# E2 setup with Generac H-100 panel Modbus device for 527-0405

This document will guide you through setting up and commissioning the H-100 panel third party Modbus device in the E2 controller.

# Step 1: Upload the description file to the E2

- 1. Connect to your E2 using UltraSite (refer to UltraSite32 user's guide P/N 026-1002).
- 2. Right-click the E2 icon and select Description File Upload.
- 3. Browse to the location of the description file and click Upload.
- 4. Once upload is complete, reboot the E2 controller.

	us UltraSite: Revision 5.00 - [Tree View]
	File Tree Logs System View Window Help
[	CPC UltraSite
	😑 🛁 🍎 Site Directory Name
	Customer's Site Name
	Device Name
	To delete a file, first select from the list
	Description File Name.dsc
	FiLE - Click Browse to select the file to upload Browse Upload Fremove Close

Figure 1 - E2 Description File Upload window



## Step 2: Activate the license of the device

- 1. Log in to the E2 controller.
- 2. From the E2 front panel (or via Terminal Mode), press (Very), 📍, 🕤 (Licensing).
- 3. Press **F1** (*ADD FEATURE*) to add the license key.

86-28-11 🛛 🌾 📖	XX-300 Unit 1 Add License	۵	14:04:52 *ALARH*
Licensed Features- 06 For controller model Feature	/20/2011 - 14:03:48 - Red type: RX-300 Maximum In-	9:3.01B	ité
EUSE Area Controller Log Group Condenser Control Digital Combiner	Activate Feature		-8655-CE44-081E
Analog Combiner Heat/Cool Control Time Schedule	Enter License key t activate a Feature:	0	
Holiday Schedule Power Monitoring Analog Sensor Ctr Loop/Sequence Ctr			
Digital Sensor Ct			
Conversion Cell	128	0	
Pulse Accumulation	16	0	
Digital Import Point	64	8	
HUGC Simulation	04	0	
Enter desired text		U	ES- CONCEL

Figure 2 - Add License screen

## Step 3: Add the device in the E2

- 1. Press (Merry), 🕴 , 🐐 , 💈 (Connected I/O Boards & Controllers).
- 2. Press **F2** to go to the *C4: Third Party* tab. The name of the device will display in the list. Highlight the device name and enter the number of devices to add under the **Quantity** field.
- 3. Press **()** to save the changes.

	elect on Tabs	SETUR				
C1: This Unit	C2: IO Network	C3: ECT	C4: Third	Partų	C5: Ech	ielon
C0:	C7: System	68:	69:		00:	
	Num Net	twork Ctrls: Net	Setup			
	Third Party Boa	rd Type	Quantity	Max		
	#1 : De	evice Name	12	100		
			12	100		
Enter 0 to 91	Enter desired	number of these	boards			

Figure 3 - C4: Third Party tab

# Step 4: Set up the device E2 Serial port

- 1. Log in to the E2 controller.
- 2. Press (Menu), \* , \* (General Controller Information).
- 3. Select **F2** to go to the *C3*: *Serial* tab. Highlight the physical COM connection port that will be assigned to the device and set up the manufacturer's communication configurations as follows:
  - COM# baud: 9600 kb
  - COM# data size: 8
  - COM# parity: None
  - COM# stop bits: 1
- 4. Press **()** to save the changes.

C1:	General	C2: E	ng Units	C3: Serial	C4: TCP/IP	C5: Peer	Netwrk	ADUTSORY	SUMMARY
C6:		C7: S	vstem	C8: BACnet	C9: Sys Alarms	CO: MORE		Fails	G
			General	Setup: GENER	RAL SERV			Alarms	6
							_	Notices	2
	Serial		Value						
	COM1 Connec	tion	: Serial				1		
	COM1 Baud		: 115.2 K	baud				NETWORK (	DVERVIEW
	COM1 Data S	ize		8				MODBUS-	. 🔶
	COM1 Parity		: None						
	COM1 Stop B	its		1					
	COM1 FiFo S	ize	: 14						
	COM2 Connec	tion	: IONet						
	COM2 Baud		: 9600 ba	ud					
	COM3 Connec	tion	: No Mode	m					
	COM4 Connec	tion	: MODBUS-	1					
	COM4 Baud		: 9600 ba	ud					
	COM4 Data S	ize	:	8					
	COM4 Parity		: None						
	COM4 Stop B	its	•	1				THIS CON	ROLLER
	CUM6 Connec	tion	: Not Use	d				Model:	12-400 00
	CUMO F1F0 S	12e	14				L	Unit: 2	14 000 77
	CUM4 HVall		: Yes					IP: 10.	101.200.//
								F7W Rev	4.03F01
Ent	er 5 to 8 l	Nata S	tize of But	e for COMA					
			E2. NEXT	TOP	EQ. EDIT			<b>FF</b> . 0	

Figure 4 - C3: Serial Tab

NOTE: Reverse the polarity of the device's communication cable connection.



Figure 5 - Terminating device communication cable connection

## Step 6: Commission the device

#### Selecting the device Modbus network

- 1. Log in to the E2 controller.
- 2. Select (Menu), 7, 7, 1 (Network Summary).
- 3. On the *Network Summary* screen, highlight the device name, press **F4** (*COMMISSION*), and select the preferred Modbus network (*Figure 6*). (Note that multiple Modbus networks appear in the list if more than one serial ports were set up initially.)
- 4. Press Enter.

NOTE: If there is only one Modbus-1 Network in the list and F4 COMMISSION) is pressed, the Modbus device addressing list will display.

Figure 6 - Select Network list

#### Setting up the device's Modbus address in E2

- 1. Select Menu, 7, 7, 7, 1 (Network Summary).
- 2. Using the E2 arrow keys, select the desired Modbus device and press **E4** (*COMMISSION*). The E2 Modbus addressing list will display. Select the desired Modbus addressing slot for the device from the list (*Figure 7*).

NOTE: The Modbus addressing slot pertains to the device address on the E2 controller only. The Modbus address must be the same with the address assigned on the device. The actual device address must be configured at the local Third Party Modbus Remote Terminal Unit (RTU) to enable communication with the E2 controller.

		Notwork Addrocc Rou	Statuc
Device-1	MODBUS-1 Devices		ntrolle
Defice 1	<ol> <li>Device001</li> </ol>	Device-1	
	2. (Unused)		
	3. (Unused)		
	4. (Unused)		
	5. (Unused)		
	6. (Unused)		
	7. (Unused)		
	8. (Unused)		
	9. (Unused)		
	10. (Unused)		
	11. (Unused)		
	12. (Unused)		
	th (linused)		
	15 (linused)		
	16. (Unused)		
	17. (Unused)		
	18, (Unused)		<b>_</b>
Press menu m	umber or scroll to	selection	
			ES: CANCEL

Figure 7 - Modbus address selection

3. Next, press and the Modbus address will be set as shown:

<b>06-20-11 ♦ (</b> ?		XX-300 Unit 1 🖄 Network Summary	14:24:5 =ALARM
Nane	Tupo	Device-1	Statue
Device-1			nerorier
	Setting F	Physical Address For: Device-1	
	Specify F	Physical Address Of Controller	
	,	Address: 1	
	240		
	MO	DBUS Device address is set	
Enter value a	nd Press ENTE	R to Set Address	
			F9: CANCEL

Figure 8 - Modbus address setting

NOTE: After a few seconds the device will appear online (**Figure 9**) to confirm that the commissioning process has completed. If the device still appears offline, re-check the RS-485 cable terminations and repeat the commissioning process.

06-20-11 🥱		→ XX-300 Unit 1 Network Summary	Ø	FULL	19:06:0
Nane	Туре	Network Ad	dress	Rev	Status
E2 Unit85 Device001	BX400-B1dg Device-1	Etherne MoDBUS-	t: 5 1: 1	3.01F01 0.00	This Controller Online
	PD	e	<b>Fh a</b>	018470010	EE. SETUR

Figure 9 - Network Summary screen

## Step 7: View the status of the device

NOTE: The commissioning process is completed once the RTU is online.

- 1. Press (), (), (Configured Applications). The Configured Applications list displays.
- 2. Highlight the name of the device in the list using the arrow keys and press to view the Status screen of the device.

6-06-12 🔹 🦪 📖		XX-300 Unit 1 H_Panel	à	7:07:03
Controller Name				ADVISORY SUMMARY
H Panel001		Monitored Outputs 2		Fails 0
-Monitored Outputs 1 Oil Temperature Coolant Temperature	NONE	Total Power Total Power Factor Generator Frequency Engine RPM	NONE NONE NONE NONE	Notices 3
Oil Pressure Coolant Level Oxygen Sensor Batteru Charge Current	NONE NONE NONE NONE	A/F Duty Cycle	NONE	MODBUS-1
Battery Voltage Current Phase A Current Phase B	NONE NONE NONE	Generator Running Generator Manual	NOTACT Notact	
Current Phase C Average Current Voltage Phase A-B	NONE NONE NONE	Overcrank Alarm Oil Temp Hi Alarm Oil Temp Hi Warning	NOTACT Notact Notact	
Voltage Phase B-C Voltage Phase C-A Average Voltage	NONE NONE NONE	Cool Temp Low Alarm Oil Pressure Low Alarm Oil Pressure Low Warning	NOTACT Notact Notact Notact	THIS CONTROLLER Model: RX-400 0
		Battery Voltage Low Alarm Generator Frequency Hi Ala	NOTACT	IP: 10.161.200.7 F/W Rev: 4.03F01
Press enter for a list of	actions.			ES+ SETIIP

Figure 10 - Device E2 status screen



#### About Copeland

Copeland is a global leader in sustainable heating, cooling, refrigeration and industrial solutions. We help commercial, industrial, refrigeration and residential customers reduce their carbon emissions and improve energy efficiency. We address issues like climate change, growing populations, electricity demands and complex global supply chains with innovations that advance the energy transition, accelerate the adoption of climate friendly low GWP (Global Warming Potential) and natural refrigerants, and safeguard the world's most critical goods through an efficient and sustainable cold chain. We have over 18,000 employees, with feet on the ground in 50 countries - a global presence that makes it possible to serve customers wherever they are in the world and meet challenges with scale and speed. Our industry-leading brands and diversified portfolio deliver innovation and technology proven in over 200 million installations worldwide. Together, we create sustainable solutions that improve lives and protect the planet today and for future generations. For more information, visit <u>copeland.com</u>.

The contents of this publication are presented for informational purposes only and they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. Copeland LP reserves the right to modify the designs or specifications of such products at anytime without notice. Copeland LP does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Copeland LP product remains solely withthe purchaser and end-user.

To learn more, visit **copeland.com** 



026-4939 Rev 0 (08/2013) E2 setup with Generac H-100 panel Modbus device for 527-0405 @2024 Copeland LP.