Advanced Configuration
Engineering Manual

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Title Page

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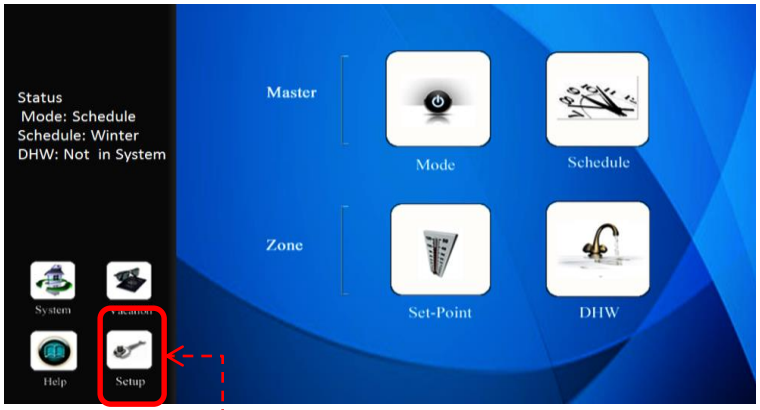
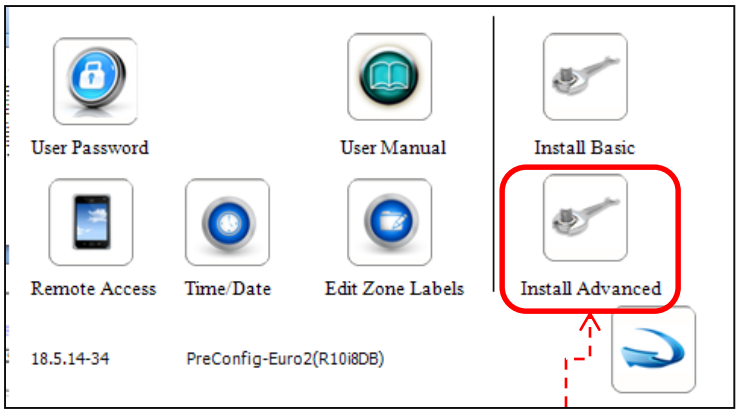
Intelligent Control Systems

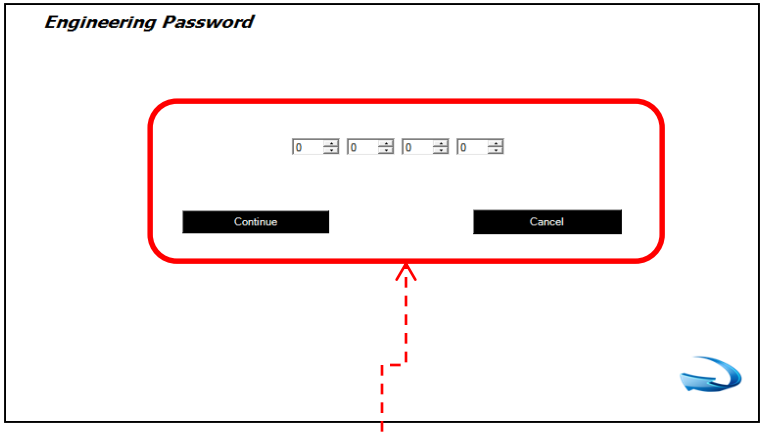
1. Access Engineering Menu



Step 1. Press Help



Step 2. Press - Install Advanced



3. Enter Code 3105 & Continue

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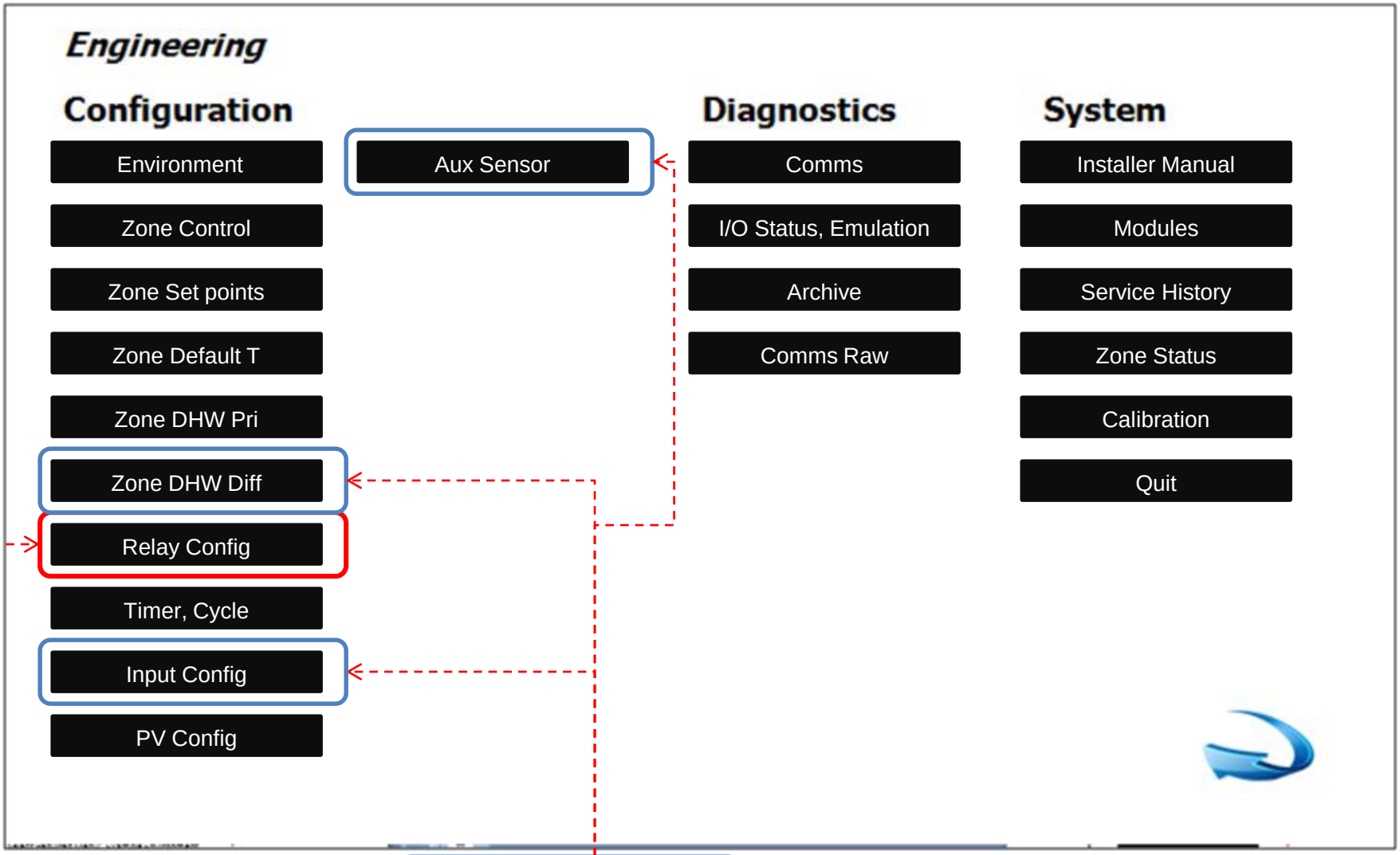

Select Relay Config

Config Includes
- ❖Relay Configuration
- ❖Aux Sensors
- ❖DHW Diff
- ❖Input Config

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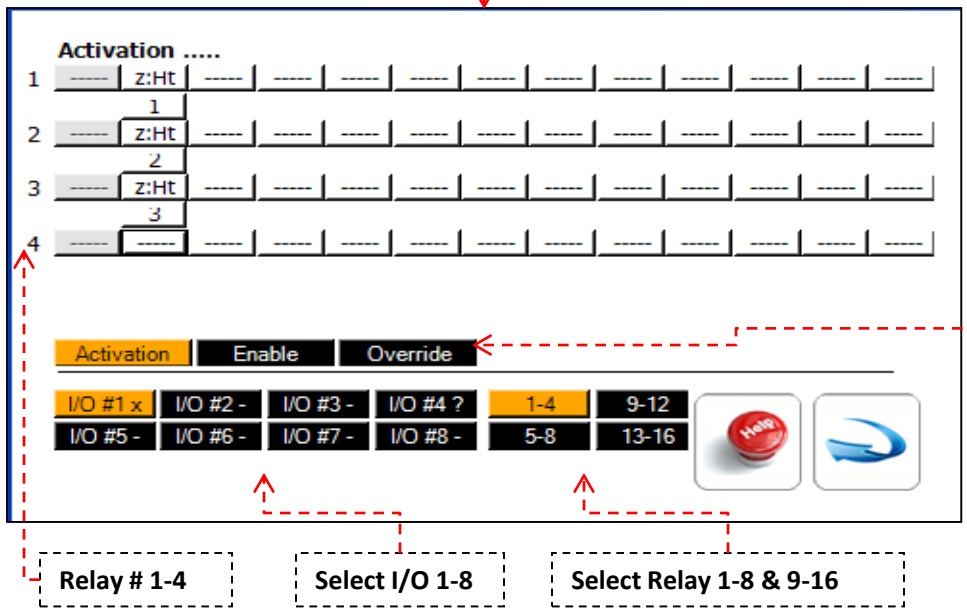
3. Relay Configuration

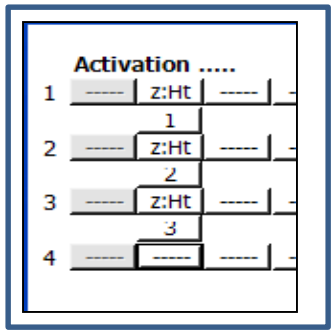


Overview:
Through configurability the system is flexible to not only manage all climate control elements within the dwelling, but has the additional benefit of ensuring the system is future proof, as it enables the system to integrate new development which will arise.

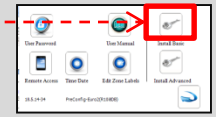
Relay Config

Activate	Up to 13 different activation Factors
Enable	Single enable Factors
Override	Two different enable Factors

Factors outline on next page



Grey Out Text
Grey Out, set using Install Basic



Overide Grey:
7” (cc200) Select : Setup / Install –Advanced / Eng/ Environment
4.3” (cc245) Select : Setup / Install –Advanced / Eng/ Environment/ Env- Heating

☐ Enable Basic and Advance Config	***Not Greyed Out***
☑ Enable Basic and Advance Config	***Grey Out***

Warning:
The system is designed using either Basic Install or Advance Config.
It is not recommend using both Basic Install & Advance Config together

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3. Relay Configuration

Configuration Selections

The following table identifies the Configuration Selections and associated parameters.

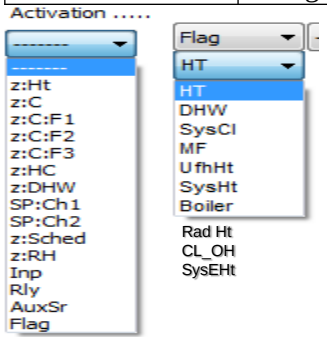
Configuration	Description	Selection Parameters	Comments
z:Ht	Zone Space Heating	Zone Number (1-32)	Active when zone heating
z:C	Zone Space Cooling	Zone Number (1-32)	Active when zone cooling
z:C:F1	Zone Space Cooling Fan 1	Zone Number (1-32)	Active when zone cooling at F1 threshold (T ≥ SP+DB+F1)
z:C:F2	Zone Space Cooling Fan 2	Zone Number (1-32)	Active when zone cooling at F2 threshold (T ≥ SP+DB+F2)
z:C:F3	Zone Space Cooling Fan 3	Zone Number (1-32)	Active when zone cooling at F3 threshold (T ≥ SP+DB+F3)
z:HC	Zone Space Heating & Cooling	Zone Number (1-32)	Active when zone heating or cooling (Not active when in dead band) Heating & cooling from a single water source e.g. HP . If a zone cooling, any HC zone heating will close
z:DHW	Zone DHW	Zone Number (1-32)	Active when Domestic Hot Water zone heating
SP:Ch1	Zone Sensor Channel 1 Set-point	Zone Number (1-32)	Active when AIR zone temp is below the SP. Ignore schedule Ch1: Air Temp
SP:Ch2	Zone Sensor Channel 2 Set-point	Zone Number (1-32)	Active when PROBE zone temp is below the SP. Ignore schedule Ch2: Probe Temp
z:Sched	Schedule Zone	Zone Number (1-32)	Active when zone is schedule to be on - No temperature control
z:RH	Humidity Activation	Zone Number (1-32)	Active when zone humidity is above the threshold valve set in Environment section
Inp	I/O Input	Input (1-5) I/O (1-8)	Active when input goes open circuit To deactivate input - Close Circuit. All input default status are ON
Rly	I/O Relay	Relay (1-16) I/O (1-8)	Active when another relay is active
Aux Sen	Aux Sensor	Aux Sensor (1-9) Ch 1 & 2	Active when measured temp is below the Aux sensor SP
Flag 1: HW	HW Key on keypad	HW	Only applied to Keypad – HW Button – 2 Hr – No Temp Control Old Ref - HT
Flag 2: DHW	active when any DHW is calling	DHW	Active when any DHW is calling
Flag 3: CLSys	Any Zone Cooling	ClSys	Active when any zone is calling for cooling
Flag 4: MF	Logic Box – Manifold	LbMf	Use on Pre-Configures System: Activated if any UFH or Uprobe sensor is calling for heat. Only applies to sensor Type = UFH or Uprobe zones & only Associated with this Logic Box

3. Relay Configuration

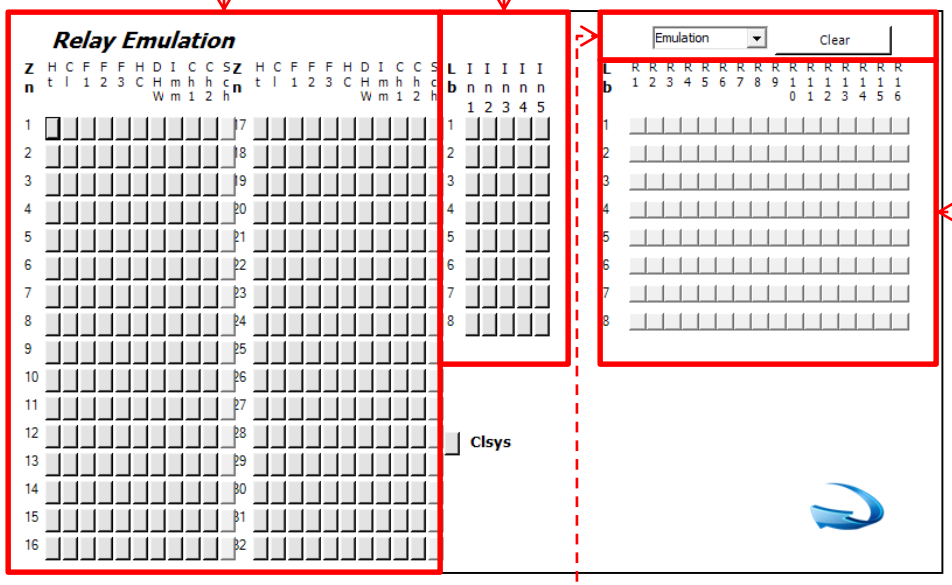
Configuration Selections

The following table identifies the Configuration Selections and associated parameters.

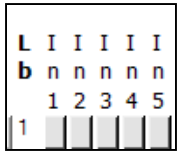
Configuration	Description	Selection Parameters	Comments
Flag 5:UfhHt	Active if any **ufh or UProbe** zone calling in whole system	UfhHt	Use on Pre-Configures System: Activated if any UFH or Uprobe sensor is calling for heat. Only applies to sensor Type = UFH or Uprobe zones & irrespective of Logic Box (Sch Zone Type – Not applicable)
Flag 6:SysHt	Active if any **Heating** zone calling in whole system	SysHt	Use on Pre-Configures System: Activated if any Heating sensor is calling for heat. Only applies to sensor Type = UFH, Uprobe, Rad or Probe zones & irrespective of Logic Box (Sch Zone Type – Not applicable)
Flag 7: Boiler	Active if any **Heating or DHW** zone calling in whole system	Boiler	Use on Pre-Configures System: Activated if any Heating or DHW sensor is calling for heat. Only applies to sensor Type = UFH, Uprobe, Rad Probe or DHW zones & irrespective of Logic Box (Sch Zone Type – Not applicable)
Flag 8: Rad Pump	Radiator Pump	Rad Ht	Use on Pre-Configures System: Activated if any Rad sensor is calling for heat. Only applies to sensor Type = Rad or Probe zones
Flag 9: CL_OH	Cooling Flag – Ovetide Heating Zones	CL_OH	Active when any zone is calling for cooling Will override any Ht Zone (UFH/Uprobe/ Probe / Rad) calling for heat
Flag 10: SysEHt	System E-ufh Active only if any **E-ufh** zone is calling in whole system	CL_OH	Active only if any **E-ufh** zone is calling in whole system



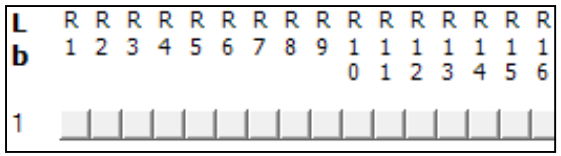
4. Relay Emulation



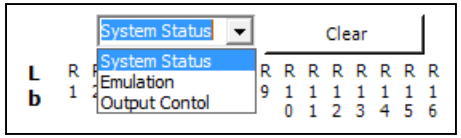
Relay Emulation:
Overview:
A system can be configure to manage all the element within a dwelling, this emulation page allow the configuration to be tested to ensure what is required actually functions.



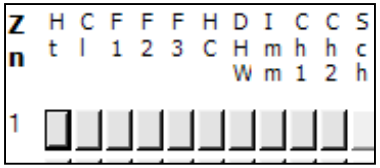
Input Activations
5 Inputs per LB (Logic Box) (Relay Boards)
8 LB (Logic Box) in a system



Relay Output Input Activations
Max 16 Relay Outputs on each LB (Logic Box)
8 LB (Logic Box) in a system
Comment:
When a zone or an input is active, if configured it's respective output relay will be highlighted



Comment:
This screen can be set to the following
System Status: Display actual status of the relays in real time
Emulation: Test configuration before shipping system
Output Control: Force relay On / OFF by selecting individual relay



Zone 1-32 Activations
Ht- Heating
CL Zone Cooling
F1- Zone Cooling F1
F2- Zone Cooling F3
F3- Zone Cooling F3
HC - Zone Heating or Cooling
DHW – Domestic Hot Water
Imm – Immersion
Ch1- Channel 1 (Air) SP (Irrespective of the schedule)
Ch2- Channel 2 (Probe) SP (Irrespective of the schedule)
Sch – Time only Zone (No temp control)
LbMf- Use in pre-config system – not applicable

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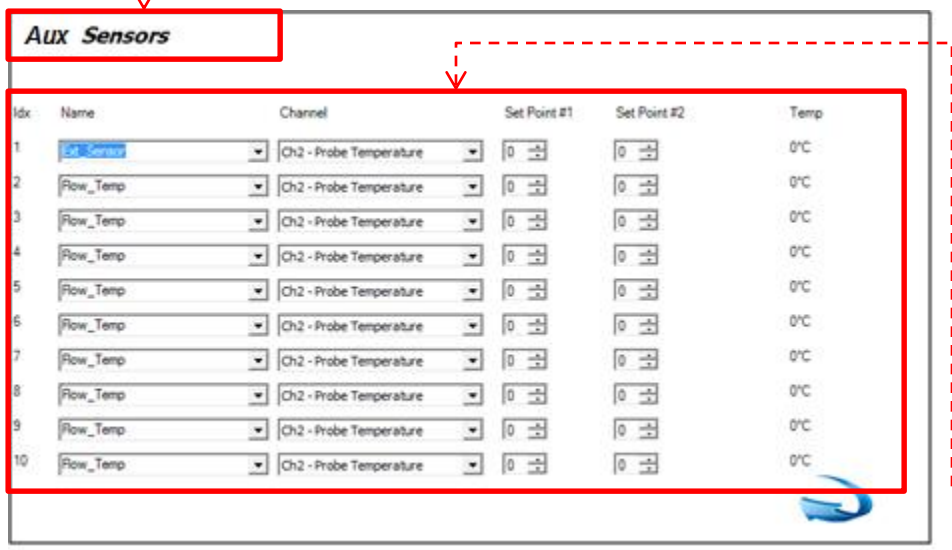
5. Aux Sensors



Overview:
The Aux sensors are typically used in conjunction with the 0-10v Proportional Valve (PV)

Typical Application
External Weather Compensation
Cooling flow temperature modulation
Differential temperate control

Aux Sensors

Idx	Identification Number	
Name	External	(External Sensor)
	Flow	(Flow Sensor)
	Ref	(Reference Sensor)
	Temperature	(General – Temperature Sensor)
Channel	Ch2 – Probe Temp (Default Reference)	
	Ch1 – Air Temp	
Set Point #1 /2	Set Point temp for Ch1 (Air) & Ch2 (Probe)	
Temp	Actual measured temp	

6. Differential : DHW & Energy Source

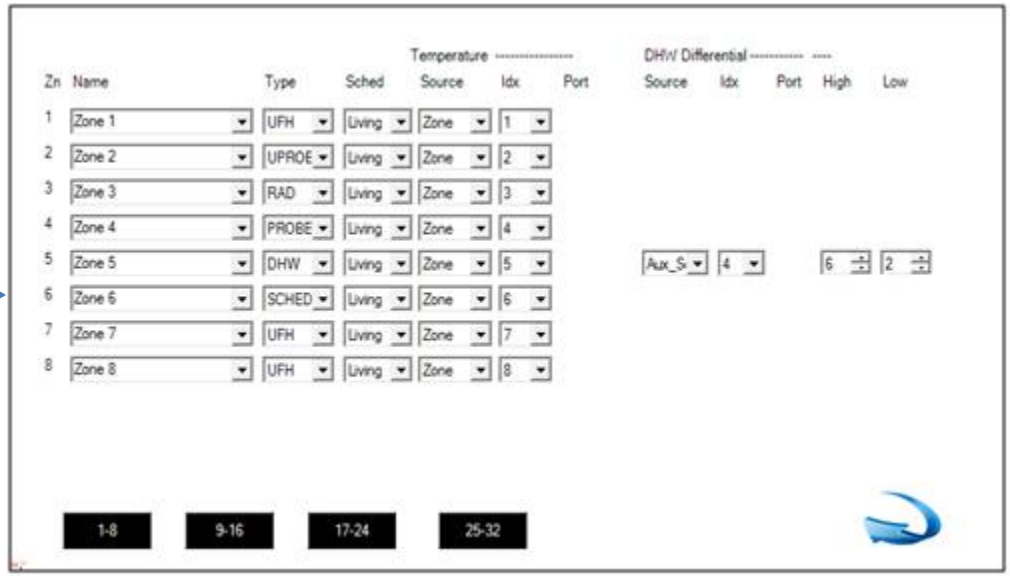
Existing structure already in place

Any DHW zone can have a “Aux Sensor” attached to addition heat source (e.g. Solar Pane , Landlord Plate Heat Exchanger , etc).

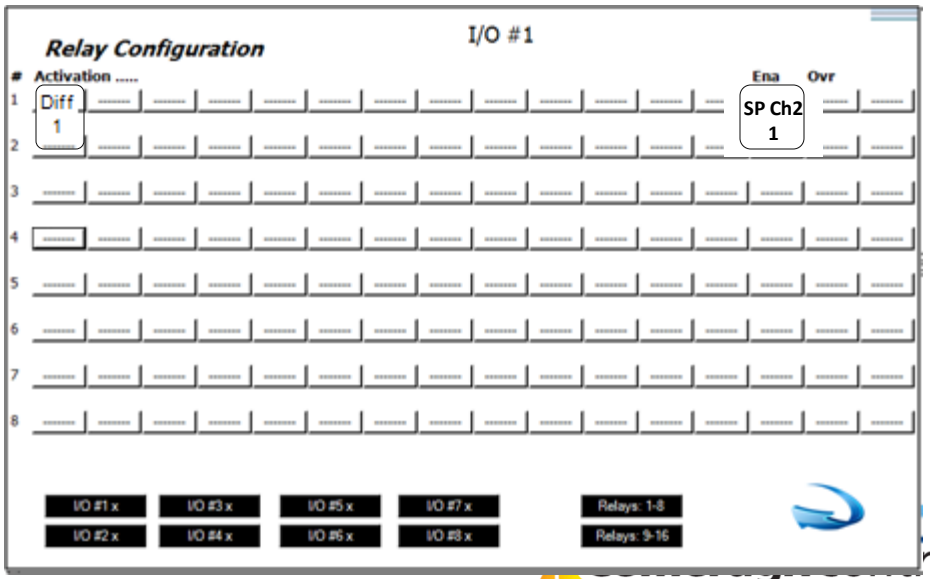
If the difference between the [DHW Cylinder and the Heat Source] is Greater Than [Hi ΔT setting] Then Diff Flag is Active

Diff Flag remains active until between the [DHW Cylinder and the Heat Source] is Less Than [Lo ΔT setting]

Zone Type



Relay Configuration



Relay Config

Command in Config List ***“Diff”***

Diff Flag can be use to activate pump , digit on bottom refers to the **Zone No**

NB:

- Diff ignores the respective zone schedule (Always ON)
- Always use SPCH2/1 as enable , so zone only heats to required SP.

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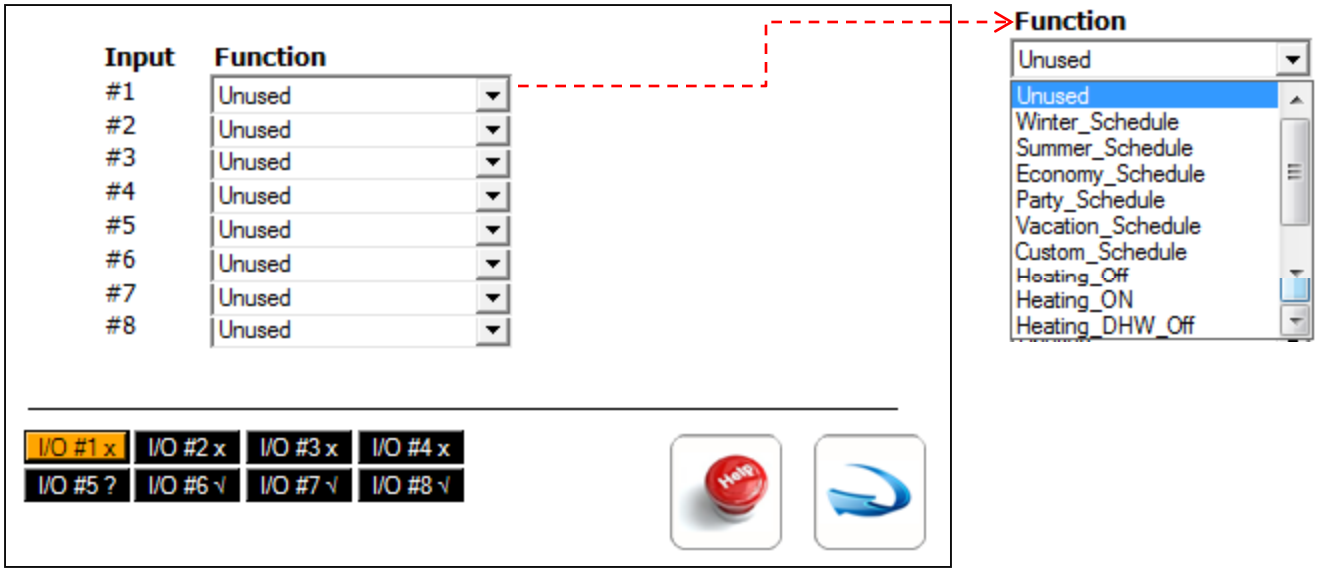
7. I/O Input Config



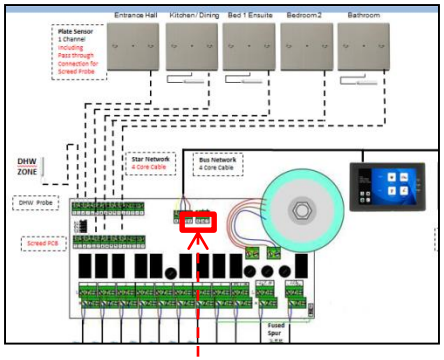
Functions

Switch Inputs can be used to trigger the following:

- **Winter Schedule**
- **Summer Schedule**
- **Economy Winter Schedule**
- **Party Schedule**
- **Custom Schedule**
- **Heating All Off**
- **Heating All On**
- **Heating & DHW All Off**

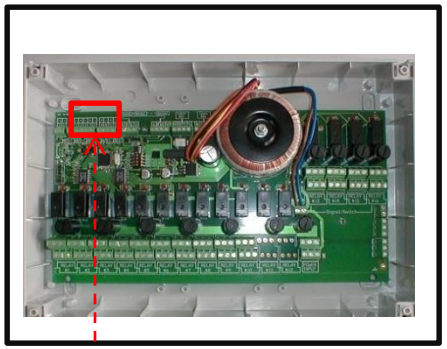
R10i8s2

2 x Switch Inputs



R16

5 x Switch Inputs



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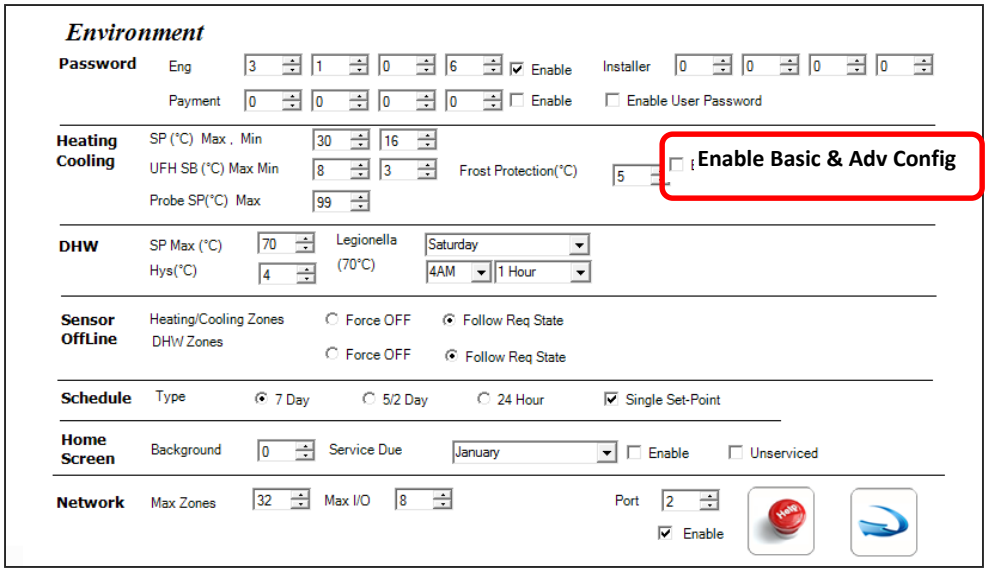
8. Environment- Special Note



Enable Basic and Advance Config

If this box is check , the “Install Basic” button is now viable in the setup screen

This will allow you to enter basic config and advance config

The Basic config uses the 1st collum of the advance config commands

The 1st column of the advance config will be grey out and cannot be modified in the advance config screen

This 1st column of the advance config can only be update via the basic install screen.

Warning : Once the Basic Config button is press, the 1st column of the advance config is deleted .