Dixell Universal XR Controller for Reach-In Applications

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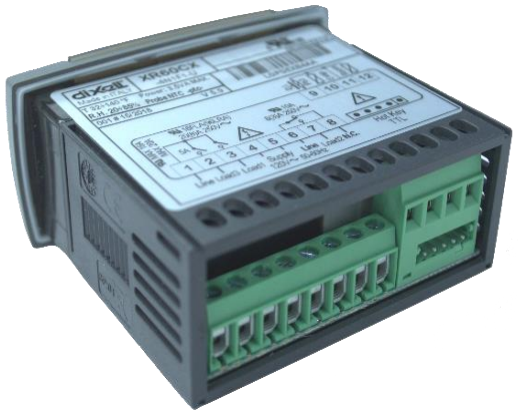
Universal XR Replacement Controller

Universal Images



Introduction

- The Universal - XR controller offers a 7 in 1 solution for Heating/ Medium & Low Temperature/ Defrost/ Fans/ Alarms etc. in just one control.
- It is equipped with a flashing visual alarm and buzzer. Each instrument is fully configurable through special parameters that can be easily programmed through the keypad.

Key Features

- One Control for many applications.
- Easy & intuitive programming mode.
- Easy one button detection of probe type.
- Hot key for backup and restore.
- XWEB/ Monitoring system connection capability.

Training & Development
Basic Operation Overview

Parameter “tC” Settings

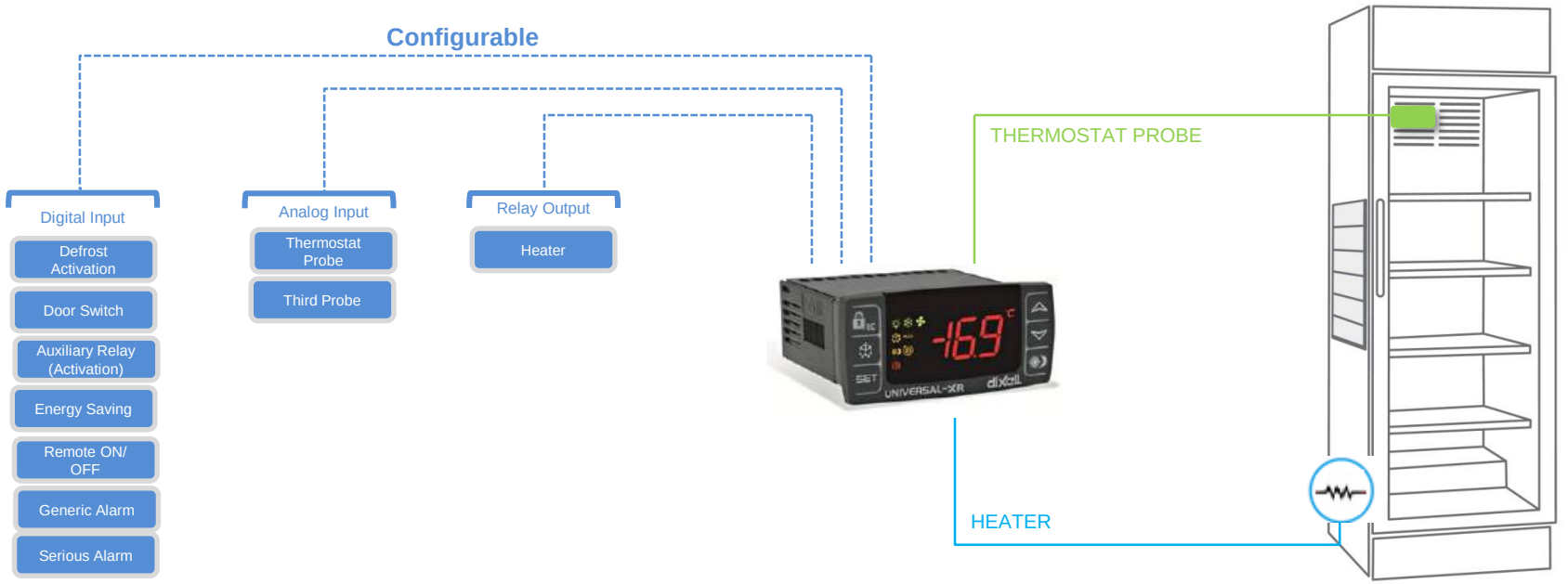
Parameter	Settings	Type of Control
tC	1	Heating, On / Off thermostat
	2	Cooling, Off Cycle Defrost, Time Ended
	3	Cooling, Off Cycle Defrost, Temperature Ended
	4	Cooling, Off Cycle Defrost, Temperature Ended, Alarm Relay
	5	Cooling, Electric or Hot Gas Defrost Temperature Ended
	6	Low Temp, Elec. Or Hot Gas Defrost, Temp. Ended, Fan Control
	7	Open Map to be Configured for any application

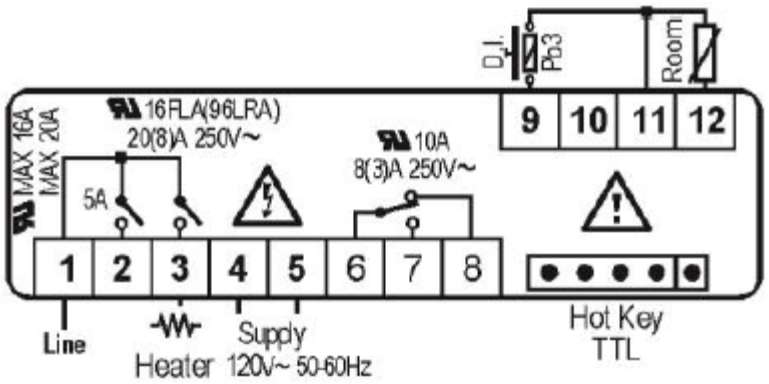
Training & Development
Basic Operation Overview

Available Probes (“tC” Settings)

Parameter	Settings	Available Probes		
tC	1	Room	-	DI/ Pb3
	2	Room	-	DI/ Pb3
	3	Room	Evaporator	DI/ Pb3
	4	Room	Evaporator	DI/ Pb3
	5	Room	Evaporator	DI/ Pb3
	6	Room	Evaporator	DI/ Pb3
	7	Room	Evaporator	DI/ Pb3

TC = 1 Heating





Features

- Hot Key Parameter Programming
- 1 Relay & 1 Probe
- XJ485-CX Connectivity
- On / Off Thermostat
- X-WEB Communication

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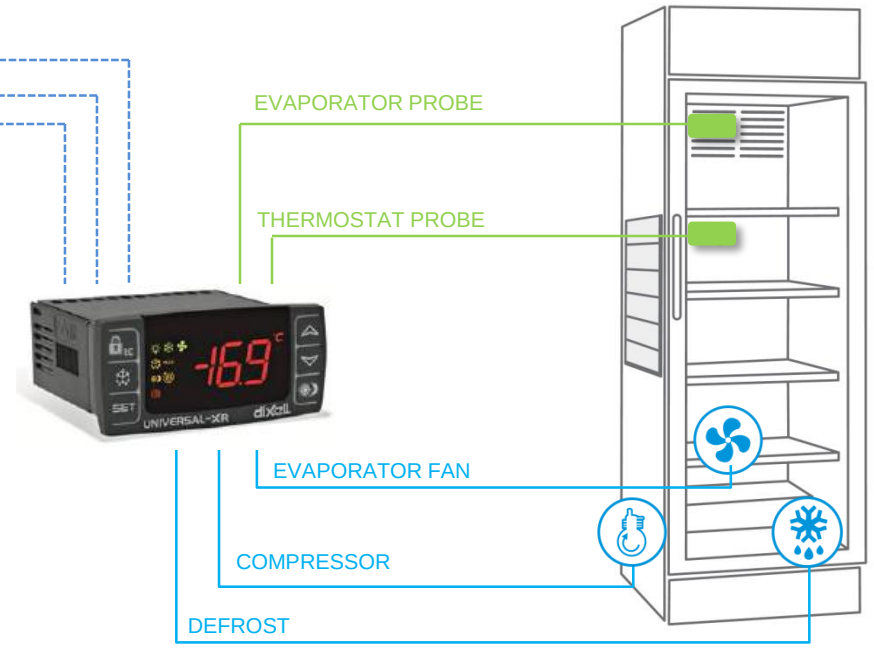
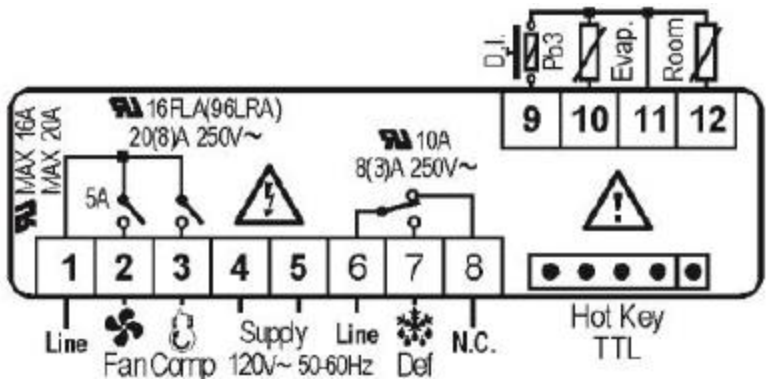
TC = 6 Low Temp, Elec or Hot Gas Defrost, Temp Ended, Fan Control

Configurable

- Digital Input
  - Defrost Activation
  - Door Switch
  - Auxiliary Relay (Activation)
  - Energy Saving
  - Remote ON/ OFF
  - Generic Alarm
  - Serious Alarm
- Analog Input
  - Thermostat Probe
  - Evaporator Probe
  - Third Probe
- Relay Output
  - Compressor
  - Fan Relay
  - Defrost Relay





Features

- Hot Key Parameter Programming
- 3 Relays & 3 Probes
- XJ485-CX Connectivity
- Electric/Hot Gas Defrost
- X-WEB Communication

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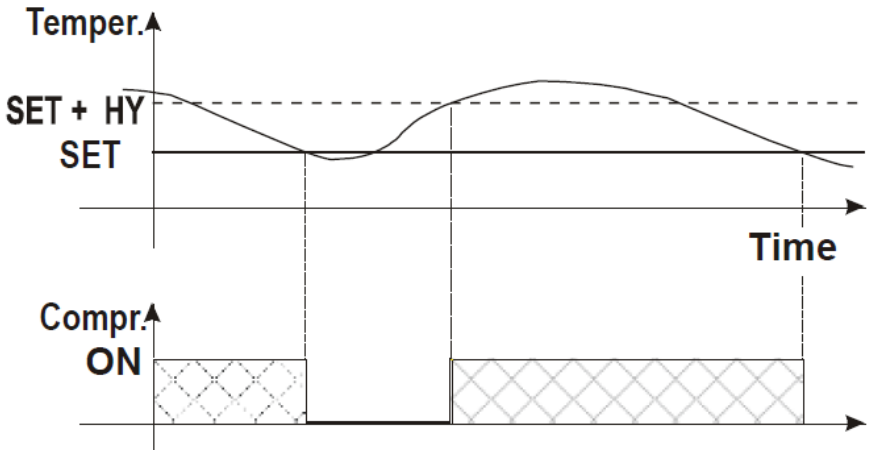
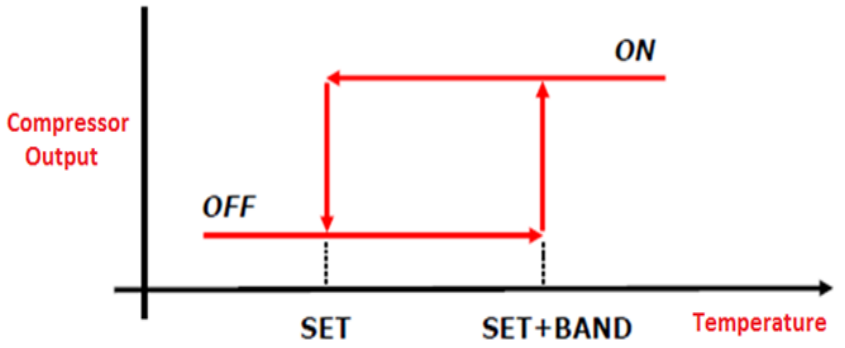
Basic Operation Overview

Compressor Control





- The regulation is performed according to the temperature measured by the thermostat probe with a positive differential from the set point: if the temperature increases and reaches set point plus differential the compressor is started and then turned off when the temperature reaches the set point value again.
- In case of fault in the thermostat probe the start and stop of the compressor are timed through parameters "**COn**" and "**COF**".
- Programming can be done manually by pressing the desired buttons and by using a HOTKEY for quick and easy way.

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Basic Operation Overview

Control of Evaporator Fans

- FnC=C_n – fans will switch ON and OFF with the compressor and not run during defrost.
- FnC=o_n – fans will run even if the compressor is OFF, and not run during defrost. (**Default Setting**)
- FnC=C_Y – fans will switch ON and OFF with the compressor and run during defrost.
- FnC=o_Y – fans will run continuously also during defrost.
- FSt - Fan Stop Temperature – Fans will not run until PR2 - evaporator temperature probe drops below this value (**Default Setting=46**).

Fast Freezing

- Timed alternate setpoint to quick chill product.
- When defrost is not in progress, it can be activated by holding the UP arrow key for about 3s until ❄ icon lights.
- The compressor (LLS) operates in continuous mode for the time set through the “CCt” parameter.
  - (**Default Setting=0.00**) Resolution = 10 minutes.
- Setpoint is adjusted by value of CCS parameter
  - (**Default Setting= -5**)
- The continuous cycle can be terminated before the end of the set time using the same activation key, press the UP arrow button for about 3s.

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Basic Operation Overview

Energy Saver Mode

- Acts like a second cooling setpoint
- Activated by pressing  button, or digital input
- -54 to 54 range
- HES = (**Default Setting=0**)

Other Features

- Temperature probe calibration
- Faulty Probe run cycle (**15 min ON, 30 min OFF default**)
- Display update delay after defrost available (**default to 0 min**)
- Door open alarm
- Alarm relay output (MT tC4 only)
- Second digital input configurable
- Two levels of parameter menus

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Training & Development
User Interface

Image

TYPE CONTROLLER MENU

DEFROST : to start a manual defrost

SET : to display target setpoint, in programming mode it selects a parameter or confirm an operation

UNIVERSAL XR

UP : to browse the parameter codes and increases display value. View most recent High Temp recorded

DOWN : to browse the parameter codes and decreases display value. View most recent Low temp recordded

ENERGY SAVING : Allows the control to use the HES offset parameter to change the set point. Can be set for ON/OFF as well.

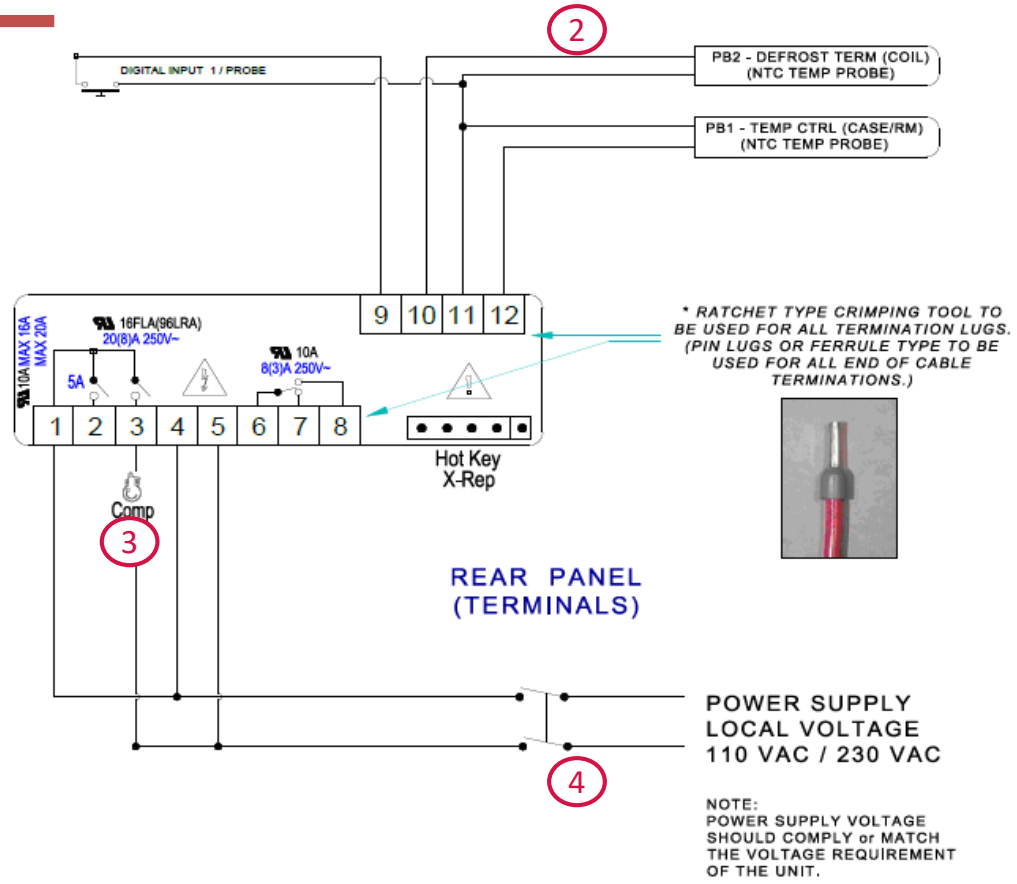
Training & Development

Getting Started

Step 1C: Wiring Connection

tC = 3 : Medium Temp with Off Cycle Defrost (Time Initiated/Temp Terminated) – 2 probes

1. Set the wiring first before powering up the device.
2. Wire the **NTC** or **PTC** probe on terminals **11** and **12** for the **room temp** and terminals 10 and **11** for the **evap temp**. You can only use one type of probe (NTC or PTC) for the room temp and evap temp.
3. Connect the **cooling** activation on terminal **3**.
4. Power up the device and proceed to Step 2.



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Training & Development

Getting Started Cont…

Step 2:Probe Detection

NOTE: Steps 2 – 4 should be done within 1 minute after you powered up the device.

1. Press the **DOWN** key for **3 seconds** to **automatically** detect and set the **probe**.
2. The display should briefly show **tPd**.
3. Depending on the **type of probe** you connected, the display will show **ntC** or **PtC.**

or

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Training & Development

Getting Started Cont…

Step 3: Setting the Type of Control (tC)

1. Press the **AUX/tC** key for 3 seconds.
2. The **tC** parameter should appear. Press **SET** key to modify the parameter.
3. Use the **UP** or **DOWN** keys to adjust to the required setting.
4. Press again the **SET** key to confirm the setting.

Note: Always set "tC" first before other programming. As you move "tC" between settings 1 to 7, all non-relevant parameters will be hidden. After setting "tC", it will be possible to modify all the other relevant parameters only.

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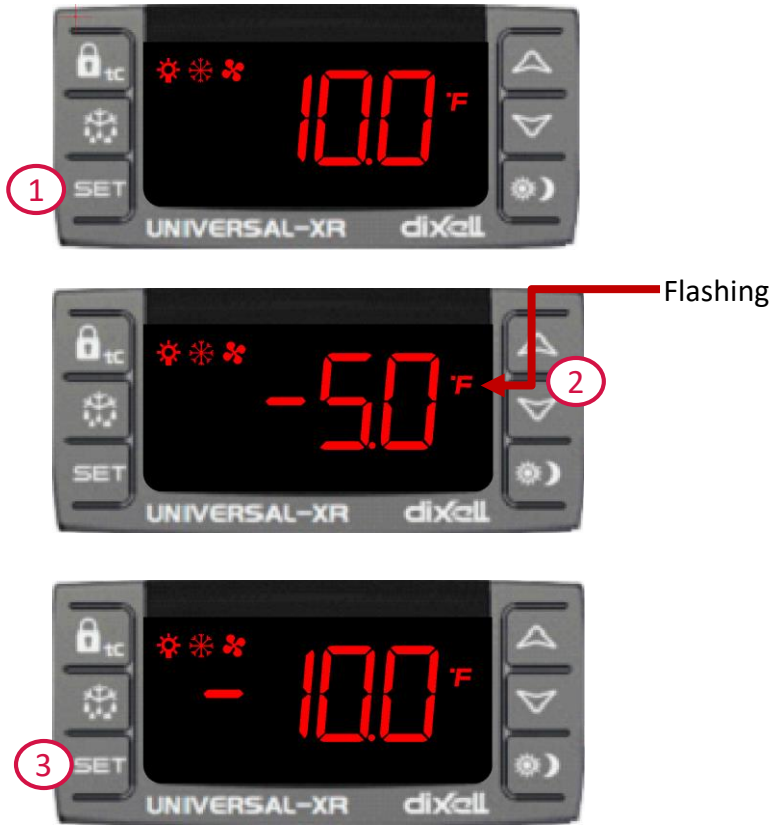
Training & Development

Getting Started Cont…

Step 4: Modify the Setpoint

1. Press the **SET** key for 3 seconds until the **°C** or **°F** is flashing.
2. Use the **UP** or **DOWN** keys to adjust the setpoint.
3. Press again the **SET** key to confirm the setpoint.



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Instruction Sheet

Universal-XR60CX

The all in one control

General description of the Universal-XR

The Universal-XR has been developed to allow for the refrigeration technician to replace any refrigeration control easily with just three SKUs stocked on their Service Truck. With three voltage options 12/24Vac/dc, 120Vac, and 230Vac. With the press of a few buttons the control can be set up to replace such Dixell controls as; XR10C, XR10CX, XR110C,XR02CX, XR20C and CX, XR120C, XR03CX, XR30CX, XR04CX, XR40CX, XR08CX, XR60CX, XR160C and many other manufacturers controls.

1. Quick start up procedure - Up and running in 5 easy steps

First, please be sure you've got the control that is the correct voltage; For 12 or 24 volt controls use XR60CX-AN1F1, for 120 volt applications use XR60CX-4N1F1, and for 230 volts use the XR60CX-5N1F1. This Quick Start Up section is designed to get you up and running with the minimum of fuss. Just follow these 5 simple steps.

STEP 1		Install the new Universal-R, connect the correct number of probes and connect the wiring See below: 1. Table 1: parameter tC settings 2. Table 2: Typical connections
STEP 2		Turn on power, **THEN WITHIN 1 MINUTE COMPLETE STEPS 3, 4 AND 5.**
STEP 3		Press the **"DOWN"** key for 3 seconds and the controller will automatically recognise and adjust itself to the type of probes connected. (The display briefly shows tP4 followed by ntC or PtC).
STEP 4		Press the **"AUX/ tC"** key for 3 seconds and the setting of parameter tC is displayed. Use the **UP** or **DOWN** keys to adjust to required setting then confirm by pressing **SET** (see table 1 below).
STEP 5		Press **SET** for 3 seconds until the 'C or 'F icon starts to flash, then adjust the SET POINT using the **UP** or **DOWN** keys, then press **SET** again to confirm.

Note: You must complete these steps within 1 minute or you will have to power the control OFF then ON to start set up again or enter the parameters as per the full instructions and adjust your "tC" parameter settings manually.

Table 1: parameter "tC" settings

Parameter tC	Type of control	Models replaced	Required probes
1	On / Off thermostat – Heating	XR01CX, XR10C, XR10CX	x 1
2	Off cycle defrost (timed)	XR02CX, XR20C, XR20CX	x 1
3	Off Cycle defrost time initiated / temperature terminated	XR02CX, XR20C-E	x 2
4	Off Cycle defrost time initiated / temperature terminated, Alarm Relay	XR03CX, XR30CX	x 2
5	Electrical / Hot Gas defrost, time initiated / temperature terminated	XR04CX, XR40CX	x 2
6	Electrical / Hot Gas defrost, time initiated / temperature terminated + evap. Fan delay and control	XR06CX, XR60CX	x 2
7	Full open map of parameters configure your own control	Your determination	1 to 3

Note: As you change the parameter "tC", defaults change and should be approximately correct for that application but we strongly recommend you check all parameter default values listed in the full instructions to ensure they suit your particular application and make further adjustments if necessary.

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2. Change over from F to C or vis-versa

1. Hold the Set & Down (⌄) buttons, until HY is displayed, release both buttons then hold the Set and Down (⌄) buttons until Pr2 is displayed. Release the buttons.

2. Scroll with the Up (⌃) button to CF, then press and release Set. Change the 1 to 0, then press and release Set.

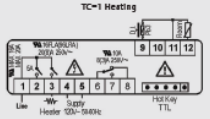
3. Scroll down and adjust the ALL, ALU, FST, AFH, ALH, LS, US, rES as well as the HY.

4. Let the control time out to the temp display. Adjust the Set temp by holding the Set until the C or F starts to flash, adjust the set point.

3. Typical connections - for general guidance only

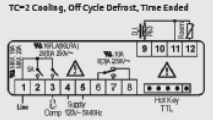
Table 2: typical connections

TC=1 Heating



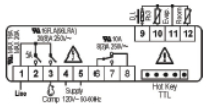
For 12/24Vac/dc use terminals 4 & 5

TC=2 Cooling, Off Cycle Defrost, Time Ended



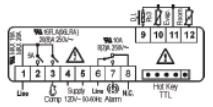
For 12/24Vac/dc use terminals 4 & 5

TC=3 Cooling, Off Cycle Defrost, Temperature Ended



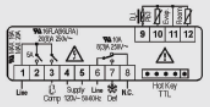
For 12/24Vac/dc use terminals 4 & 5

TC=4 Cooling, Off Cycle Defrost, Temperature Ended, Alarm Relay



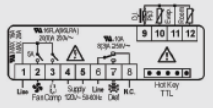
For 12/24Vac/dc use terminals 4 & 5

TC=5 Cooling, Electric or Hot Gas Defrost Temperature Ended



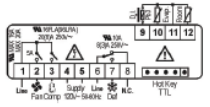
For 12/24Vac/dc use terminals 4 & 5

TC6= Low Temp, Elec. Or Hot Gas Defrost, Temp. Ended, Fan Control



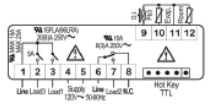
For 12/24Vac/dc use terminals 4 & 5

TC7= Open Map to be Configured for any application



For 12/24Vac/dc use terminals 4 & 5

Actual Label on The Control in the Box.



For 12/24Vac/dc use terminals 4 & 5

Scan this code for the full manual

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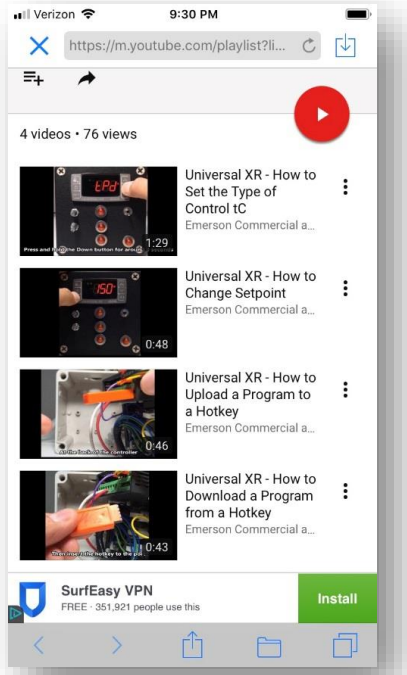
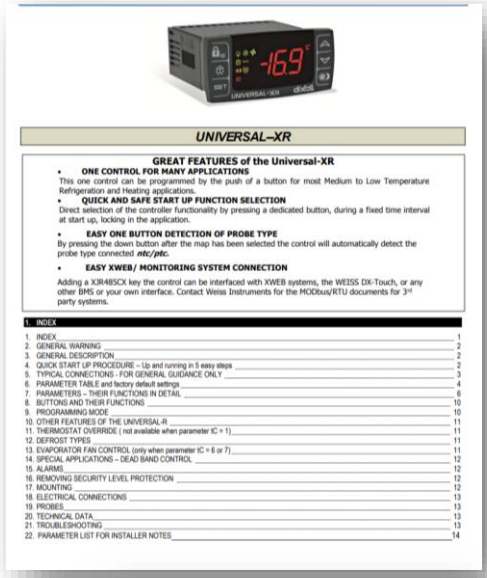
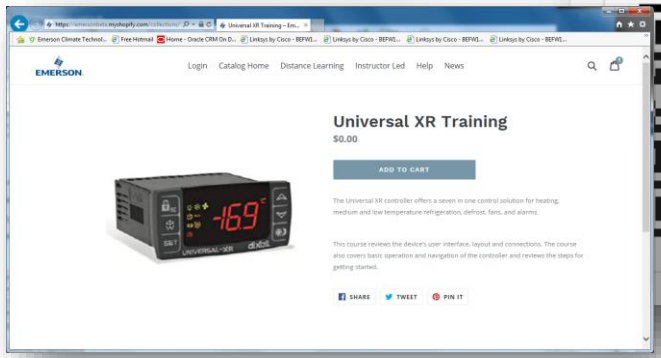
Universal XR Support

- Updated Instruction Sheet With QR Code
- Updated Technical Slides
- youtube instruction videos
- Online training module
- New Full Line Brochure
- Universal XR Display Card







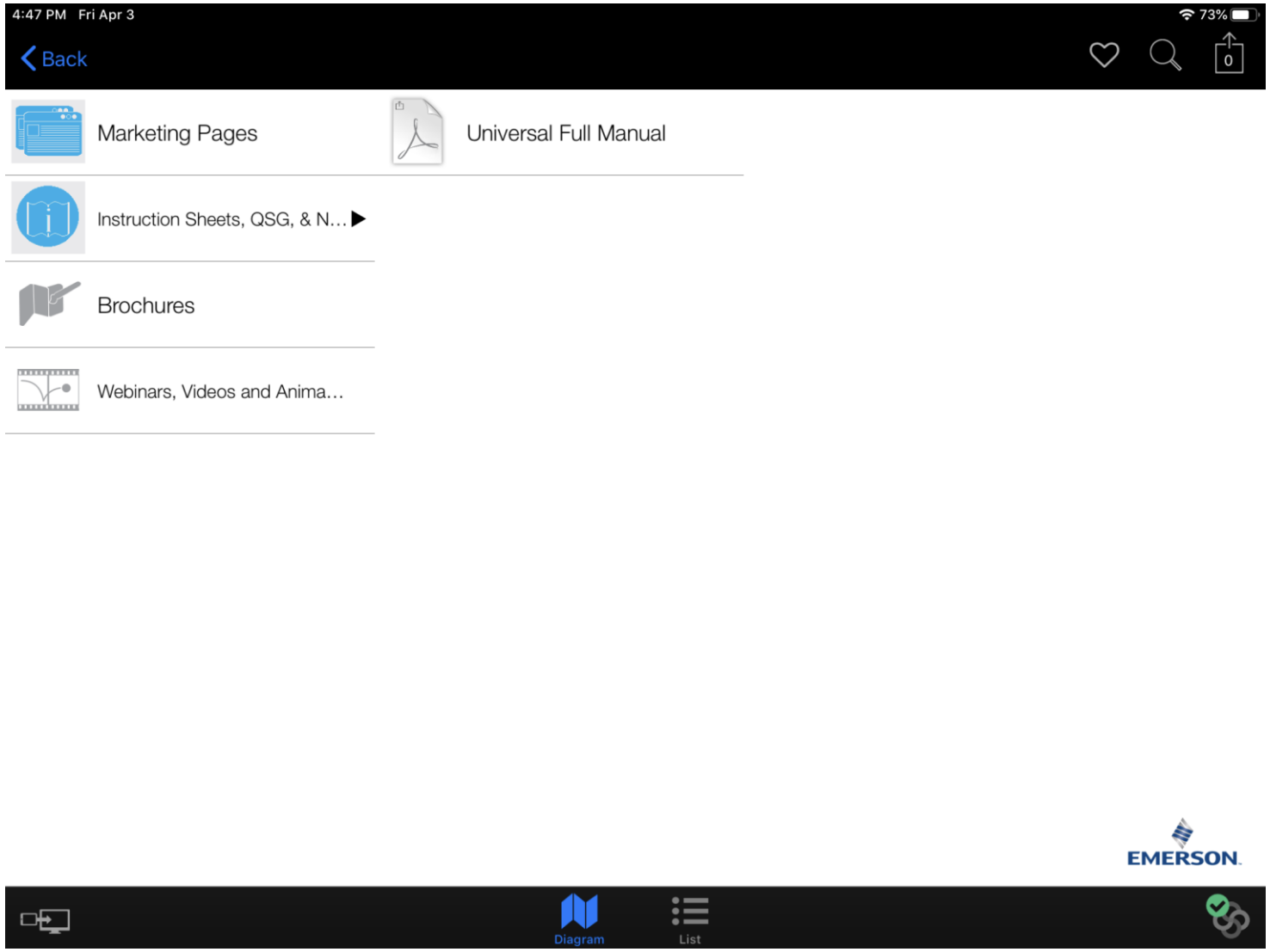
Accessories

	PAN Pushbutton backlight panic alarm.
	C-Box Wall mount Dim. 108 x 108 x 90mm
	AZ2700 Outboard relay SPST 30A
	AZ2800 Outboard relay SPDT 30A

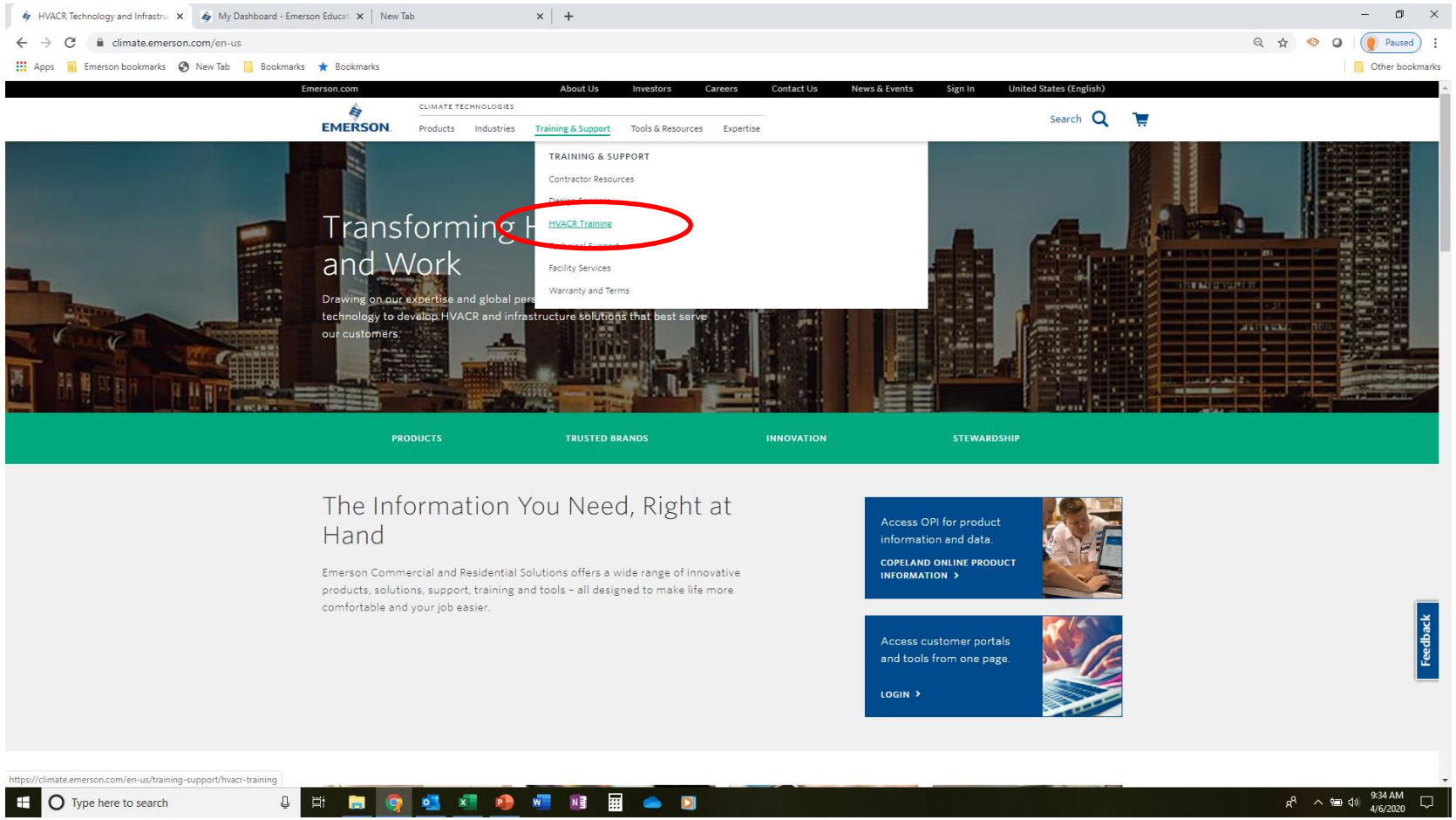
	H300 Current transformer to detect defrost.
	Door switch
	Hot Key
	XJRS485 TTL to Mod-Bus

Climate Sync - StorySlab

Climate Sync - StorySlab



Self-Paced Learning



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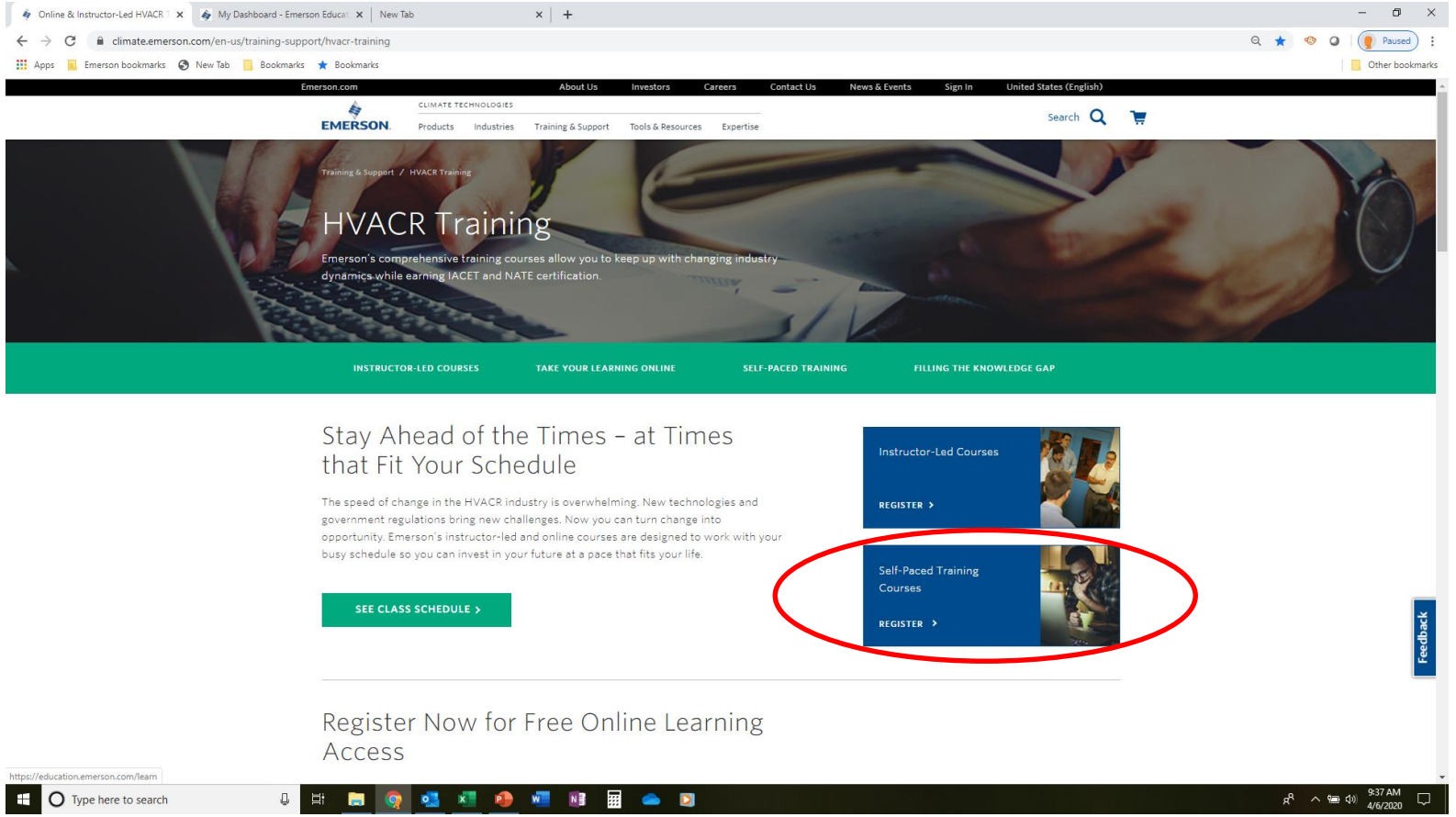

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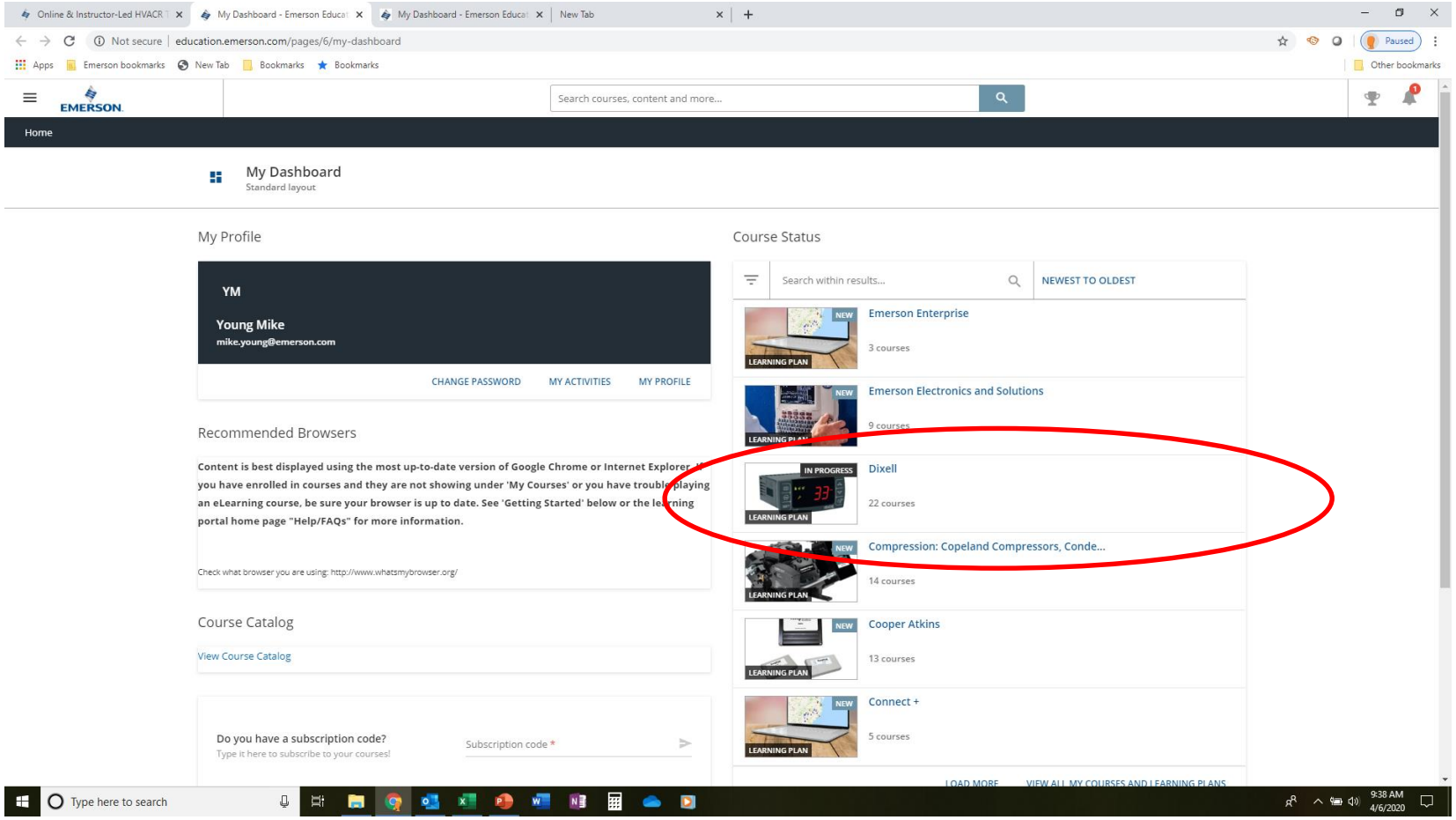

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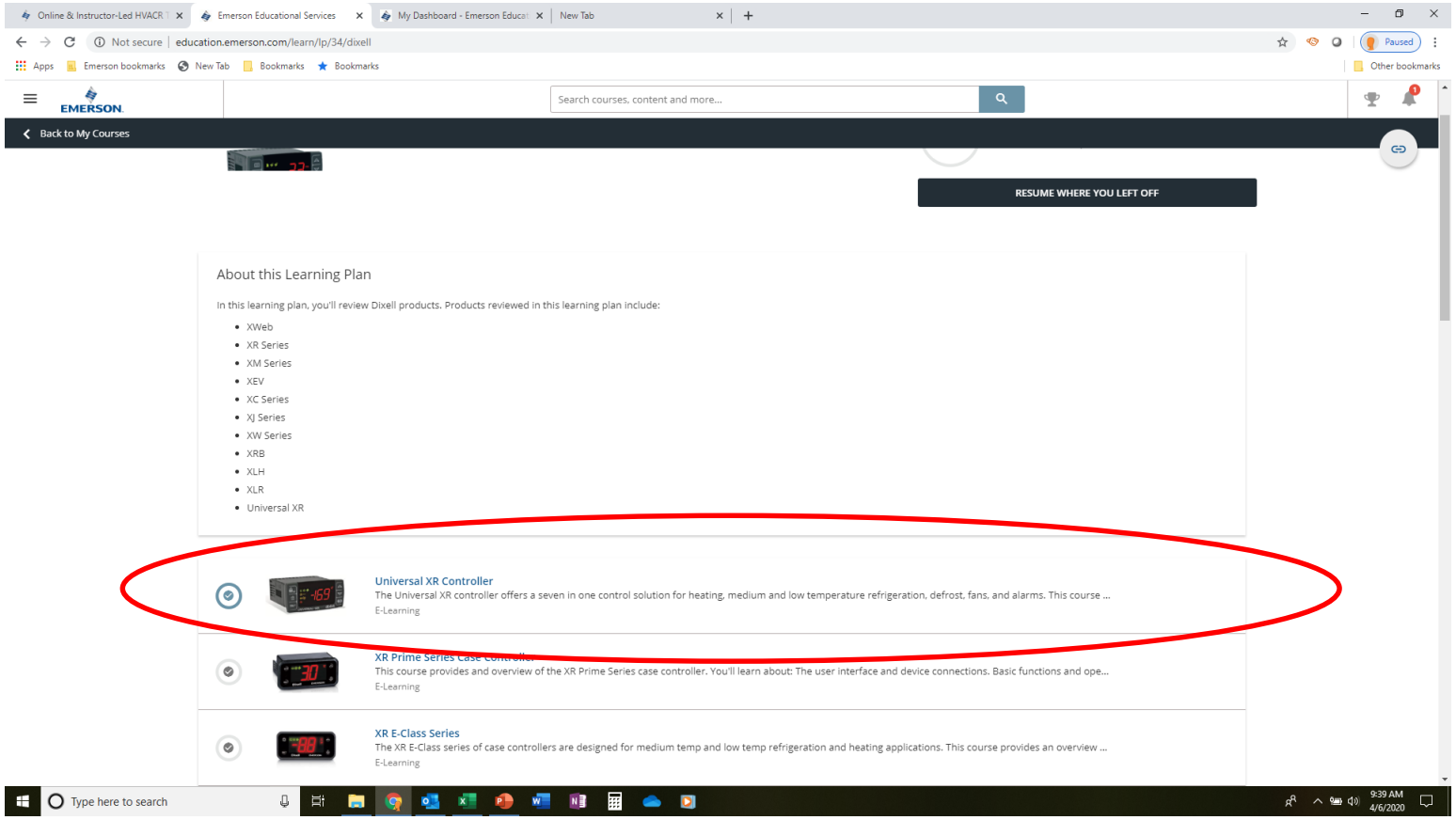

Self-Paced Learning