E3 Supervisory Control

Icon	Function	Icon	Function
⚙	Main Menu	⊟	Add Application
🏠	Home Button	❄	Refrigeration
←	Back Button	❄	HVAC
🔔	Active Alarms	💡	Lighting
▼	Filter	⚡	Energy
📦	Control Inventory	O	Other
C	Refresh	{}	System

Log In to E3

1. Press `Login` in the upper right corner of the screen.
2. Enter the User name and Password.
3. Press `Login`.

Log Out of E3

1. Press `Logout` in the upper right corner of the screen.
2. Press `OK` or `Cancel` on the confirmation window

View Status of Application

1. Press 🏠 for the summary of most common applications, or press ⚙ and select System Summary.
2. Select a category and press ▶ to expand the applications listed in that category.
3. To view the status of application, select an application and `Status`.

Alarm View and Actions

1. Press 🔔
2. Click the check-box button to select an alarm.
   - Press `TestAlarm` to test the alarm.
   - Press `Acknowledge` to acknowledge the alarm.
   - Press `Reset` to reset the alarm.
   - Press `Mute` to mute the alarm.
   - Press `Download` to download the alarm data.
   - Press `Print` to print the alarm data.
   - Press `E-mail` to email the alarm data.
   - Press `View History` to to see the collection of alarms that have been resolved.
3. Press ▼ to choose or filter the type of alarm you want to see on your Active Alarms.

Manual Defrost

1. Press ⚙ .
2. Press **Summaries and Layout** and select **Case Defrost Schedule Summary**.
3. Select an application and press `Edit` in the upper right corner of the screen
4. Press `Defrost` and select the **Defrost Type** value.
5. Press `Save` to begin defrost.View Graph or Log from Status Screen
1. Press 🏠 to access all applications.
2. Select a category from and list and select an application.
3. Press `Status` to view the application graph or logs.

Check Board Status

1. Press ⚙ and select **Network Summary** to check the list of application with the board status.
2. Press ‹ or › to view other application's board status in the previous or next pages.

Add/Delete Application

1. To add an application:
2. Press ⊟ in the upper right coner of the screen. Enter the application name in the search bar or select the application from the drop-down list, or
   - Press 📦 , select the category, and press `Add Control ∨` and select the application from the drop-down list.
3. To delete an application:
   - Press 📦 and select the category to which the application belongs to.
   - Tick the checkbox icon to select an application(s) and press `Delete Selected Application(s)`
   - Press `OK` or `Cancel` in the confirmation window.

Add/Delete IO Boards

1. Press ⚙ and select **Network Summary**.
2. To add an application, press ⊟ in the upper right coner of the screen. Enter the application name in the search bar or select the application from the drop-down list.
3. To delete an application:
   - Tick the checkbox icon to select an application(s) and press `Delete Selected Application(s)`
   - Press `OK` or `Cancel` in the confirmation window.

Setting Sensor Offset

1. Press 🏠 for the summary of most common applications, or press ⚙ and select **System Summary**.
2. Select a category and press ▶ to expand the applications listed in that category.
3. Select an application and press the `Inputs` tab. Use the + and - to set sensor offset values.
4. Press `Save` to apply changes.

Using the E3 Supervisory Control Online Help

Screen Help

In the **Home** page, press ❓ and the screen help pop-up window will display.

Property Help

In the **Home** page, select an application from the category. Press the ⚙ for each parameter.

General Help

In the **Home** page, press ❓ and the screen help pop-up window will display. Press ⚙ to view general topic info help.

Changing Setpoints and Configuration

To Enter Setpoint Tab:

1. In the **Home** page, select a category and press the drop-down arrow to choose an application.
2. Press the the selected application and go to the **Setpoints** tab.

Configuring Values:

1. In the **Home** page, select a category and press the drop-down arrow to choose an application.
2. Select an application and press the tab you need to configure.
3. Press **Edit** in the upper right corner of the screen and select a property to configure.
4. For text, enter the desired value in the text field.
5. For numbers, use the + and - sign to enter the desired value(s).
6. For **Yes/No** fields, select a value for the radio-button.
7. For multiple-choice fields, select the desired vaue from the drop-down list.

For Technical Support:

Call: 833-409-7505 or

Email: ColdChain.TechnicalServices@copeland.com

Scan the QR code for the latest technical documentation and updates.

Voltages on I/O Network and COM Ports

All RS485 COM ports (Supervisor and E3)	2.3VDC - 2.6DC from the center terminal to either of the outer terminals on the network plug.

I/O Board Powering

Board Type	Transformer Type
16AI, 8RO/8ROSMT, 4AO, 8DO, MultiFlex 16 and ESR	24VAC, center-tapped
8IO, ARTC, ESR8, TD3, all MultiFlex boards except the 16 and MultiFlex ESR	24VAC, non-centertapped

Recommended Network Wire

Controller Network Type	Recommended Wire
I/O network (E3/ Site Supervisor)	Belden #8641

Checking I/O Board Online Status

Controller Type	Instructions
E3	Press ⊡ Main Menu, Summaries & Layout, and select Network Summary to check the list of applications and the board status. Press the previous or next arrow key to select a page and view other applications.
Site Supervisor	

Offset & Gain for Linear Sensors

Offset = Minimum Value to be Read – Minimum Sensor Voltage

Gain = Maximum Value to be Read / (Maximum Sensor Voltage + Offset)

For all Copeland controllers, Offset is entered in units of mV. To calculate Gain, Offset must be in Volts. 1V = 1000 mV

Example: For a linear Refrigerant Level Transducer that can relay 1 to 5V and will read a minimum value of 0 and a maximum value of 100.

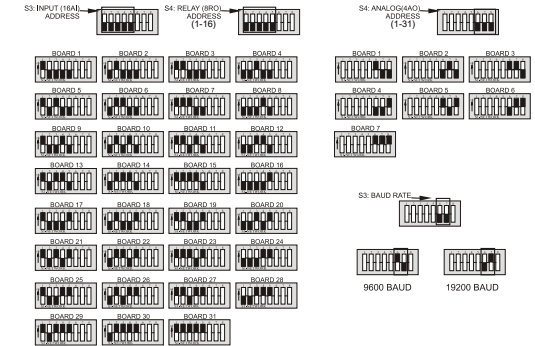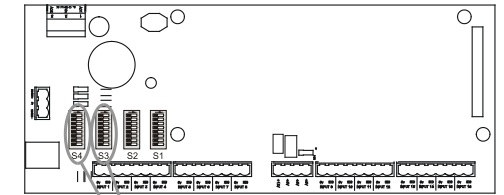**Offset** = 0 – 1V = –1V which is entered as –1000 mV for a Copeland controller

Gain = 100 / (5V + –1V) = 25

°F	°C	R-22	R-134A	R-404A	R-407A Vapor	R-407A Liquid	R-410A	MP-39	R-507	R-744 CO₂
-80	-62.2	20.2								
-75	-59.4	18.5								
-70	-56.7	16.6								
-65	-53.9	14.4								
-60	-51.1	12.0	21.6							79.9
-55	-48.3	9.2	20.2							91.1
-50	-45.6	6.2	18.6	0.0	9.0	0.8	4.9	18.5	0.9	103.4
-45	-42.8	2.7	16.7	2.0	5.7	1.7	7.6	16.5	3.0	116.6
-40	-40	0.5	14.7	5.5	2.0	3.9	10.7	14.5	5.5	131.0
-35	-37.2	2.6	12.3	9.1	1.0	6.45	14.0	12.0	8.1	146.5
-30	-34.4	4.9	9.7	10.8	3.3	9.2	17.7	9.0	11.1	163.1
-28	-33.3	5.9	8.5	12.4	4.2	10.4	19.3	8.3	12.4	170.1
-26	-32.2	6.9	7.3	13.2	5.2	11.6	20.9	7.0	13.7	177.3
-24	-31.1	7.9	5.0	14.5	6.3	12.9	22.6	6.0	15.0	184.7
-22	-30.0	9.0	4.8	15.8	7.4	14.2	24.4	4.5	16.4	192.4
-20	-28.9	10.2	3.6	17.1	8.5	15.6	26.2	3.5	17.8	200.2
-18	-27.8	11.3	2.5	18.5	9.7	17.0	28.1	2.0	19.3	208.3
-16	-26.7	12.5	1.4	20.0	10.9	18.5	30.0	0.5	20.9	216.5
-14	-25.6	13.8	0.2	21.5	12.2	20.0	32.0	0.4	22.5	225.0
-12	-24.4	15.1	0.9	23.0	13.5	21.6	34.1	1.4	24.1	233.8
-10	-23.3	16.5	2.0	24.6	14.9	23.2	36.3	2.2	25.8	242.7
-8	-22.2	17.9	2.9	26.3	16.3	24.9	38.5	3.1	27.6	251.9
-6	-21.1	19.3	3.8	28.0	17.8	26.6	40.8	3.9	29.4	261.3
-4	-20.0	20.8	4.7	29.8	19.3	28.4	43.2	4.8	31.3	271.0
-2	-18.9	22.4	5.6	31.6	20.9	30.3	45.7	5.7	33.2	280.9
0	-17.8	24.0	6.5	33.5	22.5	32.2	48.2	6.7	35.2	291.0
2	-16.7	25.6	7.6	35.5	24.2	34.2	50.8	7.7	37.3	301.5
4	-15.6	27.3	8.7	37.4	26.0	36.3	53.5	8.8	39.4	312.1
6	-14.4	29.1	9.8	39.4	27.8	38.4	56.3	9.9	41.6	323.1
8	-13.3	30.9	10.9	41.6	29.7	40.6	59.2	11.0	43.8	334.2
10	-12.2	32.8	12	43.7	31.6	42.8	62.2	12.2	46.2	345.7
12	-11.1	34.7	13.3	46.0	33.6	45.1	65.2	13.4	48.5	357.4
14	-10.0	36.7	14.6	48.3	35.7	47.5	68.4	14.6	51.0	369.5
16	-8.9	38.7	15.8	50.7	37.8	50.0	71.6	15.9	53.5	381.8
18	-7.8	40.9	17.4	53.1	40.0	52.5	74.9	17.2	56.1	394.3
20	-6.7	43.0	18.4	55.6	42.3	55.1	78.4	18.6	58.8	407.2
22	-5.6	45.3	19.9	58.2	44.7	57.8	81.9	20.0	61.5	420.4
24	-4.4	47.6	21.5	61.9	47.1	60.6	85.5	21.5	64.3	433.8
26	-3.3	49.9	23.0	63.6	49.6	63.4	89.2	23.0	67.2	447.6
28	-2.2	52.4	24.6	66.5	52.2	66.3	93.1	24.6	70.2	461.7
30	-1.1	54.9	26.1	69.4	54.8	69.3	97.0	26.2	73.3	476.1
35	1.7	61.4	30.4	77.0	61.9	77.2	107.3	30.5	81.2	513.4
40	4.4	68.5	35.0	85.1	69.4	85.6	118.4	35.0	89.8	552.9
45	7.2	76.0	40.0	92.6	77.5	94.7	130.2	40.0	98.8	594.5
50	10.0	84.0	45.4	99.2	86.1	104.2	143.5	45.3	108.6	638.3
55	12.8	92.6	51.2	115.0	95.4	114.4	155.9	66.5	118.8	684.4
60	15.6	101.6	57.4	125.0	105.02	125.2	170.1	70.0	129.7	733.1
65	18.3	111.2	64.0	136.5	115.8	136.7	185.2	77.5	141.3	784.2
70	21.1	121.4	71.1	148.0	127.0	148.8	201.1	85.0	153.6	838.1
75	23.9	132.2	78.6	161.0	138.9	161.8	217.9	93.5	166.6	894.9
80	26.7	143.6	86.7	174.0	151.6	175.3	235.8	102.0	180.3	954.9
85	29.4	155.7	95.2	188.0	165.1	189.7	254.6	111.0	200.7	1018
90	32.2	168.4	104.3	203.0	179.3	204.8	274.5	121.0	210.2	**
95	35.0	181.8	113.9	218.5	194.5	220.9	295.5	131.0	226.6	**
100	37.8	195.9	124.1	235.0	210.4	237.6	317.6	142	243.5	**
105	40.6	210.8	134.9	252.5	227.4	255.4	340.9	153.5	261.8	**
110	43.3	226.4	146.3	271.0	245.2	273.9	365.4	165.0	280.6	**
115	46.1	242.7	158.4	290.0	264.1	293.5	391.2	177.5	300.7	**
120	48.9	259.9	171.1	311.0	284.0	314.0	418.3	191	321.9	**
125	51.7	277.9	184.5	332.0	305.0	335.5	446.9	204.5	340.3	**
130	54.4	296.8	198.7	354.0	327.1	357.9	476.8	219.0	367.8	**
135	57.2	316.6	213.5	378.0	350.5	381.5	508.4	234.0	392.6	**
140	60.0	337.3	229.2	402.0	375.1	406.2	541.4	250.0	418.7	**
145	62.8	358.9	245.6	418.0	401.0	431.9	576.3	266.0	446.2	**

Vapor Pressure = psig Vapor
Blue Pressures = psig Liquid

Red Pressure = in. Hg Vacuum
∗∗= Exceeds critical temperature

MultiFlex I/O Board Numbering and Baud Rate

CIO S3: POSITION 1-5 INPUT (16AI) NETWORK ID (1-16)
POSITION 6-7 BAUD RATE (9600 or 19200)
CIO S4: POSITION 1-5 RELAY (8RO) NETWORK ID (1-31)
POSITION 6-8 ANALOG (4AO) NETWORK ID (1-7)

Note: Cycle power to make dip switch change effective.

MultiFlex Termination Jumper Settings

NO TERMINATION - IN (toward center)   TERMINATION - OUT (toward left edge)
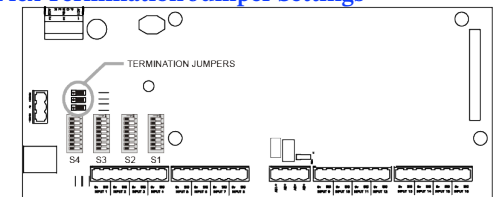
IO Networks should be wired in a single daisy chain from the controler to each device on the network, with no star configurations.

Terminate each end of the daisy chain by setting the termination jumpers to the "TERMINATION" position. Set all other devices to the "NO TERMINATION" position.

MultiFlex Sensor Input Dip Switch Settings