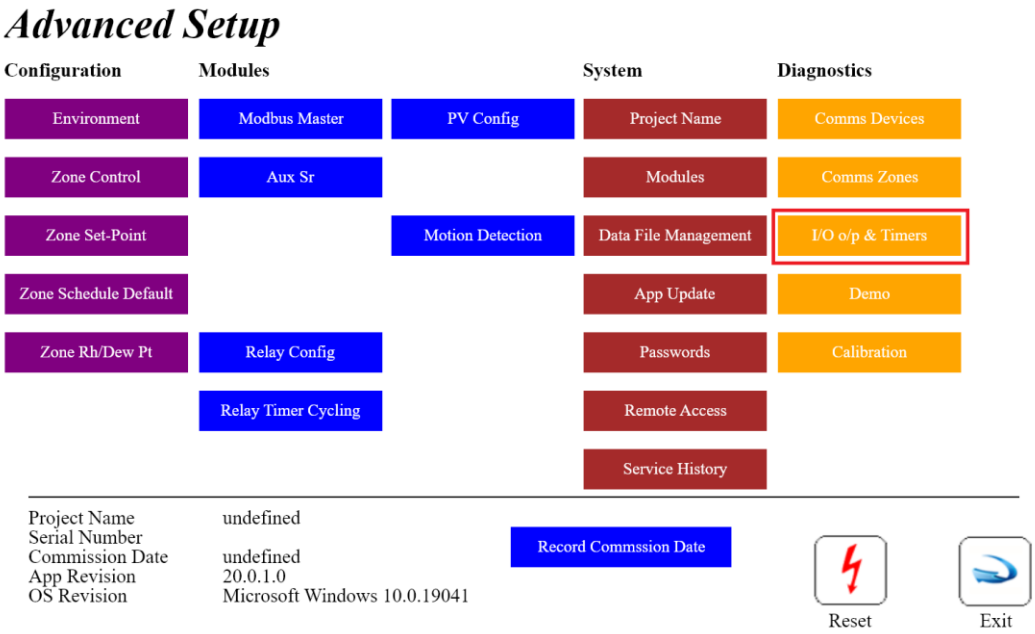
Flush timer control must be enabled.

In the following example, the Flush timer is scheduled to come ON at 4.30am and remain ON for 1 minute.



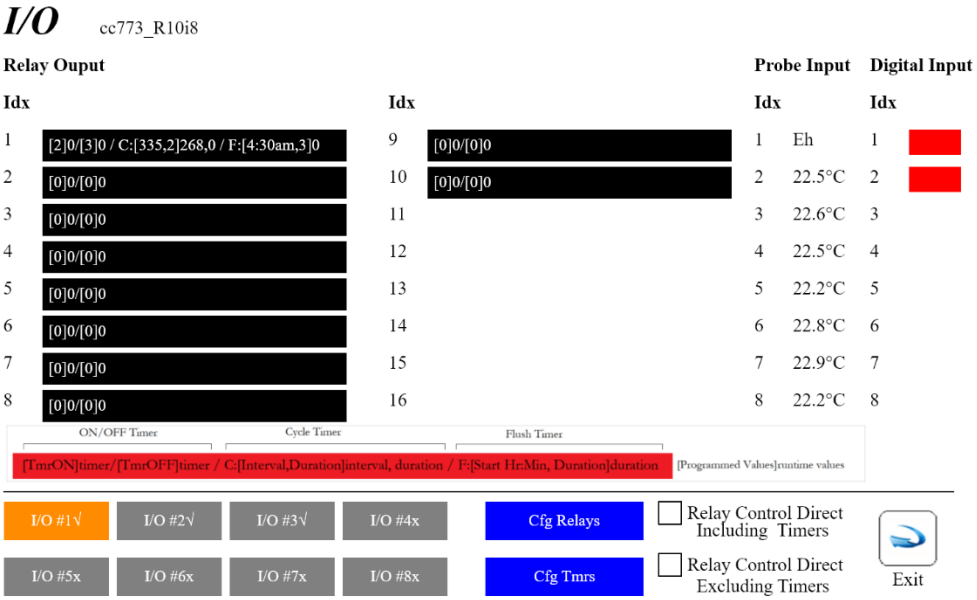
I/O Diagnostics

I/O diagnostics may be accessed by pressing the "I/O o/p & Timers" button.



The default state (Nothing checked) show the current state of the On/Off , Cycle and Flush timer controls. Probe inputs (R10i8 only) and Digital inputs are also displayed.

The following page displays the Times for I/O for I/O Module #1 (highlighted in orange)

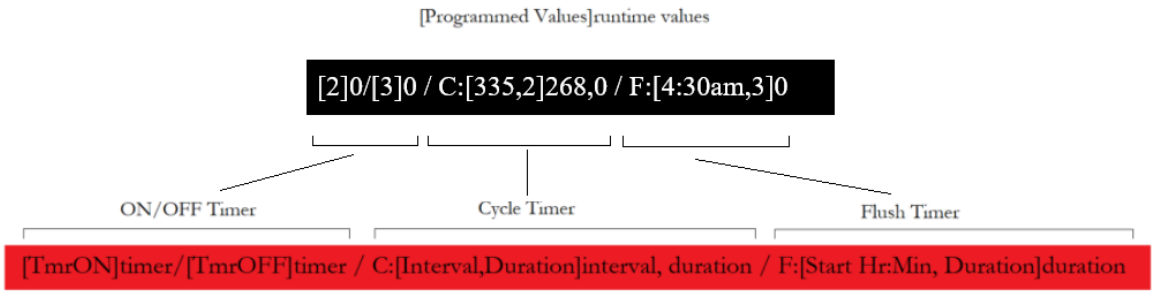


Black background for relay outputs indicates an OFF state and red background indicates ON state.

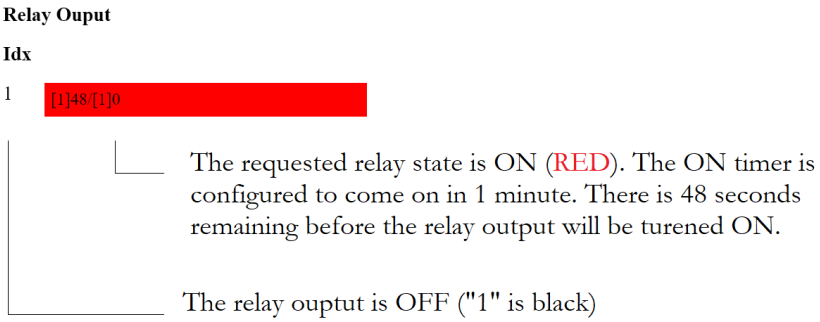
Black background for digital inputs indicates an closed/OFF state and red background indicates Open/ON state.

The relay output button shows On/Off , Cycle and Flush timer control configuration between "[and "]" followed by the current timer state.

Cycle and Flush relay timers are only displayed if enabled



The color of the relay index displays the actual state of the relay. The back



Checking "Relay Control Direct Including Timers" allows control of the requested output state. In normal operation the requested output state is controlled by the relay configuration. In other words, the button allows emulation of the configuration.

Checking "Relay Control Direct Excluding Timers" allows control of the relay outputs. Relay output configuration and timer controls are overridden.