quick start guide

E2 Setup with XC460D Version 2.1 Controller MODBUS Device for 527-0381

Overview

This document will guide you through setting up and commissioning the XC460D MODBUS device in the E2 controller.

STEP 1: Upload the Description File (527-0381) to the E2 Controller

- 1. From UltraSite, connect to your E2 controller.
- 2. Right click on the E2 icon and select **Description File Upload**.
- 3. Browse to the location where the description file is saved and click **Upload**.
- 4. After uploading, reboot the E2 controller.

2 Description File Upload 🛛 🗙			
To delete a file, first select from the list			
5270381.dsc			
FILE - Click Browse to select the file to upload Browse			
Upload Remove Close			
Figure 1 - E2 Description File			

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STEP 2: Once the Description File is Loaded, Add the Device to the E2 Controller

- 1. Press (System Configuration), (Network Setup), (Connected I/O Boards & Controllers).
- 2. Press (*NEXT TAB*) to go to the C3: ECT tab. The device list appears on the screen. Enter the number of devices to add and press the D button to save your changes.

04-14-06 🔹 🥝 📖 Use Ctrl-X to Se	lect CX T	abs	RX-400 Unit SETUP	1 🛕 F	ULL	6:51:34
C1: This Unit	C2: I0 N	etwork	C3: ECT	C4: Third	Party (C5: Echelon
C6:	C7:		C8:	C9:	1	:0:
		Num Net	twork Ctrls:	NetSetup		
E	ст	Boa	rd Type	Quantity	Max	
	#1	: CC	T-Stat	0	ឲ 🕇	
	#2	: CT I	Drive	6	16	
	#3	: Ctr	lLink ACC	6	63	
	#4	: Ctr	lLink CD	9	99	
	#5	: Ctr	1Link RSC	9	99	
	#6	: Dis	cus	6	63	
	#7	: Ener	rgy Meter	6	30	
	#8	: ISD	-1.0	9	64	
	#9	: ISD	-2.0	9	63	
	#16	: K5	Ref Scroll	6	31	
	#11	: MRL	DS	6	24	
	#12	: Per	f Alert	S	63	
	#13	: RLD	S	9	15	
	#14	: Sta	tus Display	9	7	
	#15	: XC4	60D_21	1	32	
	#16	: XEV	12D	0	99	
	#17	: XEV	22D	6	99	,
Enter 0 to 32	Enter de	sired	number of the	se boards		
F1: PREU TAB	F2: NEX	T TAB	F3: EDIT			F5: CANCEL
		Figure	e 2 - Adding a l	Device to E2		

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STEP 3: Assign the MODBUS Port

- 1. Press , 2 (System Configuration), 2 (Remote Communications), 3 (TCP/IP).
- 2. Press **F1** to go to the C3:Serial tab.

04-30-12 ♦ 🥝 🛄 Use Ctrl-X to Se	elect CX Tabs	RX-400 Unit 1 SETUP	A FULL	9:51:29
C1: General	C2: Eng Units	C3: Serial	C4: TCP/IP	C5: Peer Netwrk
C6: Web Server	C7: System	C8:	C9:	C0:
	General	Setup: GENERAL	SERU	
Serial	Value			
COM1 Connec	tion: Not Used			
COM2 Connec	tion: MODBUS-1			
COM2 Baud	: 9600 baud			
COM2 Data S	Size: 8			
COM2 Parity	I : None			
CUM2 Stop E	1ts: 2			
CUM3 Connec	tion: Modem			
COM3 Baud	: 115.2 KDau	0		
COM3 Modem	Port: No modem	Intownal		
COM3 Modem	Type: CPC 33.0K	INTERNAL	0 0 0 1 0 0 1 0 0 1 0	
COM2 Fax In	1111L. HIEUVISU-1	510-40GD2GU3\N0/	%C 9000 900 1 900 90 %C 99 V 99 U 99 L19	
COM3 FAX 11	ITC - HIAIC020-1	510-40002005110	66 URN URT URWU	
cono rause	Dur. 2			
Scroll using Ne	xt/Prev keys	Connection Type	for COM1	
F1: PREV TAB	F2: NEXT TAB	F3: EDIT	F4: LOOK UP	F5: CANCEL
	Figure 3 -	Assianing the MC	ODRI IS Port	

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3. Select the COM port where the device is connected, press [4] (*LOOK UP*) and select the appropriate MODBUS selection.

04-30-12 🔹 🤗 📖		- +	RX-400 Unit 1 OPTION LOOKUP	₿ FULL	9:52:18
C1: General C6: Web Server	C2: C7:	Eng Units System	C3: Serial C8:	C4: TCP/IP C9:	C5: Peer Netwrk
Serial COM1 Connec COM2 Connec COM2 Baud COM2 Data S COM2 Parity COM2 Stop B COM3 Connec COM3 Baud COM3 Modem COM3 Modem COM3 Fax In COM3 DTMF D COM3 Pause	tio tio ize its tio Typ Ini it ur Dur	Opt Descript Not Used IONet ISD1.0 Lennox MODBUS-1 MODBUS-2 MODBUS-3 CMTL	ion List Selecti Select: ion	on Select 13 16 19 22 23 24 33	
Use Up-Down Arro	ow k	eys or func	tion keys to sel F3: BEGINNING	ect entry. Pres F4: END	S BACK.
		Figu	re 4 - MODBUS Se	lection	

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4. Set the Baud rate for the chosen port. Press **F4** to look up the appropriate speed.

84-30-12 🍬 🤗 💷	Ε	RX-400 Unit 1 OPTION LOOKUP	₿ FULL	9:53:06 <mark>*Alarm*</mark>
C1: General C	2: Eng Units	C3: Serial	C4: TCP/IP	C5: Peer Netwrk
C6: Web Server C Serial COM1 Connecti COM2 Connecti COM2 Baud COM2 Data Siz COM2 Parity COM2 Stop Bit COM3 Connecti COM3 Baud COM3 Modem Ty COM3 Modem Ty COM3 Modem In COM3 Fax Init COM3 Pause Du	7: System io Op io Descrip ts 4800 bai 19.2 Kbi 19.2 Kbi 38.4 Kbi yp ni t	C8: tion List Selecti Select: tion ud aud aud aud	c9: .on Select 8 2 3 4	
Use Up-Down Arrow F1: SELECT	w keys or fund	ction keys to sel F3: BEGINNING	ect entry. Pres	F5: CANCEL
	Fig	ure 5 - Baud Rate :	Setting	

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STEP 4: Commission the Device

- 1. Press (System Configuration), 2 (Network Setup), 4 (Network Summary).
- 2. Highlight the device name using the **UP** and **DOWN** arrow key on the front panel and press **F**4 (*COMMISSION*). Select the MODBUS where you will assign the device.

12-12-12 🔶 🌈 🍈	CX-400 Network	Unit 1 Summary	Â
Name Type E2 Unit01 CX400 C-Stor XC460D_21001 XC460D_21 Press menu number or scroll	Notwork Oddeorr Select Network 1. MODBUS-1 2. MODBUS-2	Rev 1 4.04F01 0 0.00	Status This Controller Unknown
Figure	6 - Commissioning the	Device	

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3. Select the MODBUS device address.

12-12-12 🔹	6 III	CX-400 Uni Network Sur	it 1 mmary	ß
Name r	Тиро	Notwork Addrocc	Pou St	
E2 Unit01	MODBUS-1 Devices			ntroller
Λ . 40 9 Δ_2 ΤΕ	1. XC460D_21001 2. (Unused) 3. (Unused) 4. (Unused) 5. (Unused) 6. (Unused) 7. (Unused) 8. (Unused) 10. (Unused) 11. (Unused) 12. (Unused) 13. (Unused) 14. (Unused) 15. (Unused) 16. (Unused) 17. (Unused) 18. (Unused)	XC460D_21		•
Press menu	number or scroll to se	election		
	Figure 7 - S	Selecting MODBUS Ad	ldress	

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12-12-12 🔹 🧑 📖		CX-400 Unit 1 Network Summary	<u>ه</u>
Name	Tupo	XC460D_21001 Notwork Addrocc Pour	9tatue
E2 Unit01 XC460D_210			ntroller
	Setting	Physical Address for: XC460D_21001	
	Specify	Physical Address Of Controller	
		Address: 1	
Enter value and	Press ENT	ER to Set Address	
			
	Fig	ure 8 - Selecting MODBUS Address	

4. Once the device is addressed and wired properly the device should come online.

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Step 5: Setting up the XC460D MODBUS Address and Wiring the Communication using TTL/RS485 Serial Converter



- From the front display user interface, press and hold SET + down arrow key for 3 seconds. This will enter level "Pr1" parameter list, scroll until you see "Pr2", press SET and enter password 321. Then scroll until you see "Ad1" and set the address. Additionally, "Ad2" needs to be set to the same address as "Ad1".
- 2. Use a TTL/RS485 Serial Converter (318-7501) to enable communication between the device and the E2.



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3. When wiring polarity, make sure the (+) RS485 side of the TTL/RS485 line is connected to the (-) side of E2 RS485. And the (-) side of the TTL/RS485 line connected to the (+) side of the E2 RS485.

Parameter Quick start Guide

This is a quick start parameter list to program the device. It will help you set up your setpoint, outputs and inputs. For any additional configuration settings and information, please refer to the manual.

Setpoint Parameter Definitions:

Setpoint Parameter	Definition
SEtc	setpoint for compressors
SEtF	setpoint for fans

Table 1 - Setpoint Parameter

Outputs Parameter Definitions:

Output Parameter	Definition
oA1, oA2, oA3, oA4, oA5, oA6 Outputs 1- 6 configuration:	Using these parameters the plant can be dimensioned accord- ing to the number and type of compressors and/or fans and the number of steps for each one. Each relay according to the configuration of the oA(i) parameter can work as: • Compressor: oAi = cPr, • Step: oAi = StP • Fan: oAi = FAn • Alarm: oAi = ALr • Not used: oAi = nu
CtyP Compressor Type:	 It sets if compressors have the same power (homogeneous) or not. dPo = compressor with different capacities: in this case the regulation is neutral zone. StP = homogeneous: the regulation can be neutral zone or proportional band. Scr = don't set it

Table 2 - Output Parameter

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StP Valve Outputs Polarity:	 Polarity of the outputs for capacity valves. It determines the state of the relays associated with the capacity valves (only for homogeneous and stepped-capacity compressors): oP=valve enabled with open contact; cL= valve enabled with closed contact.
PC1PC6 Power of compressor 16:	For setting the power of single compressors. Available only if CtyP=dPo. The power is identified by a value (range 1to 255) proportional to the capacity of single compressor. E.I. 3 compressors with following capacity: 10, 20, 40 HP. The parameters have to be set in these way: PC1=10, PC2=20, PC3=40.
FtyP Freon Type:	Set the kind of freon used in the plant. r22 = R22; r404= R404A; 507= R507; 134=134; r717=r717 (ammonia)

Table 2 - Output Parameter

Inputs Parameter Definitions:

	Probe 1 Configuration
Input Parameter	Definition
Pbc	Probe 1 setting. Cur = 4 to 20 mA probe; ntc = NTC probe, Ptc = NTC probe.
PA04	Adjustment of read out for the Probe 1 (used only if Pbc=Cur). Corresponding to 4mA input signal, given by the suction probe (0 to 31 bar or 0 to 450 PSI or 0 to 3100KPA).
	Warning: Set a value correspondent to absolute pressure. If the transducer measures relative pressure increase the range of 1 bar.
	E.I. PP11 relative pressure transducer, range -0.5 to 12.0 bar. PA04=0.5 (-0.5+1); PA20=12.0 (11+1). PP30 relative pressure transducer, range: 0 to 30bar. PA04=1; PA20=31.
PA20	Adjustment of read out for the Probe 1 corresponding to 20mA input signal, given by the suction probe (0 to 31.0 bar or 0 to 450 PSI or 0 to 3100KPA), (See the warning for PA04).
CAL	Probe 1 calibration (-12.0 to 12.0 bar; -12.0 to 12.0°C or -20 to 20 PSI/°F).
	Probe 2 Configuration
P2P	Probe 2 presence: no = probe 2 absent; yES = probe 2 present.

Table 3 - Setpoint Parameter

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Pbc2	Probe 2 setting. Cur = 4 to 20 mA probe; ntc = NTC probe, Ptc = NTC probe.			
FA04	Adjustment of read out for the Probe 2 (used only if Pbc2=Cur). Corresponding to 4mA input signal, given by the suction probe (0 to 31 bar or 0 to 450 PSI or 0 to 3100KPA).			
	Warning: Set a value correspondent to absolute pressure. If the transducer measures relative pressure increase the range of 1 bar.			
	E.I. PP11 relative pressure transducer, range -0.5 to12.0 bar. PA04=0.5 (-0.5+1); PA20=12.0 (11+1). PP30 relative pressure transducer, range: 0 to 30bar. PA04=1; PA20=31.			
FA20	Adjustment of read out for the Probe 2 corresponding to 20mA input signal, given by the suction probe (0 to 31.0 bar or 0 to 450 PSI or 0 to 3100KPA), (See the warning for PA04).			
FCAL	Probe 2 calibration (-12.0 to 12.0 bar; -12.0 to 12.0°C or -20 to 20 PSI/°F)			

Table 3 - Setpoint Parameter

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Setpoints & Outputs Parameter List:

Fans parameters								
Compressor parameters				s				
Commons parameters								
Name	°C	°F	bar	PSI	Level	Description	Range	
SEtc	-18,0	0	2,3	33		Set point for compressors	LSE ÷ HSE	
SEtF	35,0	95	15,1	220		Set point for fans	LSF ÷ HSF	
oA1	CPr	CPr	CPr	CPr	Pr2	Outputs 1 configuration	cPr / FAn / StP / ALr / LLn / nu	
oA2	CPr	CPr	CPr	CPr	Pr2	Outputs 2 configuration	cPr / FAn / StP / ALr / LLn / nu	
oA3	CPr	CPr	CPr	CPr	Pr2	Outputs 3 configuration	cPr / FAn / StP / ALr / LLn / nu	
oA4	FAN	FAN	FAN	FAN	Pr2	Outputs 4 configuration	cPr / FAn / StP / ALr / LLn / nu	
oA5	FAN	FAN	FAN	FAN	Pr2	Outputs 5 configuration	cPr / FAn / StP / ALr / LLn / nu	
oA6	FAN	FAN	FAN	FAN	Pr2	Outputs 6 configuration	cPr / FAn / StP / ALr / LLn / nu	
ctYP	SPo	SPo	SPo	SPo	Pr2	Compressor type	SPo / dPo / Scr	
StP	CL	CL	CL	CL	Pr2	Valve outputs polarity	oP / cL	
Pc1	20	20	20	20	Pr2	Power of compressor 1	0 ÷ 255	
Pc2	20	20	20	20	Pr2	Power of compressor 2	0 ÷ 255	
Pc3	20	20	20	20	Pr2	Power of compressor 3	0 ÷ 255	
Pc4	20	20	20	20	Pr2	Power of compressor 4	0 ÷ 255	
Pc5	20	20	20	20	Pr2	Power of compressor 5	0 ÷ 255	
Pc6	20	20	20	20	Pr2	Power of compressor 6	0 ÷ 255	
FtYP	404	404	404	404	Pr2	Freon Type	r22 / 404 / 507 / 134 / 717	
Figure 12 - Setpoints & Outputs Parameter List								

Inputs Probes Parameter Lists:

Pbc	Cur	Cur	Cur	Cur	Pr2	Probe 1 setting	cur / Ptc / ntc
PA04	0,5	7	0,5	7	Pr2	Adjustment of read out for the Probe at 4mA	0.0 bar o 0 PSI ÷ PA20
PA20	12,0	174	12,0	174	Pr2	Adjustment of read out for the Probe at 20mA	PA04 ÷ 51.0 bar o 750 PSI
cAL	0	0	0	0	Pr2	Probe 1 calibration	-12.0 ÷ 12.0 °C o bar / -20 ÷ 20 °F o PSI
P2P	yES	yES	yES	yES	Pr2	Second probe presence	no / YES
Pbc2	Cur	Cur	Cur	Cur	Pr2	Probe 2 setting	cur / Ptc / ntc
FA04	1	14	1	14	Pr2	Adjustment of read out for the Probe at 4mA	0.0 bar o 0 PSI ÷ FA20
FA20	31	450	31	450	Pr2	Adjustment of read out for the Probe at 20mA	FA04 ÷ 51.0 bar o 750 PSI
FcAL	0	0	0	0	Pr2	Probe 2 calibration	-12.0 ÷ 12.0 °C o bar / -20 ÷ 20 °F o PSI
Figure 13 - Inputs Probes Parameter Lists							

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NOTE: After configuring or changing a parameter through E2, the E2 will reboot the XC460D device to save and commit changes.

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