E2 and 678D V.2.5 setup guide

Part 1: Device setup

This document contains set up information for the E2 and XM678D V.2.5. For additional information, refer to *Copeland Typical Installation Details Binder (Asia Pacific Technical Services)*. For installation and operation information, refer to the XM678D manual (*P/N 026-1219*).



Figure 1 - XM678D and CX660 keyboard



Setting the address on XM678D using the CX660 keyboard



Figure 2 - CX660 keyboard

- 1. Press == + = at the same time for five seconds to open the first level programming. The display will stop flashing once it has entered programming mode.
- 2. Navigate through the parameters by pressing v or a until Adr appears on the screen.
- 3. Press 💷 and assign the corresponding address for the device by pres 💟
- 4. Press **set** to save changes.
- 5. To exit, press == + 🔽 or wait for a few seconds without pressing any button; the display will start flashing.

E2 serial port setup

- 1. Log into the E2 controller by pressing the Log INOUT button.
- 2. Enter USER in the **Username** field and press
- 3. Enter PASS in the **Password** field and press
- 4. Press Menu, 7, 3, 4 (General Controller Info).
- 5. Press **F2** twice to move to the *C3*: *Serial* tab.

C1:	General	62: E	na Units	C3: Serial	C4: TCP/IP	C5: Peer	Neturk	
C6:		C7: S	System	C8: BACnet	C9: Sus Alarns	CO: HORE		Fails Ø
			Gen	eral Setup: ALG	AS E2E			Alarns
								Notices 5
	Serial		Value					
	COM1 Connec	tion	: Seria	L				
	COM1 Baud		: 115.2	Kbaud				NETWORK OVERVIEW
	COM1 Data S	ize		8				MODBUS-1 🔶
	COM1 Parity		: None					
	COM1 Stop B	its		1				
	COM1 FiFo S	ize	: 14					
	COM2 Connec	tion	: Not U	ied				
	COM3 Connec	tion	: No Ho	len				
	CON4 Connec	tion	= MODBU	5-1				
	CON4 Baud		: 9600	paud				
	COM4 Data S	ize		8				
	COM4 Parity		: None					
	CON4 Stop B	105	:	1				F. 11. 1 . 40
	COM6 Connec	tion	: Not U	ied				E2 Unit02
	CON6 F1F0 S	120	: 14					Ben b 8488b
	CON4 RUall		: Yes					Rev 4.06834
	CONG MOALT		: Yes					IP 10.101.200.20
								English-US
								Engrisn-03
Ser	oll using Ne	xt/Pro	ev keys	Connection T	pe for CONA			
	F1: PREV TAB		F2: NEX	TTAB	F3: EDIT	F4: L00K	UP	F5: CANCEL

Figure 3 - C3: Serial tab

- 6. Press 🚺 to highlight the COM2 connection parameter.
 - 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 the configuration.
 - c. Set the MODBUS connection as follows:
 - (Press **F4** to select options and **Ener** to set the configuration.)
 - COM2 baud: 19.2K baud
 - COM2 data size: 8
 - COM2 parity: None
 - COM2 stop bits: 1
- 7. Press 💬 to save changes.
- 8. Press () to go back to the *Home* screen.

Note: The XM MODBUS connection must be set to 19.2K baud.

Part 2: Adding the XM678D controller in E2

- 1. Press Men, 7, 7, 2 (Connected I/O Boards and Controllers).
- 2. Press **F2** once to move to the *C3*: *ECT* tab. Highlight the **XM678D** application and enter the desired number of devices under **Quantity**.

Jse Ctrl-X to S	Select CX Tabs		SETUP		FULL	
C1: This Unit	C2: IO Network	C3: ECT	64:		C5: Echelon	ADVISOR7 SUMMARY
C6:	C7: System	C8:	C9:		C0:	Fails 0
	Hun Ne	twork (trls:	NetSetup		_	Alarms 1 Notices 6
	ECT Boar	rd Type	Quantity	Max	1	
	#10 · VEI	220 11	1	00		NETHORY OUERUIEN
	#10 : X.I.S	Scroll Unit	i i	16		HODBUS-1
	#20 : XH6	70K 13	õ	99		
	#21 : XH6	70K_34	0	99		
	#22 : XH6	78D_20	0	99		
	#23 : XH6	78D_25	_ 1	99		
	#24 : XH6	79K_13	0	99		
	#25 : XH6	79K_34	1	99		
	#26 : XR3	5CX_56	0	99		
	#27 : XR7	SCX CaseDsp	0	99		
	#28 : XK/	SCX_50	U	99	Į.	
	#29 : 199	ODHC		0	1	E2 Unit#2
						Rev 4.05834 IP 10.151.200.204
						English-US
Enter 0 to 99	Enter desired	number of the	se boards			
F1: PREU TA	B F2: NEX1	TAB	F3: EDIT			F5: CANCEL

Figure 4 - C3: ECT tab

- 1. Press to save changes.
- 2. Press () to go back to the Home screen.

Part 3: Commissioning the XM678D controller

- 1. Press (), 7, 7, 1 to open the Network Summary screen.
- 2. Press 🚺 to highlight the XM678D controller to be commissioned and press **F4**

11-20-13 🧭 🙂		RX-400 U Network S	nit 2 unnary	FULL	6:35:4
Nane	Туре	Network Address	Rev	Status	ADUISORY SUMMARY Fails 0
E2 Unit02 XEU200 41001	RX400-Refrig XEV22D_11	LONWorks: HODBUS-1:	2 4.06834	This Controller No Port	Notices 6
3007.00_225007	XH679K_34	H00805-1:	2 3.04-00	Online	NETWORK OVERVIEW HODBUS-1
					50 m. 10 m
					E2 Unit@2
					Rev 4.06834 IP 10.161.200.204
					English-US
54. BELETE B	506 FO. CT	ATHE 59. NET	STATUS	Ch. 0000100100	

Figure 5 - Network Summary screen

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

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

Nane Tune Notinek Oddence Roy Statur ADUISOR/ S E2 Unit02 H00BUS-1 Devices ntroller ntroller Notices RM0780_20_114 1 (Unused) ntroller Notices RM0780_2340 2 XH679K_34001 XH679K_34 NETWORK 00 NETWORd 3 (Unused) NETWORd NETWORK 00 4 (Unused) 6 (Unused) NETWORd 5 (Unused) 8 (Unused) NETWORd 9 (Unused) 10 (Unused) 11 10 (Unused) 12 (Unused) 12	
HODBUS-1 Devices Alarns XEU220_111 1 (Unused) RH679K_3401 KH679K_3401 KH679K_34 XEU220_111 1 (Unused) A (Unused) Notices XH679K_3401 KH679K_34 Notices XH679K_3401 KH679K_34 Notices XH679K_3401 SH679K_34 Notices XH679K_3401 SH679K_34 Notices XH679K_3401 SH679K_34 Notices SH679K_341 SH679K_34001 Notices SH679K_341 SH679K_3401 Notices SH679K_341 SH679K_3401 Notices SH679K_341 SH679K_3401	SUMMARY 0
XEU220_111 RM6780_251 1. (Unused) XM6790K_3401 XM679K_34 XM6790K_3401 XM679K_34 A. (Unused) A. (Unused) A. (Unused) A. (Unused) 7. (Unused) 8. (Unused) 10. (Unused) 11. (Unused) 12. (Unused) 12. (Unused)	1 6
9. (Unused) 10. (Unused) 11. (Unused) 12. (Unused)	IVERVIEW
13. (Unused) 14. (Unused) [2. United]	
15. (Unused) 16. (Unused) 17. (Unused) 18. (Unused) ↓ IP 10.151.	134 1.200.20

Figure 6 - MODBUS device address

5. The screen for setting the physical address will appear. Press to continue.

11-20-13 ()		Netwo	ee unit 2 rk Sunnary	FULL	6:38:1
Nane	Tunn	RH67: Notwork Origina	8D_25081	etatur 	ADUISOR/ SUMMARY Fails 0 Alarms 1
E2 Unit02 XEV22D_110 RH678D_250				ntroller	Notices <u>6</u>
XM679K	Setting	Physical Address for:	RH678D_2508	,	NETWORK OVERVIEW NODBUS-1
	Specify	Physical Address OF C	ontroller		
		Address: 5			
					E2 Unit82
					Rev 4.05834 IP 10.151.200.204
Fator using a	ad Based FM	FO to Pat Address			English-US
Enter value a	na press ENI	ER CO Set Rodress			F5: CANCEL

Figure 7 - Device address setup

- 6. Press to save changes.
- 7. Press T to go back to the Home screen.
- 8. Press (Menu), 🐐 , 🐐 to open the Network Summary screen.
- 9. Wait for a few seconds and XM678D should appear Online.

11-20-13 🕜 🦉	9	RX-480 Network	Unit 2 Sunnary	FULL	6:35:4
Nane	Туре	Network Address	Rev	Status	ADUISORY SUMMARY Fails 0
E2 Unit02 XEU202 11001	RX400-Refrig XEV22D_11	LONWorks: HODBUS-1:	2 4.06834 0 0.00	This Controller No Port	Notices 6
<86780_25080> 2nor	XH678D_25 XH679K_34	HODBUS-1: HODBUS-1:	5 2.05-00 2 3.04-00	Online Online	NETWORK OVERVIEW HODBUS-1
					E2 Unit#2
					Rev 4.86834 IP 10.161.200.204
					English-US
F1: DELETE RO	RD F2: ST	ATUS F3: HET	STATUS 🚶	F4: COMMISSION	F5: SETUP

Figure 8 - XM678D commissioning to the E2 controller

10. Repeat this process for other devices.

Part 4: Associating the XM678D to the XM circuit

1. From the Home screen, press (1) * to open the System Configuration menu.

01-04-06 • 🕜 🛄	RX-48 RX DE	0 Unit 2 V SUNMARY	FULL	16:06:0
		Circuits	State Temp	ADUISOR" SUHMARY Fails 0
	MAIN NENU	11001	.Off NONE	Notices 82
	1. Suction Groups			
	2. Condenser Control			NETWORK OUERUIEW IONet-1
	3. Circuits			HODBUS-1
	4. Sensor Controls			
	5. Configured Applications			
	6. Add/Delete Application			
	7. System Configuration			1
	8. Status			E2 Unit02
				Rev 4.06831 IP 10.161.200.228
				English-US
Press nenu number	or scroll to selection			

Figure 9 - System configuration menu

2. Press **7** to open the *Network Setup* menu.



Figure 10 - Network setup menu

3. Press to open the Controller Associations menu.

01-04-06 • 🕜 🛄	RX-400 RX DEV	Unit 2 SUHMARY	3	FULL		16:06:44
		Circuits RD CIR IT(01	State .Refr .Off	Temp -24.8 NONE	ADVISOR/ Fails Alarms Notices	SUNMARY 0 0 82
	NETWORK SETUP 1. Network Sunnary 2. Connected 1/O Boards & Con 3. Router Setup 4. Controller Associations	ntrollers			NETWORK IONet-1 HODBUS-	DVERVIEV I
					E2 Unit& Rev 4.05 IP 10.15	2 331 1.200.228
Press nenu nunber o	scroll to selection				English-	12

Figure 11 - Controller Associations menu

- 4. Select the XM Circuit.
- 5. Press Enter to confirm.
- 6. Select the XM678D device to be associated to the XM circuit.

81-84-86	• 6 🗉		RX XM (-400 Jnit 2 CIRCULT ASSOC	() FULL	16:07:2
	Case	Controller	<> XH Ci	rcuit Association		ADULSORY SUMMARY
	Application	Duc	Node	Zace Ctrl Ci	rcuit	Alarne 0
	xn673DevicE	MODBUS	1	_		NOCICES 82
						HETWORK OVERVIEW IOHet-1 Hodbus-1
						E2 Unit#2
						Rev 4.06831 IP 10.161.200.228
						English-US
Scroll a	opplications wi	th NEXT/PREV	keys or u	se LOJK-UP to sel	ect	
F1: SE	TUP APP	F2: SETUP CK	ar 🗌		F4: LOOK UP	FS: CANCEL

Figure 12 - XM678D device selection

- 7. Press **F4** (LOOK UP).
- 8. Press Enter to confirm.
- 9. The XM678D device is now associated to the XM Circuit.
- 10. Repeat this process for other XM678D controllers.
- 11. Press to confirm and save changes.
- 12. Press To go back to the Home screen.

Part 5: Suggested starting values

Note: Parameters with "-" are site specific.

XM	Retail solutions	Device	Description	Starting					
	Elec	tronic expansion va	alve						
FtY	Refrig type	XM	Kind of gas	-					
PMU	Pressure unit	XM	Pressure measurement unit	-					
Atu	Autotune SH	XM	Min. stable superheat	n					
AMS	Auto superheat	XM	Adaptive superheat enable	n					
SSH	Superheat SP	XM	Bottom of the regulation band	9					
Pb	SH TR	XM	Top of the regulation band	36					
rS	SH TR offset	XM	Re-positioning regulation band	-3.6					
inC	SH I-gain	XM	Speed & deviations	220					
PA4	Sens min pres	XM	Probe @ 4mA	See notes					
P20	Sens max pres	XM	Probe @ 20mA	See notes					
oPE	Start %	XM	Starting valve %	-					
SFd	Start dur	XM	Start valve duration	-					
FRC	Fast recov cont	XM	Valve closing speed below set point	0					
LSt	Valve min steps	XM	Min valve steps	-					
USt	Valve max steps	XM	Max valve steps	-					
ESt	Extra steps	XM	Extra step when closing valve	-					
Sr	Step rate	XM	Step rate	-					
СРР	Max phase cur	XM	Current per phase	-					
CHD	Hold phase cur	XM	Current to maintain position	-					
HSF	Motor movement	XM	Kind of motor movement	-					
teP	Valve list	XM	Pre-set valve list	-					
teU	Valve type	XM	Valve type used	-					
Regulation									
HY	HY/TR	XM	Top of the regulation band	18					
int	l-gain case	XM	Speed & deviations	220					
CrE	Continuous reg	XM	Enable stable control	Y					
	Temp unit	XM	Units for display	С					
		Fan							
FnC	Fan mode	XM	Fan operating mode	-					
FSt	Fan delay	XM	Fan stop temperature	-					

Table 1 - Suggested starting values

Notes:

- For XM678D Version 2.5, probes are Retail Solutions type.
- The same engineering unit must be used in the PA4 and P20 parameters as set in the device. See example below:
 - If a PP11 transducer is connected to an XM678D, **Prn** set to **rEL** and **PMU** (**PNU** in device) set to **Bar**, the ff. procedures should be done:
 - a. PA4=-0.5

b. P20=11

- To change the pressure reading on screen from **bar** to **psi**, the **ff**. procedures should be done in order:
 - a. Set PNU to psi
 - b. Set PA4= -7
 - c. Set P20= 161



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