E2 and XM679K

Installation, Replacement, and Quick Start Guide

PART 1: Device Setup

This Quick Start Guide is intended for XM setup using the most commonly utilized parameters, default settings, and adaptive control. To simplify setup and installation, the most commonly used parameters are visible and default values are provided. The adaptive algorithm is on by default to eliminate the need for manual PI tuning. For custom control configurations, or PI tuning, check the **Show Advanced** parameter box and refer to the XM679K manual (*P/N 026-1218*) for a complete listing of parameters. For device wiring and network connections, please refer to **Appendix A: XM679K Device Wiring Diagram**.



Setting the Address on XM679K

- 1. Press = + at the same time for 5 seconds to open the first level of programming. The display will stop flashing and EEU appears once it has entered the programming mode.
- 2. Navigate through the parameters by pressing 🖄 or 🛆 until Adr is displayed.
- 3. Press $\stackrel{\text{set}}{=}$ and assign the corresponding address for the device by pressing $\stackrel{\text{ve}}{=}$ or $\stackrel{\text{o}}{=}$.
- 4. Press **SET** to save changes.
 - To exit, press 💷 + 🛆 or wait for a few seconds without pressing any key; the display will start flashing.

E2 Serial Port Setup

5.

- 1. Log on to the E2 controller by pressing the button.
- 2. Enter USER in the **Username** field and press
- 3. Enter PASS in the **Password** field and press
- 4. Press (1977), 17, 18, 1 (General Controller Info).
- 5. Press **F2** twice to move to the *C3*: *Serial* tab.
- 6. Press the down arrow to highlight the COM2 Connection value (if COM2 is being used, select other available COM port).
- 7. Press **F**⁴ (*LOOK UP*) and select **MODBUS-1** (if MODBUS-1 is being used, select **MODBUS-2** or **MODBUS-3** connection).



- 8. Press to set configuration.
- 9. Press **F4** to select options and **Ener** to set configuration.
- 10. Set the **MODBUS** connection as follows:
 - · COM2 Baud: 9600 baud
 - COM2 Data Size: 8
 - · COM2 Parity: None
 - COM2 Stop Bits: 1

		ng Units	C3: Serial	C4:	TCP/IP	C5 :	Peer	Netwrk	ADVISORY	SUMMARY
General			C8: BACnet	C9:					Fails	16
			1 Setup: GENE	RAL SERV				 ז	Alarms Notices	17 26
	ction									
	CLION		Kbaud						NETWORK (UERUIEV
	ction								IONet-1	•
COM2 Baud										
	ction								Echelon	
COM4 Conne	ction	MODBUS	-1							
COM4 Baud		: 9600 b	aud							
COM4 Data	Size		8							
COM4 Parit	y	: None								
COM4 Stop	Bits		1							
COM6 Conne	ction	: Not Us	ed							
									E2 Unit0	
									English-U	IS
11 using N	ext/Pre	v keys	Connection T	ype for	COM4					
1: PREV TA	8	F2: NEX	TAB	F3: ED	п	F4:	LOOK	UP	F5: 0	ANCEL
	COM1 Baud COM2 Conne COM2 Baud COM3 Conne COM4 Bouh COM4 Data COM4 Data COM4 Parit COM4 Stop COM6 Conne 11 using N	Serial COMH Connection COM2 Connection COM2 Connection COM4 Connection COM4 Connection COM4 Baud COM4 Data Size COM4 Star Size COM4 Connection	Serial Ualue COH1 Connection : Serial COH1 Baud : 115.2 COH2 Connection : IONet- COH2 Connection : No Hod COH3 Connection : No Hod COH4 Connection : IODBUS COH4 Baud : 9600 b COH4 Parity : None COH4 Parity : None COH4 Stop Bits : COH4 Connection : Not Us COH4 Connection : Not Us	General Setup: GENE Serial Value COH1 Connection : Serial COH1 Baud : 115.2 Kbaud COM2 Connection : IOHET-1 COM8 Baud : 19.2 Kbaud COH8 Baud : 19.2 Kbaud COH8 Connection : No Hoden COH4 Sonection : MOBUS-1 COH8 Abaud : 9600 baud COH8 Abaud : None COH8 Abaud : 1 COH8 Connection : Not Used	General Setup: GENERAL SERU Serial Ualue COH1 Connection : Serial COH1 Baud : 115.2 Kbaud COH2 Connection : IONet-1 COH2 Saud : 19.2 Kbaud COH3 Connection : No Hoden COH4 Baud : 9608 baud COH4 Add Size : 8 COH4 Parity : None COH4 Connection : Not Used	General Setup: GENERAL SERU Serial Ualue COMM Connection : Serial COMM Baud : 115.2 Kbaud COMM Baud : 10Net-1 COMS Connection : No Hoden COMA Connection : Mo Hoden COMA Connection : MOBUS-1 COMA Baud : 9600 baud COMA Parity : None COMA Connection : Not Used	General Setup: GENERAL SERU Serial COMM Connection : Serial COMM Connection : Serial COMM Connection : IONet-1 COMM Connection : IONet-1 COMM Connection : IONet-1 COMM Connection : No Moden COMM Connection : Mo Moden COMM Connection : Mo Moden COMM Connection : MODBUS-1 COMM Parity : None COMM Stop Bits : 1 COMM Connection : Not Used 11 using Mext/Prev keys Connection Type For COMM	General Setup: GENERAL SERU Serial Ualue COMMENDIAL SERU COMMENDIAL SERIAL SERU COMMENDIAL SERU	General Setup: GEHERAL SERU Serial COMM Example COMM Example COMM Example COMM Example COMM Example COMM Example Connection : IONEC-1 COMM Example COMM Example COMM Example COMM Example COMM Example COMM Example Connection Type For COMM	General Setup: GENERAL SERU Alarns Serial Value COH1 Connection : Serial Notices COH2 Connection : 10Net-1 IONet-1 COM2 Connection : No Hoden IONE-1 COH4 Baud : 19.2 Kbaud COH4 Baud : 9600 baud COH4 Baud : 9600 baud COH4 Parity : Not Used E2 Unit@1 COH6 Connection : Not Used L1 using Next/Prev keys Connection Type for COH4

11. Press 💬 to save changes.

12. Press O to go back to the Home screen.

Note: When selecting the XM679K in E2, check if the version number shown matches the version number of the device. For example, if the device is XM679K version 3.4, select XM679K_34 in E2.

PART 2: Adding the XM679K Controller in E2

- 1. Press (1, 2, 2, 2, 2) (Connected I/O Boards and Controllers).
- 2. Press F2 once to move to the C3: ECT (Electronics Communications Tab). Highlight the XM679K application and enter the desired number of devices under Quantity.

Note: When selecting the XM679K application in E2, check if the version number shown matches the version of the device. For example, if the device is XM679K version 3.4, select XM679K_34 in E2.

1: This Unit	C2:	IO Network	C3: ECT	C4:		C5: Echelon	ADVISORY SUMMARY
6:	C7:		C8:	C9:		C0:	Fails
		Nun Ne	twork Ctrls	: NetSetup			Alarns 9 Notices 9
	ECT		rd Type	Quanti	ty Max	1	Notices 9
		#17 : XEV		0	99	T	
		#18 : XEV		0	99		NETWORK OVERVIEW
			Scroll Unit	0	16		IONet-1 🔷
		#20 : XM6		0	99		MODBUS-2
		#21 : XM6		0	99		Echelon 🔶
		#22 : XM6		0	99		
			78D_25	0	99		
		#24 : XM6		8	99		
			79K_34	2	99		
		#26 : XR3 #27 : XR7		0	99		
			SCX CaseDsp		99		
		#29 : iPr		6	50	Ļ	
		#29 . 111	ODHC	0	30	[E2 Unit01
							Rev 4.06823 IP 10.212.239.5
							English-US
Enter 0 to 99	Ent	er desired	number of t	hese boards			
F1: PREV TA	B	F2: NEX	T TAB	F3: EDIT			F5: CANCEL
						municatio	

3. Press to save changes.

4. Press O to go back to the *Home* screen.

Note: The XM Circuit has native support for the XM679K version 3.4. If you have an open 3.4 description file loaded on your E2, it should be deleted to take advantage of the native XM Circuit feature. To see all open description files loaded on the E2, press

01-16-14 🔶 🦪 📖	CX-400 Unit 1 CX deu summary	6 16:04:14 FULL *ALARN*
HVAC CONTROL Inside RH N Ahu001 Spa	REFRIGERATION	ADUISORY SUMMARY Fails 15 Alarms 21
FAN OFF STATE UNOCC DEHUM INACTU AHU002 SPA FAN OFF STATE UNOCC DEHUM INACTU LIGHT LEVEL NOM NAME BYP	SERVICE ACTIONS 1. System Resets 2. Binding Table 3. System Logs and Statistics 4. System Tests 5. Dial-Out Status 6. USB Operations	Notices 30 NETWORK OUERUIEW IONEt-1 HODBUS-1 Echelon
LIGHTS001 OF LIGHTS002 OF LIGHTS003 OF LIGHTS004 OF LIGHTS005 OF	7. Description File Report	E2 Unit01 Rev 4.06B33 IP 10.212.239.5 English-US
Press menu number	or scroll to selection	
	Figure 4 - Description File Rep	ort

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PART 3: Commissioning the XM679K Controller

- Press (, Ž, Ž, L to open the Network Summary screen. 1.
- Highlight the XM679K controller to be commissioned by pressing the down arrow, then press (COMMISSION). 2.

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08-14-13 🔹 🥝 🎹)	CX-400 U Network S		薗	16:22:01 <mark>*Alarm*</mark>
Name	Туре	Network Address	Rev	Status	ADVISORY SUMMARY Fails 13 Alarms 17
E2 Unit01 CC LIQUID_001 CC LIQUID_002 16AI_001 16AI_002 8R0_001 8R0_002 8R0_003 8R0_003	CX400 C-Store CC100-Liquid CC100-Liquid 16AI 16AI 8RO 8RO 8RO 8RO 8RO	Ethernet: 000702129200: IONet-1: IONet-1: IONet-1: IONet-1: IONet-1:	2 2.01801 3 0.00 1 0.00 2 0.00 1 0.00 2 0.00 2 0.00 3 0.00	This Controller Online Offline No Port No Port No Port No Port No Port No Port	Notices 23 Network overview IONet-1 6 MOBELS-1 6 Echelon 6
8R0_005 XM679K_34001 XM679K_34002	8R0 XM679K_34 XM679K_34	IONet-1: MODBUS-1: MODBUS-1:	1 3.04-00	No Port Online No Port	E2 Unit01
					Rev 4.06823 IP 10.212.239.5
					English-US
F1: DELETE RC	RD F2: STF	ATUS F3: NET	STATUS F	F4: COMMISSION	F5: SETUP
17	Figu	ure 5 - Network	Summary	/Screen	

Select an (unused) address for the device and press З.

Note: The device address selected in the E2 must match the address assigned to the XM device using the XC660 remote display; please refer to Figure 1 - CX660 Keyboard.

Name Type Motocol. Address Rev Status ADUISORY SUMMARY E2 Inite1 RXA00-Refri MODBUS-1 Devices 4.82815 This Controller Alarms 0 16A1_001 16A1 1.61 (Unused) 4 16A1_001 16A1 1.61 (Unused) 4 16A1_001 16A1 1.61 (Unused) 4 16A0001 4A0 3. (Unused) 4 0.80 No Port 980 980 4A0 4.00 0.60 No Port 0.80 No Port 9.001 4A0 4.00 4.00 0.60 No Port 0.80 No Port 9.001 4A0 4.00 4.00 0.80 No Port 0.80 No Port 9.001 CT_071 CT_DTive PM 800 test 7.00 0.80 No Port 0.80 No Port 9.001 NK75VK Case 0.80 No Port 0.80 No Port 0.80 No Port 0.80 0.80 0.80	Hone Type E2 Unit01 RX400-Refri 16AI_001 16AI 1 16AI_002 16AI 1 8R0_001 8R0 2 8R0_001 4A0 3 4A0_002 4A0 4 4A0_002 4A0 6 CT_001 CT Drive 6 XM079K001 XM679K 9 XR75CX CD_001 XR75CX Case 10 0308 Rk A RX400-Refri 11 12 13 14 15 15	BUS-1 Devices . (Unused) ▲ . (Unused) . (Unused) . (Unused) . (Unused)	4.92815 This Controller 9.80 No Port 9.80 No Port 9.90 No Port 9.80 No Port 9.80 No Port	Fails 3 Alarms 0 Notices 197 NETWORK OVERVIEW
		 (Unused) 	0.00 No Port 0.00 No Port 0.00 Offline 0.00 No Port	HODBUS-2 THIS CONTROLLER Hodel: RX-400 09 Unit: 1 IP: 10.161.290.32
	Press menu number or scroll to se	lection		55 0411051

- Press to save the assigned address. 4.
- Press O to return to the Home screen. 5.
- Press , Ž, Ž, ž, to open the Network Summary screen. 6.

7. The XM679K should appear Online after a few minutes.

8-14-13 🔍 🦪 🗓		CX-400 L Network S		16:22:0 *ALARM
Name	Туре	Network Address	Rev Status	ADVISORY SUMMARY Fails 13 Alarms 17
E2 Unit01	CX400 C-Store	Ethernet:	1 4.06B23 This Contro	
CC LIQUID_001		000702129200:	2 2.01B01 Online	
CC LIQUID_002	CC100-Liquid		3 0.00 Offline	
16AI_001	16AI	IONet-1:	1 0.00 No Port	NETWORK OVERVIEW
16AI_002	16AI	IONet-1:	2 0.00 No Port	IONet-1 🧶
8R0_001	8R0	IONet-1:	10.00 No Port	MODBUS-1 🔶
8R0_002	8R0	IONet-1:	2 0.00 No Port	Echelon 🌻
8R0_003	8R0	IONet-1:	3 0.00 No Port	
8R0_004	8R0	IONet-1:	40.00 No Port	
8R0_005	8R0	IONet-1:	50.00 No Port	
XM679K_34001	XM679K_34	MODBUS-1:	1 3.04-00 Online	
XM679K_34002	XM679K_34	MODBUS-1:	0 0.00 No Port	
				E2 Unit01
				Rev 4.06B23 IP 10.212.239.5
				English-US
F1: DELETE RO	RD F2: STA	TUS F3: NET	STATUS F4: COMMISS	ION F5: SETUP
	7			0.1
FIC	jure / - MOD	BUS Device Ac	ddress Should Ap	pear Unline

8. Repeat the process for other XM devices.

Note: If an **Out of Sync** status appears under the **Status** column, allow the E2 to synchronize with the XM679K controller until the status shows **Online** in green.

PART 4: Setting Up Parameters on the XM679K

1. From the *Network Summary* screen, select the **XM679K** device and press **F5** (*SETUP*).

Note: On the General tab, the **Show Advanced** parameter is set to No by default. The basic XM setup uses default parameters and adaptive control to simplify and speed up installation. If you want to use more advanced parameters for custom applications or PI tuning, enter **Y** for **Show Advanced** or refer to the XM679K manual (P/N 026-1218) for the list of all available XM device parameters.

ATT General C2: Inputs C3: Outputs C4: Alarm Out C5: Valve 20: Regulation C7: Defrost C8: Fan C9: Alarn Cfg C0: MORE Fails ADUISORY S 20: Regulation C7: Defrost C8: Fan C9: Alarn Cfg C0: MORE Fails Alarns Stars Cfg C0: MORE Alarns Alarns Alarns Alarns General Ualue Stars Alarns Notices Alarns Notices Device Name : DNF Device Name : NH679K_34001 NETWORK OU IONet-1 NETWORK OU Long Name : 1 Route : M00BUS-1 NETWORK OU IONet-1 HODBUS-1 Echelon Echelon Echelon FW Release Date : No Show Advanced : No FW Revision : 3.94-00 E2 E2 Unit01 FW Release Date : 06-08-2012 Associated : Yes Show Show E2 Unit01 Rev 4.06B3 IR 10.212	
XH679K_34: NH679K_34001 Alarms General Value EU Selector : DDF Device Name : NH679K_34001 Long Name : Device Address : Intitial Sync : No FW Revision : 3.04=00 FW Release Date : 06-08-2012 Associated : Yes ParentCellType : 399	UMMARY 14
EU Selector : DDF Device Name : NH079K_34001 Long Name : Device Address : 1 Device Address 1 Net Route : CfgSyn Action : Send E2 Cfg to Device Initial Sync : Show Advanced : FW Revision : FW Revision : FW Release Date : ParentCellType : Stow Advanced : Rev 4.06B3	21
Long Name : 1 Device Address : 1 Route : HODBUS-1 CfgSyn Action : Send E2 Cfg to Device Initial Sync : No Show Advanced : No FW Revision : 3.04-00 FW Revision : 3.04-00 FW Revision : 3.04-00 FW Revision : 3.04-00 FW Revision : 3.04-00 E2 Unit01 Rev 4.06B3	-
ParentCellType : 399 E2 Unit01 Rev 4.06B3	JERU I EW
1F 10.212.	
English-US	
Enter State: Y=Yes: N=NO Show Advanced Properties	
F1: PREU TAB F2: NEXT TAB F3: EDIT F4: STATUS F5: CA	NCEL

5

Note: On the General tab, **CfgSync Action** is set to send the E2 configuration to the XM device by default. Any parameter change made in the E2 will be sent down to the XM. This is an appropriate setting if you are using the E2 as the supervisory controller. Every 12 hours the E2 synchronizes settings by sending the configuration to the XM device. This is to ensure that settings on the controller are not changed or lost. If the user makes any changes to the settings on the XC660 remote display during the normal 12 hour synchronization, those changes are overwritten by the settings in the E2.

2. Press F2 four times to go to the C5: Valve tab to continue with the basic parameter setup.

13-13 🔹 🤭 📟 Ctrl-X to Sele	ct CX Tabs	CX	-400 Unit 1 SETUP		17:11:4
	2: Inputs	C3: Outputs	C4: Alarn Ou	t C5: Valve	ADVISORY SUMMARY
Regulation C7		C8: Fan	C9: Alarn Cf		Fails
	XM67	9K_34: XM679K_	34001		Alarns 17
Valve	Value				Notices 22
Refg Type	484				
SUPERHEAT SP		.00			NETWORK OVERVIEW
Max Valve %	: 100.				IONet-1
Pres Xducer M	lax : 160.	. 66			MODBUS-1 Echelon 0
					E2 Unit01
					Rev 4.06823 IP 10.212.239.5
					English-US
roll using Next	/Prev keys	Fty - Refrige	rant type		
F1: PREV TAB	F2: NEX	T TAB	F3: EDIT	F4: LOOK UP	F5: CANCEL
FI: PREV THB					

Note: The default refrigerant type is **404**. To select a different refrigerant type, press **F**⁴ and use the arrow to highlight the appropriate refrigerant type, then press **E**^{refrigerant}.

3. Press F2 to go to the C6: Regulation tab.

-13-13 🔍 🤭 📟 e Ctrl-X to Se	lect CX Tabs	C	X-400 Unit 1 SETUP	<u>(1</u>)	17:13:10 *ALARM
: General 5: Regulation	C2: Inputs C7: Defrost	C3: Outputs C8: Fan	C4: Alarm Out C9: Alarm Cfg	C5: Valve C0: MORE	ADVISORY SUMMARY
	XM6	79K_34: XM679K	_34801		Alarms 17 Notices 22
Regulation Case SP Off	Value line : 35	.60			
Hy/TR		.00			NETWORK OVERVIEW
Temp Unit Pressure Un	:F it :PSI				IONet-1 MODBUS-1
					Echelon e
					E2 Unit01
					Rev 4.06823 IP 10.212.239.5
					English-US
nter -67.00 to			point offline after		
F1: PREV TAB	F2: NEX	IT TAB	F3: EDIT	F4: STATUS	F5: CANCEL
			Setup Screen	D 1	T - 1-

Note: To simplify and speed up installation, adaptive control is enabled by default. If you wish to disable adaptive control and manually tune the system, return to the General tab, enter **Yes** in the **Show Advanced** field and refer to the XM679K manual (P/N 026-1218) for all available XM parameters.

4. The temperature and pressure units are Fahrenheit and PSI by default. To change the engineering units, highlight the **Temp Unit** or **Pressure Unit** field and press **F4** (*LOOK UP*). Then select the desired unit and press **to** continue.

Note: If the XM679K controller is associated to an XM Circuit, do not enter Case SP Offline duration. The XM Circuit will send the value for Stand Alone Time when the circuit is associated with the XM device.

5. Press **F2** to go to the *C7: Defrost* tab.

-13-13 🔍 🖪 📖 e Ctrl-X to Sel	ect CX Tabs	CX-	400 Unit 1 SETUP	۵	17:15:29
1: General (5: Regulation [2: Inputs 7: Defrost	C3: Outputs C8: Fan	C4: Alarn Out C9: Alarn Cfg	C5: Value C0: MORE	ADVISORY SUMMARY
	XH	579K_34: XM679K_3	4001		Alarns 17 Notices 22
Defrost	Valu	;			Hocices 22
Defrost Type Defrost Term Offline Def Defr Duratio Defr Start D Defr Drip Ti	A : 44 Int : 4 N : 1 1y : 2	5.40 4.09 0.00 2.00 0			NETWORK OVERVIEW IONet-1 • HODBUS-1 • Echelon •
					E2 Unit01 Rev 4.06B23 IP 10.212.239.5
					English-US
		tdF - Defrost			
F1: PREV TAB	F2: NE	XT TAB	F3:EDIT	F4: LOOK UP	F5: CANCEL

Note: If the XM679K controller is associated to an XM Circuit, do not enter a defrost type duration. The XM Circuit will send the appropriate defrost setpoint, number of defrosts per day, and defrost duration when the appropriate case type is selected in the XM Circuit. Also, by default, the XM Circuit defrost type is Electric.

	3-13 • 🕝 🛄 Ctrl-X to So		bs	CX-400 Un SETUP	it 1					17:16:4
	General	C2: Inputs			Alarm		C5: Valve		ADVISORY S	UMMARY
C6:	Regulation	C7: Defros			Alarm	Cfg	CO: MORE		Fails	13
			XH679K_34: XH67	79K_34001					Alarms Notices	17
	Fan	U	alue						NUCICES	22
	Fan Mode	: C								
	Fan Dly De		10.00						NETWORK OU	VERVIEW
	Fan Stop To	enp :	36.00						IONet-1	
									MODBUS-1 Echelon	
									ECHEION	
									E2 Unit01	
									Rev 4.06B2	
									IP 10.212.	.239.5
									English-US	
									Engrish 03	
Ser	oll using N	ext/Prev ke	ys FnC - Fan	operating	node					
	F1: PREV TAE	3 F2	: NEXT TAB	F3: ED	Т		4: LOOK U	IP 🗍	F5: CA	NCEL

By default, the fan mode is set to **C-n**. The fan runs during refrigeration and turn off during defrost. The fan delay (**Fan Dly Defr**) is 10 minutes. The fan starts 10 minutes after defrost ends. To change the default values, use the up and down arrows to highlight the parameter and press **F4** (*LOOK UP*). Enter your change into the fields and press **to continue**.

6. Press F2 to go to the *C8: Fan* tab.

7. Press F2 to go to the C9: Alarm Configuration tab.

13-13 🔍 👩 🛄 Ctrl-X to Se	lect	CX Tabs		CX	-400 Unit 1 SETUP			17:15:29
: General : Regulation		Inputs Defrost		Outputs Fan	C4: Alar C9: Alar		Valve MORE	ADVISORY SUMMARY
			_	4: XH679K_				Alarns 17 Notices 22
Defrost		Value						HOCICES 22
Defrost Typ Defrost Ter		: in : 46	.40					NETWORK OVERVIEW
Offline Def		: 4	.00					IONet-1 🧧
Defr Durati			.00					MODBUS-1 🧶
Defr Start			.00					Echelon 🧧
Defr Drip T	ine		0					
								E2 Unit01
								Rev 4.06B23 IP 10.212.239.5
								English-US
F1: PREV TAB		rev keys F2: NE			Type F3: EDIT	Eb.	LOOK UP	F5: CANCEL
TT. TREV THE		- F2. HE		<u> </u>	13. 2011	 	LOOK UP	
					-	 _	~	ration Tab

By default, temperature alarms are configured to **Ab** or absolute setpoint alarming. The default setting is appropriate for the majority of applications. To change the default to **rE** or relative setpoint alarming, use the arrow button to highlight the parameter and press **F4** (*LOOK UP*). Highlight your change and press **F4** to continue.

NOTE: If the XM679K is associated to an XM Circuit, do not set the alarm setpoints. If using Electric defrost, the XM Circuit will send the appropriate high and low alarm setpoints and alarm delay when the appropriate case type is selected in the XM Circuit.

8. Press F2 to go to the CO: MORE tab for digital input configuration for Door Alarm.

-13-13 🔍 🍞 🛄 e Ctrl-X to Select CX Tabs		03	(-400 Unit 1 SETUP		17:18:
	C2: Inputs	C3: Outputs	C4: Alarm Out		ADVISORY SUMMARY
: Regulation		C8: Fan	C9: Alarm Cfg	CO: MORE	Fails 13
	XM6	79K_34: XM679K_	_34001		Alarms 17 Notices 22
Dig In Cfg	Value				1001003 22
DI 1 Polar					
DI 1 Confi DI 1 Delau		. 00			NETWORK OVERVIEW
Door Open		.00			MODBUS-1
Door Alm C		. 00			Echelon
					E2 Unit01
					Rev 4.06B23 IP 10.212.239.5
					English-US
			from the second souther		
croll using N	ext/Prev keys	i1P - Digital	i input i polarity		
F1: PREV TA			F3: EDIT	F4: LOOK UP	F5: CANCEL

By default, **DI 1 Config** is configured as the door alarm, see **Appendix A: XM679K Device Wiring Diagram** for the wiring illustration. The default value for door alarm delay (**DI 1 Delay**) is set to 15 minutes. Door open operation mode (**Door Open Opt**) is set to **F-C** and Fan and Compressor to off when the door is open. **Door Alm Cgf** is the amount of time the fan and compressor remains off while the door is open.

9. Press to save the changes and return to the *Network Summary* screen. Highlight the **XM679K** device installed previously and press **F2** to view the *Status* screen of the XM679K device.

8-13-13 🔶 🍞 📖	CX-400 Unit 1 () XM679K	18:08:22
XM679K Case Controller Nam		ADVISORY SUMMARY
XM679K 34001	Case Circuit :	Fails 13 Alarms 17
		Notices 23
	LOADS	
	Comp/Solenoid : ON	
Temp: 0	Case Fan : ON	NETWORK OVERVIEW
remp . o	Defrost : OFF	IONet-1
	Light : ON	MODBUS-1
[-15.]	ASV % Out : 100.0	Echelon 兽
	EVAP	
	Pb5 Evap Pressure : 0 Superheat: 0 [9.00]	
	Pb6 Coil Out Temp : NONE Valve % : 50.00	
Defrost Tern 1 : 0	Refg Type : 404	
	Defrost State : OFF	
Probe 1 Temp : NONE	Derrost state . Orr	E2 Unit01
Probe 2 Temp : 0	GEN STATUS	
Probe 3 Temp : 0	Alarm : ON Digital In 1 : OFF	Rev 4.06B23
Probe 4 Temp : NONE		IP 10.212.239.5
		English-US
Press enter for a list of	actions.	
F1: AHU F2:	LIGHTING 🔶 F3: CIRCUITS 🔶	F5: SETUP
Fio	ure 15 - XM679K Device Status Screen	

PART 5: Creating an XM Circuit

- 1. Press (), 6, 1, to open the Add Application screen.
- 2. Press F4 (LOOK UP).
- 3. Scroll down and highlight **30. XM Circuit** and press

-24-13 🔍 🕜 📖		CX-400 Unit 1 (ADD APPLICATION	FULL FULL
		Add Application	ADVISORY SUMMARY Fails 13
	Sel ent	Select Application Type n er".	Alarns 13 Notices 17
• Туре	:	13. Flexible Combiner ▲ 14. HVAC Simulation	NETWORK OVERVIEW
+ How many	?	15. HUAC Zone 16. Heat/Cool Control 17. Holiday Schedule	IONet-1 MODBUS-1
	Not	18. Irrigation ded 19. Lighting Control	Echelon 🔶
Results		20. Log Group 21. Loop/Sequence Ctr1	
		22. Onboard IO 23. Power Monitoring	
		24. Pulse Accumulation 25. Rack Simulation 26. Standard Circuit	
		27. Suction Control 28. TO Control	E2 Unit01
		29. Time Schedule 30. XM Circuit	Rev 4.06823 IP 10.212.239.5
			⊐ English-US
ess menu number o	r scr	oll to selection	F5: CANCEL

9

4. Enter the desired number of XM Circuit applications to add and press

5. A message appears asking if you want to edit the newly added application. Press Y for yes and the setup screen opens.

24-13 🔮 👩 📖	CX-400 Unit 1 💿 🖄 ADD APPLICATION	FULL	15:25:3 *ALARM
	Add Application		ADUISORY SUMMARY Fails 13
	Select an application type to add, then enter the number to add and press "Enter".		Alarms 13 Notices 17
+ Type	: XM Circuit		
+ How many	? 1_		NETWORK OVERVIEW
	Note: Only applications that can be added will be displayed.		MODBUS-1 0 Echelon 0
Results			
			E2 Unit01
			Rev 4.06823
			IP 10.212.239.5
		1	
	ter number of applications. Press ENTER to ADD.		English-US

6. Under the General tab, enter an appropriate name for the XM Circuit application.

7-24-13 🔹 🤭 📖 se Ctrl-X to Sele	ect CX Tabs	CX-	400 Unit 1 SETUP	🖄 FULL	15:31:47
1: General 🛛 🖸	2: Setpoints 7: Alarms	C3: Defrost C8: Advanced	C4: Defr Times		ADUISORY SUMMARY
General Name Long Name Case Type Case Comb Met Fan Mode Lts During De	Value : XM CIR(: XM Circ : ****-Vf : AVERAGE : Refg Au	uit defined	11-XH Circuit		Alarns 13 Notices 19 NETWORK OVERUIEW IONet-1 0 HODBUS-1 0 Echelon 0
					E2 Unit01
					Rev 4.06B23 IP 10.212.239.5
					English-US
inter desired tex					
F1: PREV TAB		TAB	F3: EDIT	F4: STATUS	F5: CANCEL

- 7. Highlight the **Case Type** then press **F4** (*LOOK UP*).
- 8. A list of different types of cases appears. Select the appropriate case type for your application. For example, **RIFF Reach-in frz food** is a low temp cooler that has reach-in doors. In order to reduce setup time, each case type has appropriate default settings for setpoint, Hi/Low alarm, alarm delay, number of defrosts, and defrost time for the type of case. These default setpoints are sent down to the XM device when the XM Circuit is associated with that XM device. There are 70 case types to



Setpoints for Case Types.

17-24-13 🔍 🦪 🛄				400 Unit 1 ION LOOKUP			FULL	16:19:41 *ALARM*
C1: General C6: Outputs	C2: Set C7: Ala	tpoints arms	C3: Defrost C8: Advanced	C4: Defr C9:	Tines	C5: Input C0: MORE	s	ADVISORY SUHMARY Fails 13
General Nane Long Name Case Type Case Comb Fan Mode Lts During	Def	Descript MDIC-Hit SDFJ-Sg1 MDFJ-Hit RIIC-Rch ICBX-Ice SDFF-Sg1 RIFJ-Rch FRBX-Fro FJBX-Fro FJBX-Fro MDFF-Hit FZBK-Hit	ion List Select Select: ion Dk Ice Cream Dk frz Juice Dk frz Juice -In Ice Cream Crean frz Box Dk frz Food -In frz Juice zen Fish Box zen Juice Box Zen Juice Box Dk frz Food Dk frz Food Dk frz Food	ion Select 2 3 4 5 6 7 8 9 10 11 12 13 13 14				Alarms 13 Notices 21 NETWORK OUERVIEW IOMet-1 6 HODBUS-1 6 Echelon 6 Echelon 7 E2 Unit01 Rev 4.06823 IP 10.212.239.5 English-US
	rov keys	or func	tion keys to se		Press	BACK.		
F1: SELECT			F3:	BEGINNING		F4: END	/	F5: CANCEL

Press 😳 to save changes, then press 🛈 to return to the Home screen. 9.

PART 6: Associating the XM Device to the XM Circuit Application

The XM Circuit is used to share alarms, defrost, and setpoints to all XM devices associated to the circuit. Connecting the XM Circuit and the XM device is called "associating." To associate the XM device with the XM Circuit application:

Press , 7, 7, 4 to open the Controller Associations menu. Highlight XM Circuit and press 1.

ATION STATE TEMP sociations rol Circuit t		ADUISORY SUMMARY Fails 13 Alarms 13 Notices 21 NETWORK OUERUIEW IONEt-1 0 HODBUS-1 0 Echelon 0
rol Circuit	· 	Alarns 13 Notices 21 NETWORK OVERVIEW IONet-1 0 NOBBUS-1 0
		NETWORK OVERVIEW IONet-1 • MODBUS-1 •
t		IONet-1 0 MODBUS-1 0
		MODBUS-1
		ECUETON A
		E2 Unit01
		Rev 4.06823 IP 10.212.239.5
		English-US
n		F5: CANCEL
		F5: CANCEL
ĺ	n Controller Ass	ontroller Associations Menu

Highlight the XM679K device and press F4 (LOOK UP). 2.

3.	Highlight the XM Circuit application	on that was created in P e	art 3: Creatina an XN	Circuit, then press	Ľ

07-24-13 🔷 🦪 💷		CX-400 Unit 1 CELL LOOKUP	(Å) FULL	17:05:50
	e Controller <;	> XM Circuit Associati	ion	ADVISORY SUMMARY Fails 13
Applicati			t -	Alarms 13 Notices 21
XM679K_34 XM679K_34	Applica	tion Selection		
	App1/Point	Туре		NETWORK OVERVIEW
	XM CIRCUIT001	XM Circuit		MODBUS-1 🔶
	AH CINCOITOOT	AN GITCUIC		Echelon 🔶
				E2 Unit01
				Rev 4.06B23 IP 10.212.239.5
L				English-US
Use Up-Down Arrow keys	s or function ke	ys to select entry. I	Press BACK.	
F1: SELECT		F3: BEGINNING	F4: END	F5: CANCEL
Figu	INO DI VIAL	Device and XM C		1

4. Repeat steps 2 and 3 to associate other XM devices to the XM Circuit.

07-24-13 • 🌈 📖	CX-400 Unit 1 XM CIRCUIT ASSOC	ß FULL	17:06:58 *ALARM*
Case Controller	<> XM Circuit Association		ADVISORY SUMMARY
Application Bus	Node Case Ctrl Circuit		Alarms 13 Notices 21
XM679K_34001 MODBUS	XM CIRCUIT001		HULICES 21
XH679K_34002 MODBUS	2		NETWORK OVERVIEW IONet-1 © HODBUS-1 © Echelon ©
			E2 Unit01
			Rev 4.06B23 IP 10.212.239.5
			English-US
Scroll applications with NEXT/PREU			
F1: SETUP APP F2: SETUP CH	(T	LOOK UP	F5: CANCEL
Figure 22 - XM Ci	rcuit Association Screen		

5. Press 💬 to save changes, then press 🛈 to return to the *Home* screen.

To View the Circuit Summary Screen of the XM Circuit

1. Press (1), 1, then highlight **3. Circuits** and press .

		CX DEU SUMMARY	FULL	17:11:5
HVAC CONTROL INSIDE RH NONE HU001 SPACE:	ð Conf	REFRIGERATION NOME STATE TEMP igured Applications E		ADVISORY SUMMARY Fails 13 Alarms 13
AN OFF STATE UNOCC Dehum Inactu Nuu002 Space: An OFF State Unocc Dehum Inactu	1. 3. 6. 18. 90. 293. 400.	Suction Groups <u>Gircuits</u> Air Handlers (AHUS) Lighting Control Logging Groups Global Data CC-100L		Notices 21 NETWORK OVERVIEW IONet-1 0 HODBUS-1 0 Echelon 0
LIGHTING LIGHT LEVEL NONE FF IGHE BYPASS IGHTS001 OFF IGHTS002 OFF IGHTS003 OFF IGHTS004 OFF IGHTS005 OFF				E2 Unit01 Rev 4.06823 IP 10.212.239.5 English-US
Press menu number or s	croll to	selection		F5: CANCEL

2. Highlight the previously created XM Circuit. Press to open the XM Circuit status screen.

Note: The Circuit Summary Screen shows all the circuits in the system.

-07-13 🔹 🍞 📖			400 U Summa	Init NRY	1		A	FULL		12:38:0 *ALARM
Summary For Circui	its (Standard) and	d Circuits	(Cas	ie Ct	rl) and	l Circ	uits ()	(M)	ADVISORY Fails	SUMMARY
Nane	State	Tenp	Se	tpt	Alarm	Refr	Defr	1	Alarns	21
STD CIRCUIT	Refrigeration	NONE	NO	INE		ON	OFF		Notices	30
CC100 CKT1	OFF	NONE	3	3.98		ON	OFF 0FF			
XM CIRCUIT001	Refrigeration		0 -1	4.98		01				
XM CIRCUIT002	0ff	NONE	2	20.00		ON	OFF		NETWORK	DVERVIEW
XM CKT TEST	OFF	NONE		9.94		01	I OFF		IONet-1	
									MODBUS-	1 🔶
									Echelon	
									E2 Unit@	1
									Rev 4.06	
									IP 10.21	2.239.5
									English-	US
ress enter on desi		for status.								
F1: AHU	F2: LIGHTING	L L			Ļ				F5:	SETUP
	Figure 24	Circuit	ο Λ.	voil	oble	in th	o Sur	tom		

To View the XM Devices on the XM Circuit

1. From the XM Circuit status screen, highlight the XM Circuit then press

Note: The XM Circuit Status screen shows all XM devices on the selected XM Circuit.

08-13-13 🔹 😚 📟	СХ-400 Unit 1 💿 хи679к	18:08:22
XH679K Case Controller Nam XM679K_34001	e: Case Circuit :	ADVISORY SUHHARY Fails 13 Alarms 17 Notices 23
Temp : 0	COMPSSOLENOID : ON CompSSOLENOID : ON Case Fan : ON Defrost : OFF Light : ON ASV & Out : 100.0	NETWORK OVERVIEW IONet-1 • HODBUS-1 • Echelon •
Defrost Tern 1 : 0	EVAP Pb5 Evap Pressure : 0 Superheat: 0 [9.00] Pb6 Coil Out Tenp : NONE Valve % : 50.00 Refg Type : 404 Defrost State : OFF	
Probe 1 Tenp : NONE Probe 2 Tenp : O Probe 3 Tenp : O Probe 4 Tenp : NONE	GEN STATUS Alarn : ON Digital In 1 : OFF	E2 Unit01 Rev 4.06823 IP 10.212.239.5 English-US
Press enter for a list of F1: AHU F2:	actions.	F5: SETUP
	Figure 25 - XM Circuit Status Screen	

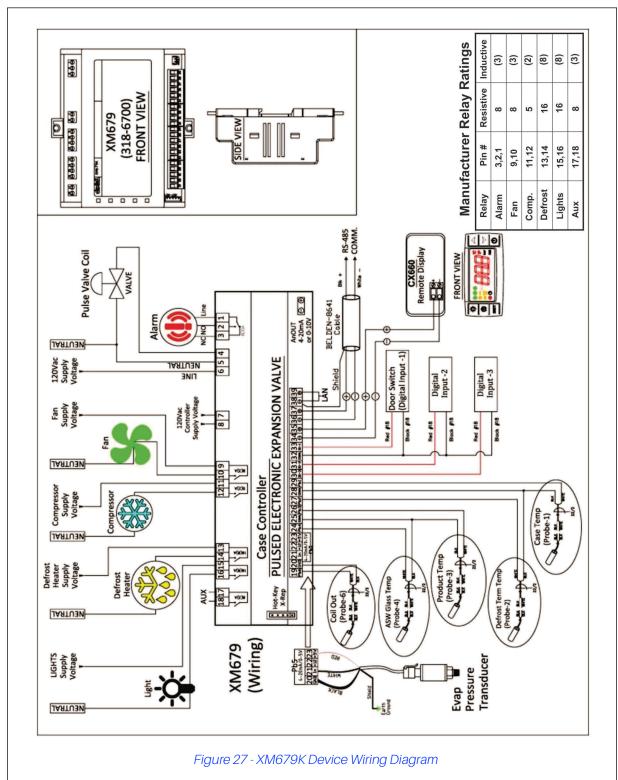
To View Details of the XM Device

1. From the XM Circuit status screen, highlight the XM Device, then press

Note: Review the setpoints that are sent to the XM during the association in the previous steps.

-22-13 🔍 🖅 🛄 e Ctrl-X to Seled	ct CX Tabs	CX-	400 UNIC 1 SETUP	FUL	13:41:4 *ALARM
: General C2 : Regulation C7	: Inputs : Defrost	C3: Outputs C8: Fan	C4: Alarm Out C9: Alarm Cfq	C5: Valve	ADVISORY SUMMARY Fails 14
		9K_34: NM679K_3			Alarms 21 Notices 28
General EU Selector	Value : DDF				
Device Name Long Name Device Addres		- 1			NETWORK OVERVIEW IONet-1 0 MODBUS-1 0
Route CfgSyn Action Initial Sync Show Advanced	: No	-1 2 CFg to Device			Echelon 🔸
FW Revision FW Release Dat Associated	: 3.04-0 te : 06-08- : Yes	2012			
ParentCellTyp	e : 3	99			E2 Unit01
					Rev 4.06B33 IP 10.212.239.5
					English-US
nter State: Y=Y	es: N=N0 S	how Advanced Pr	operties		
F1: PREV TAB	F2: NEX	ГТАВ	F3: EDIT	F4: STATUS	F5: CANCEL

Appendix A: XM679K Device Wiring Diagram



UL Ratings

XM679K UL Ratings

	Ratings	Terminal
	Evaporator Fan: 120/240V, 50/60 Hz, 1/4 HP, 30k cycles 125V, 50/60 Hz, 1/3 HP, 6k cycles 250V, 50/60 Hz, 1/2 HP, 30k cycles	Terminals 9 and 10
	Compressor: 120 V/240V, D300 Pilot Duty, 30k cycles	Terminals 11 and 12
Deley Outeute	Auxiliary (not populated in XM66 series): 120/240V, 50/60 Hz, 5A, General Purpose, 6k cycles 120/240V, 50/60 Hz, 3A, Resistive, 100k cycles	Terminals 18 and 17
Relay Outputs UL Ratings	Light: 120V, 50/60 Hz, 5A, General Purpose, 6k cycles, 120 VAC, 1000 W Tungsten, 6k cycles 240 VAC, 1400 W Tungsten, 6k cycles	Terminals 16 and 15
	Defrost: 120/240V, 50/60 Hz, 10A, Resistive, 30k cycles 120/240V, 50/60 Hz, C300, Pilot Duty, 30k cycles	Terminals 14 and 13
	Alarm (not populated on XM66 series): 120/240V, 50/60 Hz, 5A, General Purpose, 6k cycles 120/240V, 50/60 Hz, 3A, Resistive, 100k cycles	Terminals 1, 2 and 3
	Pulse Valve (not populated on XM66 series): 230V, 30 Watt	Terminals 4, 5 and 6

Appendix B: Default Setpoints for Case Types

The table below (**Default Setpoints for Case Types**) lists the sixty-four default case types that may be used in Standard Circuit or Case Control Circuit applications along with the recommended defaults for each case type.

When one of these sixty-four case types is selected, the E2 automatically enters the following information from the table into the Circuit application:

- The setpoint
- The number of defrosts per day and the defrost time length from the Elec (DEF) column under Defrost types

For example, if you select #14 RIFF (Reach-in frozen food), the E2 sets the circuit's setpoint at -10, the number of defrosts at 1, and the defrost time at 60 minutes.

The other columns in this table, such as the **High Alarm**, **Low Alarm**, and **Delay** columns and the **Hot Gas**, **Rev. Air**, and **Timed** columns, are suggested values that are not automatically entered into the Circuit application.

High Alarm, Low Alarm, and Delay

The High Alarm, Low Alarm, and Delay columns are the suggested high and low case temperature alarm setpoints and the report delay.

To set up the alarm setpoints and delays:

- 1. Locate the Case Temperature control input and select the Generic Alarm Setup action from the Actions Menu.
- 2. Enter the High and Low setpoints in the Normal Hi and Normal Low fields.
- 3. Enter the Delay in the Report Delay field.

Defrost Type

The E2 assumes by default that all cases have electric defrost. If this is not the case, new values need to be entered for the **Number of Defrosts** and the **Defrost Time** in the circuit. The suggested defaults are listed under the **Hot Gas**, **Elec (DEF)**, **Rev. Air**, and **Timed** columns. The number to the left of the slash indicates the suggested number of Defrost Times Per Day, and the number to the right of the slash indicates the recommended Defrost Time Length.

Default Setpoints for Case Types

							Defrost Type			
Туре	Abbr.	Description	Setpoint	High Alarm	Low Alarm	Delay	Hot Gas	Elec. (DEF)	Rev. Air	Timed
0	****	Undefined								
1	SDIC	Single deck ice cream	-25	-5°	-30°	01:00	2/18	1/45	1/60	1/60
2	MDIC	Multi-deck ice cream	-25	-5°	-30°	01:00	3/22	3/45	2/60	2/60
3	SDFJ	Single deck freezer juice	-18	0°	-30°	01:00	2/18	1/45	1/60	1/60
4	MDFJ	Multi-deck freezer juice	-10	5°	-25°	01:00	3/22	3/45	2/60	2/60
5	RIIC	Reach-in ice cream	-15	-5°	-25°	01:00	2/22	1/45	1/60	1/60
6	ICBX	Ice cream freezer box	-20	-5°	-30°	01:00	3/20	2/45	2/60	2/60
7	SDFF	Single deck freezer food	-15	5°	-25°	01:00	2/18	1/60	1/60	1/60
8	RIFJ	Reach-in freezer juice	-15	-5°	-20°	00:15	2/22	1/45	1/60	1/60
9	FRBX	Frozen food box	-12	-5°	-20°	00:15	3/18	3/45	2/60	2/60
10	FFBX	Frozen fish box	-12	-5°	-20°	00:15	3/18	3/45	2/60	2/60
11	FJBX	Frozen juice box	-12	-5°	-25°	01:00	3/18	3/45	2/60	2/60
12	MDFF	Multi-deck freezer food	-10	0°	-20°	01:00	2/22	1/45	2/60	2/60
13	FZBK	Multi-deck freezer bakery	-10	0°	-20°	01:00	2/22	1/45	2/60	2/60
14	RIFF	Reach-in freezer food	-10	5°	-15°	01:00	1/20	1/60	1/60	1/60
15	SDMT	Single deck meat	22	32°	12°	01:00	3/18	3/45	3/60	3/60
16	SDPF	Single deck prepared	22	32°	12°	01:00	3/18	3/45	3/60	3/60
17	PZZA	Single deck pizza	22	32°	12°	01:00	3/18	3/45	3/60	3/60

Default Setpoints for Case Types

	-1									
18	KOSH	Single deck kosher	22	32°	12°	01:00	3/18	3/45	3/60	3/60
19	SDFH	Single deck fish	22	32°	12°	01:00	3/18	3/45	3/60	3/60
20	MDMT	Multi-deck meat	23	34°	18°	01:00	4/18	4/45	4/60	4/60
21	MDPO	Multi-deck poultry	23	34°	18°	01:00	4/18	4/45	4/60	4/60
22	MDFH	Multi-deck fish	23	34°	18°	01:00	4/18	4/45	4/60	4/60
23	RIMC	Reach-in meat	25	35°	15°	01:00	2/18	2/45	2/60	2/60
24	SVMT	Service meat	22	35°	15°	01:00	2/18	2/45	2/60	2/60
25	SVFH	Service fish	22	35°	15°	01:00	2/18	2/45	2/60	2/60
26	MTBX	Meat cooler	30	42°	22°	01:00	3/18	3/45	2/60	2/60
27	HDBX	Meat holding box	30	44°	22°	01:00	3/18	3/45	2/60	2/60
28	DYCS	Multi-deck dairy	35	44°	24°	01:00	4/20	4/45	2/60	4/60
29	RFDY	Rear load dairy	28	38°	18°	01:00	4/20	4/45	2/60	4/45
30	RIDY	Reach-in dairy	30	40°	20°	01:00	4/20	4/45	2/60	2/60
31	DYBX	Dairy cooler	34	44°	24°	01:00	2/22	2/45	2/60	2/60
32	BKBX	Bakery Cooler	36	46°	26°	01:00	2/22	2/45	2/60	2/60
33	PRBX	Produce cooler box	36	50°	30°	01:00	2/22	2/45	2/60	2/60
34	MILK	Milk case	34	40°	20°	01:00	4/20	4/45	2/60	2/60
35	PKDL	Packaged deli	32	38°	18°	01:00	4/20	4/45	2/60	2/60
36	DLDS	Deli display case	34	38°	18°	01:00	4/20	4/45	2/60	2/60
37	CHEZ	Cheese case	34	40°	20°	01:00	3/18	3/45	2/45	2/60
38	POBX	Poultry box	36	42°	22°	01:00	4/20	4/45	2/45	2/60
39	BEER	Beer/Beverage	34	44°	24°	01:00	2/18	2/45	2/45	2/60
40	BVCS	Beverage case	34	44°	24°	01:00	2/18	2/45	2/45	2/60
41	DLBX	Deli cooler box	36	46°	26°	01:00	3/18	3/45	2/45	2/60
42	FHBX	Fish cooler box	36	46°	26°	01:00	3/18	3/45	2/45	2/60
43	SVDL	Service deli	32	42°	22°	01:00	2/16	2/45	2/60	1/40
44	PRCS	Produce case	35	45°	25°	01:00	2/16	2/45	2/60	3/40

Default Setpoints for Case Types

45	ISPR	Produce case (island)	35	45°	25°	01:00	2/16	2/45	2/60	1/60
46	SALD	Salad table	36	50°	30°	01:00	2/16	2/45	2/60	1/60
47	FLBX	Flower cooler box	40	54°	34°	01:00	2/16	2/45	2/60	2/40
48	FLWR	Flower cooler	40	54°	34°	01:00	2/16	2/45	2/60	2/40
49	СТВХ	Controlled temp box	50	75°	40°	00:15	2/16	2/45	2/60	2/45
50	SDPO	Single deck poultry	24	38°	18°	01:00	2/16	2/45	2/45	2/60
51	CAKE	Bakery cake case	40	55°	35°	01:00	2/16	2/45	2/45	2/60
52	BART	Bakery retarder	35	60°	40°	01:00	2/16	2/45	2/45	2/60
53	RTDR	Bakery retarder	35	60°	40°	01:00	2/16	2/45	2/45	2/60
54	МТРК	Meat packaging room	45	60°	40°	01:00	2/16	2/45	2/45	2/90
55	MTCU	Meat cutting room	45	60°	40°	01:00	2/16	2/45	2/45	2/90
56	MTPR	Meat prep room	45	60°	40°	01:00	2/16	2/45	2/45	2/90
57	MTWR	Meat wrapping room	45	60°	40°	01:00	2/16	2/45	2/45	2/90
58	FHPR	Fish prep room	45	60°	40°	01:00	2/16	2/45	2/45	2/90
59	SBCL	Subcooler	55	60°	45°	00:15	2/16	2/45	2/60	2/45
60	PRPR	Produce prep room	55	65°	45°	01:00	2/16	2/45	2/45	2/90
61	SDFM	Single deck freezer meat	-10	0°	-20°	01:00	2/18	2/40	1/35	1/45
62	RIFM	Reach-in freezer meat	-10	2°	-18°	01:00	2/18	2/40	1/35	1/45
63	MDFM	Multi-deck freezer meat	-10	0°	-20°	01:00	2/18	2/40	2/60	1/45
64	BKFZ	Bakery freezer box	-12	-2°	-22°	01:00	2/18	2/30	2/60	1/45

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026-4230 R1

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