E2 setup with EM21 v72D Energy Meter device for 527-0436

This document contains information setting up, programming and commissioning the EM21 v72D Energy Meter device in the E2 controller.

Step 1: Upload the description file to the E2 controller

Note: UltraSite32 software should be installed before uploading the description file.

- 1. Connect to your E2 using UltraSite (refer to UltraSite32 user's guide P/N 026-1002).
- 2. Log on to UltraSite, enter "USER" in the Username field and "PASS" in the Password field.
- 3. Double-click the Directory Level to view the Site Level. (refer to Figure 1)
- 4. Right-click the Site Level and click Connect.
- 5. Double-click the Site Level and browse the E2 unit location where EM21 v72D will be installed.
- 6. Right-click on the unit and select Upload Description File.



Figure 1 - Upload Description File window



7. Click **Browse** button.

FILE . Cityl Browne to salest the file to usland	To delete a file, first selec	t from the list		-
Ell 5 - Cfick Resource to extent the file to unload Resource				
FILE - Click blowse to select the life to upload blowse	FILE - Click Browse to	select the file to upload	Browse	

Figure 2 - E2 Descriptiion File Upload

8. Browse to the location where the description file of EM21 v72D is saved.

	• 49 Search 02. EM21 QSG & Releas
Organize - New folder	B • 🔟 🖗
Favorites Documents library Q2. EM21 QSG & Release Notes Downloads EM21v72D.dsc Documents Music Pictures Videos Computer Local Disk (Ci) Local Disk (Ci)	Arrange by: Folder 🔻
v s_recnnical_serv	Developing Film (Film)
File name: EM21v72D.dsc	Uescription Piles (.asc)

Figure 3 - Description File Location

- 9. Click Open.
- 10. Click Upload. A window will appear confirming that the description file was imported click OK button.
- 11. The description (*dsc) file location will generate inside the browse location box.

E2 Description File Upload
To delete a file, first select from the list
EM21v720.dsc UC7v52.dsc
UltraSite32
Description data for EM21v72D version 0.0 was imported from EM21v72D.dsc as English language.
Description data for EM21v72D version 0.0 was imported from EM21v72D.dsc as English language.
Description data for EM21v72D version 0.0 was imported from EM21v72D.dsc as English language. OK

Figure 4 - Description File location window

12. Once the upload is complete, reboot the E2 controller.

Step 2: Licensing the EM21 v72D device

- 1. Log into the E2 controller. Press (Ment), 7, 9 (Licensing).
- 2. Press F1 (ADD FEATURE) and enter the 16-digit license key. Press

					ADULTSODA SUMMORA
licensed Features- 08/	94/2014 - 15·05·23 - Rei	1• h	96F 91		Fails 6
For controller model to	ine: CX-300		001 01		Alarms 0
Feature	Maximum In	-Use	Lice	nse	Notices 5
16AI]	
460					NETWORK OVERVIEW
Log Group	Activate Feature				IONet-1 🧶
8R0	neervace reacare				MODBUS-1
Area Controller					Echelon
CC100-Suction	Enter License key t	0			
UC7v52	activate a Feature:			-B1F4-225E-9A91	
Air Handling Unit					
Rulse Accumulation	1000				
Analog Sensor Ctri					
Loon/Sequence Ctr					40
Lighting Control	24	0			E2 Unit02
Power Monitoring	8	0			
Condenser Control	2	8	8986	5-F349-BDCE-E8E2	Rev 4.06F01
Digital Sensor Ctrl	24	0			IP 10.161.200.20
Heat/Cool Control	6	0			Englich-US
					Engrish-05
nter desired text	83			45	*
					F5: CANCEL

Figure 5 - Add License screen

Step 3: Setting up the device in the E2 Serial port

- 1. Log on to E2 controller by pressing Log Inform.
- 2. Enter USER in the Username field and PASS in the Password field.
- 3. Press (Menu), 7, 3, 1 (General Controller Info).
- 4. Select **F2** twice to go to the C3: *Serial* tab.

C1:	General	C2: E	ing Units	C3: Seria	1 C4:	TCP/IP	C5:	Peer	Netwrk	ADUISORY	SUMMARY
C6:		C7: S	iystem	C8: BACne	t C9:	Sys Alarms	CØ:	MORE		Fails	6
/			Genera	1 Setup: G	ENERAL SERU				13	Alarms	0
	<i>,</i>		1.000.000000000							Notices	5
	Serial		Value								5
	COM3 FiFo	Size	: 14								
	COM3 Modem	Port	: No Mod	em						NETWORK C	VERVIEW
	COM3 Modem	Type	: CPC 33	.6K Intern	al					IONet-1	۲
	COM3 Modem	Init	: ATEOU1	50=1510=40	&D2&Q5\N0%C	0&K 0&Y 0&W 0				MODBUS-1	i 🔶
	COM3 Fax I	nit	: ATV1E0	50=1510=40	&D2&Q5\N0%C	0&K 0&Y 0&W 0				Echelon	
	COM3 DTMF	Dur	: 1	00							
	COM3 Pause	Dur		2							
	COM4 Conne	ction	: IONet-								
	COM4 Baud		: 9600 b	aud							
	COM6 Conne	ction	: MODBUS	-1							
	COM6 Baud		: 19.2 K	baud							
	COM6 Data :	Size	÷	8							
	COM6 Parit	y	Even							22	
	COM6 Stop	Bits		1						E2 Unit02	2
	COM6 FiFo	Size	: Disabl	e						ormere et el company accuración	
	COM4 Avail		: Yes							Rev 4.06F	- 91
	COM6 Avail		: Yes							IP 10.161	.200.207
										2000020200000000	
										English-L	2
Sem	oll using N	ovt/Pe	an konc I	Paritu Se	tting for P	OMA					
0011	1. DDEU TO				C2111g 101 0	TT	Ed	1.002	110	EE. O	ANCEL

Figure 6 - Serial port set up

- 5. Press the down arrow key to highlight COM6 Connection value:
 - a. Press **F4** (*LOOK UP*) and select **MODBUS-1**

(if MODBUS-1 is being used, select MODBUS-2 or MODBUS-3 connection).

- b. Press **Enter** to set configuration.
- c. Set **MODBUS Connection** as follows: (Press **F4** to select options and **Ener** to set configuration).
 - COM6 Baud: 19200
 - COM6 Data Size: 8
 - · COM6 Parity: Even
 - · COM6 Stop Bits: 1
- 6. Press to save changes.
- 7. Press T to go back to the Home Screen.

Step 4: MODBUS connection



Figure 7 - MODBUS network



Figure 8 - MODBUS connection

Note: The polarity of the MODBUS connection of E2 controller and EM21 v72D Energy Meter is reversed.

Step 5: Adding the EM21 v72D device on the E2 controller

- 1. Press (Merry), 7, 7, 2 (Connected I/O Boards and Controllers).
- 2. Press **F2** twice to move to the *C4: third party* tab. Highlight the **EM21 v72D** device and enter the desired number of devices under **Quantity**.

C1: IN1S UNIC	C2: IO Network	C3: ECT	C4: Third Partu	C5: Echelon	
C6:	C7: System	C8:	C9:	C0:	Fails
	Num Ne	twork Ctrls:	HetSetup		Alarms 0
	Third Party Boa	rd Type	Quantity Max		Notices 6
	#1 : ENZ	10/20			NETWORK OVERVIEW Ionet-1 • Modbus-1 •
					E2 Unit02 Rev 4.06F01 IP 10.161.200.207
					English-US

Figure 9 - Adding the EM21 v72D device

- 3. Press to save changes.
- 4. Press to go back to the Home screen.

Step 6: Commissioning the EM21 v72D device

- Press (Merry), 🐐 , 🕴 to open the Network Summary screen. 1.
- Highlight the EM21 v72D device to be commissioned by pressing the down arrow key and press 2.

08-04-14 🗣 🌀		CX-300 U Network S	lnit umma	2 Iry		19:01:4
Name	Туре	Network Address	0011010000	Rev	Status	ADUISORY SUMMARY Fails
E2 Unit02	CX300 C-Store	Ethernet:	2	4.06F01	This Controller	Notices 6
16AI_001	16AI	IONet-1:	1	0.00	Offline	sovatera ana.
8R0_001	8R0	IONet-1:	1	0.00	Offline	Internal strategies of the second strategies and the second
440_001	440	IONet-1:	1	0.00	Offline	NETWORK OVERVIEW
EM21 072D	EM21v72D	MODBUS-1:		0.00	Offline	IONet-1 🧶
						E2 Unit02
						Rev 4.05F01 IP 10.161.200.207
						Rev 4.06F01 IP 10.161.200.207 English-US

Figure 10 - EM21 v72D on the Network Summary

- If a Select Network box appears, select the MODBUS number where you configured the device and press З.
- Select the address for the device and press 4.

Note: The MODBUS device address must be the same as the address assigned on the device.

18-04-14 🔹 🧲	7 📟	CX-300 Un: Network Su	it 2 nmary	<u>ه</u>	19:03:10 = ALARH+
Name E2 Unit02	Tupo MODBUS-1 Devices	Notwork Oddrocc	Роц		ADVISORY SUMMARY Fails <mark>5</mark> Alarms 0 Notices <u>6</u>
16AI_001 8RD_001 4A0_001 EN21 v72D	1. EM21 v72D 2. (Unused) 3. (Unused) 4. (Unused) 5. (Unused) 6. (Unused) 7. (Unused) 8. (Unused) 9. (Unused) 10. (Unused) 11. (Unused) 12. (Unused) 13. (Unused) 14. (Unused)	EH21v72D			NETWORK OVERVIEW IONet-1 © MODBUS-1 ©
	15. (Unused) 16. (Unused) 17. (Unused) 18. (Unused)			•	Rev 4.96F01 IP 10.161.200.207 English-US
Press menu i	number or scroll to	selection			F5: CANCEL

Figure 11 - Select MODBUS device address

5. A window for setting the physical address appears. Press to continue.

38-04-14 🗕 🕜		CX-300 Un Network Su	it 2 mmary	â	19:04:1
Name E2 Unit02 16AI_001 880 001	Tuno	EN21 U720 Naturalk Oddrago	Dou	Statur ntroller	ADUISORY SUMMARY Fails 5 Alarms 8 Notices 6
4A0_00 EM21 v	Setting Pl	nysical Address for: El	121 v72D		NETWORK OVERVIEW Ionet-1 Ø Modbus-1 Ø
	Specify Pl Ad	nysical Address Of Contro Idress: 1	oller		
<u>.</u>					E2 Unit02 Rev 4.06F01 IP 10.161.200.207
Enter uslue :	and Proce ENTER	to cat address			English-US
Curren Agrae a	ING FRESS ENIER	-co sec nouress			

Figure 12 - Physical Address window

- 6. Press to save the assigned address.
- 7. Press button to return to the Home Screen.
- 8. Press (Menu), 🕴, 🕴 to open the Network Summary screen.
- 9. Wait for a few seconds then the EM21 v72D should appear online.

Step 7: Viewing the status

1. Press Merry, 5, 4, 0 + X or use the down arrow key to highlight EM21 v72D and press

98-94-14 🔹 😚 📖	CX-300 Unit 2 EM21v72D	à	19:04:5 •ALARI
Controller Name			ADVISORY SUMMARY
EM21 v72D			Fails 5
			Alarms 0
Rover Infomation	Phase Infomation		Notices 6
	Power 11	NONE	
-	Power 12	NONE	NETWORK OUERUIEW
Power NONE	Power L3	NONE	IONet-1
			MODBUS-1
Total KWH NONE	Power Factor L1	NONE	11100/JOLD02007: 103 0000
Average Volts L-L NONE	Power Factor L2	NONE	
Average Volts L-N NONE	Power Factor L3	NONE	
Frequency NONE			
	Voltage L1-N	NONE	
	Voltage L2-N	NONE	
	Voltage L3-N	NUNE	
	loltage 12-13	NONE	
	Voltage L2- L1	NONE	E2 Unit02
	Current L1	NONE	Rev 4.06F01
	Current L2	NONE	IP 10.161.200.207
	Current L3	NONE	an: 201 (21) (22)
<u>5</u>			English-US
Press enter for a list of actions			EE. SETUR

Figure 13 - Device status screen



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