

Advanced Configuration Engineering Manual

Ver 18.06.00.xx

Title Page

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Publication details:

Title: iCon Touch Screen User Manual

Part Number: CC-200TSEM-Advanced Config

Produced by:

Product Support Department

Comeragh Controls Ltd

Upper Irish Town

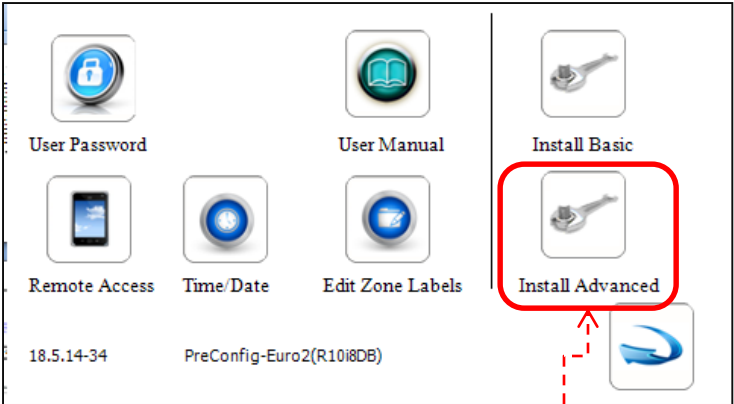
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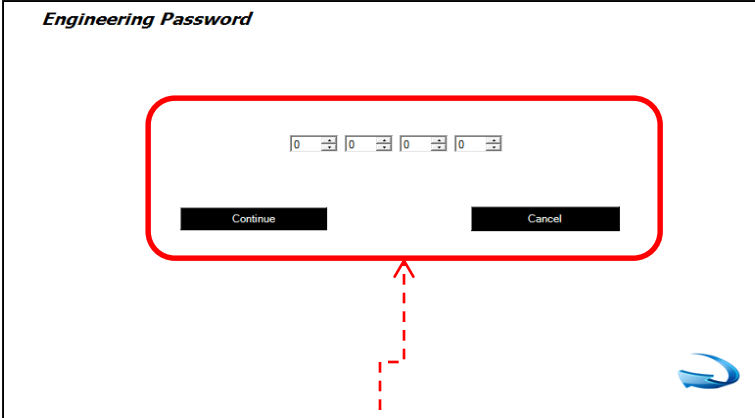
1. Access Engineering Menu



Step 1. Press Help



Step 2. Press - Install Advanced



3. Enter Code 3105 & Continue

Engineering

Configuration

- Environment
- Aux Sensor
- Zone Control
- Zone Set points
- Zone Default T
- Zone DHW Pri
- Zone DHW Diff
- Relay Config
- Timer, Cycle
- Input Config
- PV Config

Diagnostics

- Comms
- I/O Status, Emulation
- Archive
- Comms Raw

System

- Installer Manual
- Modules
- Service History
- Zone Status
- Calibration
- Quit



Select Relay Config

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

3. Relay Configuration

The screenshot shows a configuration screen with the following elements:

- Activation Factors:** A grid with 4 rows and 10 columns. Row 1 has 'z:HT' in the 2nd column. Row 2 has '1' in the 2nd column. Row 3 has 'z:HT' in the 2nd column. Row 4 has '3' in the 2nd column.
- Buttons:** 'Activation' (yellow), 'Enable' (black), and 'Override' (black).
- I/O Selection:** A grid with 2 rows and 6 columns. Row 1: 'I/O #1 x', 'I/O #2 -', 'I/O #3 -', 'I/O #4 ?', '1-4' (yellow), '9-12'. Row 2: 'I/O #5 -', 'I/O #6 -', 'I/O #7 -', 'I/O #8 -', '5-8', '13-16'.
- Icons:** A red 'Help' button and a blue arrow icon.

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

Relay # 1-4 Select I/O 1-8 Select Relay 1-8 & 9-16

This inset shows a portion of the activation factors grid from the main screenshot, highlighting the 'z:HT' and numerical values in the second column.

Grey Out Text
 Grey Out, set using Install Basic

Override 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

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 ($T \geq SP+DB+F1$)
z:C:F2	Zone Space Cooling Fan 2	Zone Number (1-32)	Active when zone cooling at F2 threshold ($T \geq SP+DB+F2$)
z:C:F3	Zone Space Cooling Fan 3	Zone Number (1-32)	Active when zone cooling at F3 threshold ($T \geq SP+DB+F3$)
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

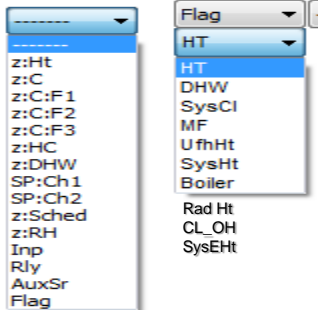
3. Relay Configuration

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

Activation



4. Relay Emulation

Relay Emulation

Z H C F F F H D I C C S
n t l 1 2 3 C H m h h c
W m 1 2 h

L I I I I I
b n n n n n
1 2 3 4 5

L R R R R R R R R R R R R R R R R
b 1 2 3 4 5 6 7 8 9 1 1 1 1 1 1 1
0 1 2 3 4 5 6

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Clsys

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.

L I I I I I
b n n n n n
1 2 3 4 5

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

L R R R R R R R R R R R R R R R R
b 1 2 3 4 5 6 7 8 9 1 1 1 1 1 1 1
0 1 2 3 4 5 6

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

Z H C F F F H D I C C S
n t l 1 2 3 C H m h h c
W m 1 2 h

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

System Status Clear

L R System Status R R R R R R R R
b 1 Emulation 9 1 1 1 1 1 1 1
Output Control 0 1 2 3 4 5 6

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

5. Aux Sensors

Aux Sensors

Idx	Name	Channel	Set Point #1	Set Point #2	Temp
1	Ch1_Sensor	Ch2 - Probe Temperature	0	0	0°C
2	Flow_Temp	Ch2 - Probe Temperature	0	0	0°C
3	Flow_Temp	Ch2 - Probe Temperature	0	0	0°C
4	Flow_Temp	Ch2 - Probe Temperature	0	0	0°C
5	Flow_Temp	Ch2 - Probe Temperature	0	0	0°C
6	Flow_Temp	Ch2 - Probe Temperature	0	0	0°C
7	Flow_Temp	Ch2 - Probe Temperature	0	0	0°C
8	Flow_Temp	Ch2 - Probe Temperature	0	0	0°C
9	Flow_Temp	Ch2 - Probe Temperature	0	0	0°C
10	Flow_Temp	Ch2 - Probe Temperature	0	0	0°C

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

7. I/O Input Config

Input	Function
#1	Unused
#2	Unused
#3	Unused
#4	Unused
#5	Unused
#6	Unused
#7	Unused
#8	Unused

I/O #1 x	I/O #2 x	I/O #3 x	I/O #4 x
I/O #5 ?	I/O #6 v	I/O #7 v	I/O #8 v

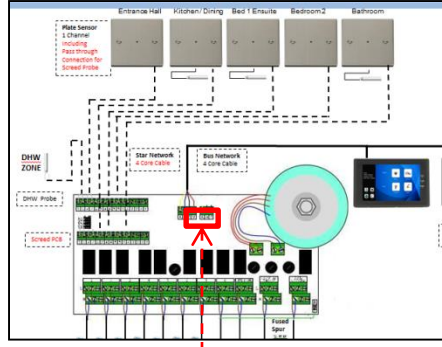



Function
 Unused
 Unused
 Winter_Schedule
 Summer_Schedule
 Economy_Schedule
 Party_Schedule
 Vacation_Schedule
 Custom_Schedule
 Heating_Off
 Heating_ON
 Heating_DHW_Off

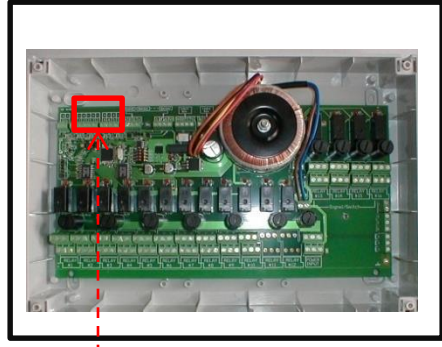
Functions

- 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



8. Environment- Special Note

Environment

Password Eng 3 1 0 6 Enable Installer 0 0 0 0

Payment 0 0 0 0 Enable Enable User Password

Heating SP (°C) Max . Min 30 16

Cooling UFH SB (°C) Max Min 8 3 Frost Protection(°C) 5 **Enable Basic & Adv Config**

Probe SP(°C) Max 99

DHW SP Max (°C) 70 Legionella Saturday

Hys(°C) 4 (70°C) 4AM 1 Hour



Sensor Heating/Cooling Zones Force OFF Follow Req State

OffLine DHW Zones Force OFF Follow Req State

Schedule Type 7 Day 5/2 Day 24 Hour Single Set-Point

Home Background 0 Service Due January Enable Unserviced

Screen

Network Max Zones 32 Max I/O 8 Port 2 Enable  

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 .