# Dixell Cold Chain Solutions

Product Catalog

EMERSON™

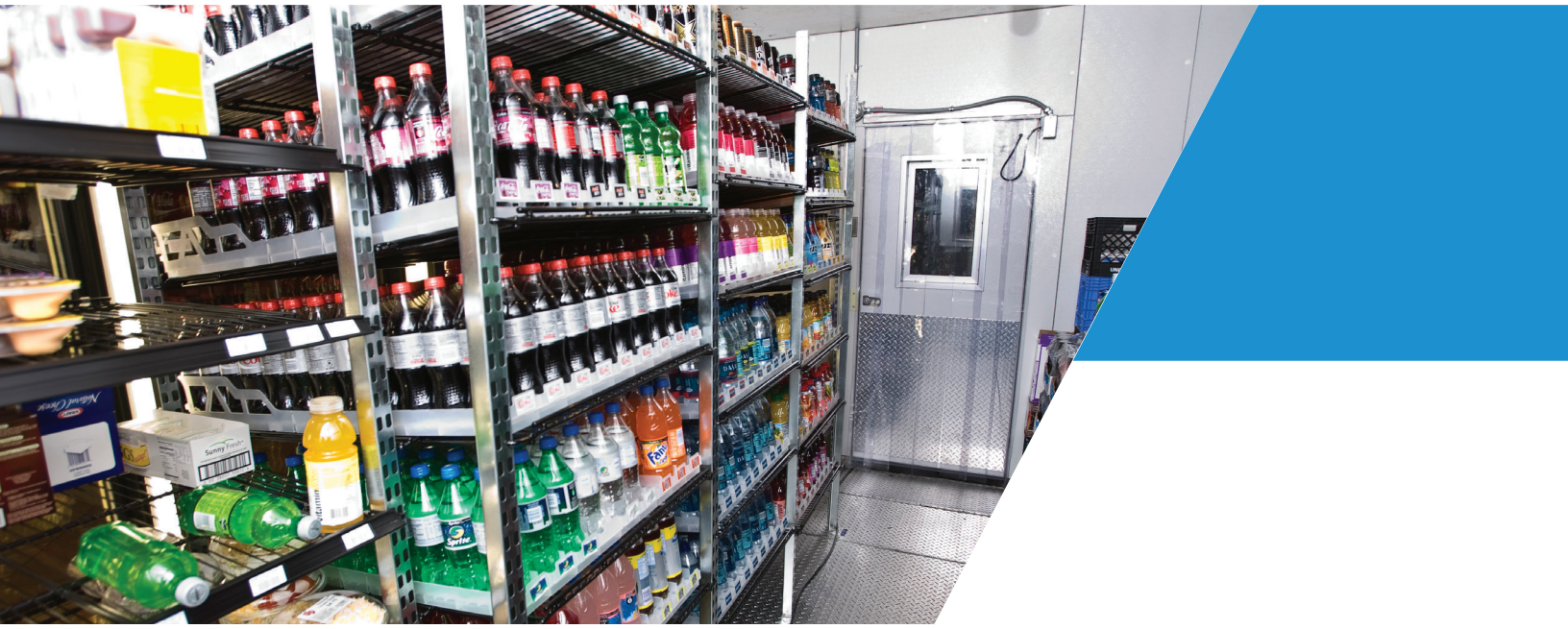
# Market Overview

In today's fast passed world the ability to monitor, control and connect is becoming more important than ever before.

At Emerson, we've been putting companies like yours ahead of the curve for years. From highly efficient compressors, electronics and refrigeration units to smart technologies, we have the products and solutions designed to protect and maintain food quality while lowering your costs—and your stress level.

Dixell technology is leading the way in electronic regulation and control in the fields of refrigeration, air conditioning and heating. Dedication to technological innovation and constant focus on efficiency have driven the development of solutions designed to maximize energy savings and food preservation.

Hotel kitchens to small grocery stores and everything in between we have the control or total solution that will allow you to get the job done fast and easy. From our universal controller which can virtually replace any control to our XWEB total solution which can manage energy usage, collect and store food safety data while keeping food fresh and safe. Change is always on the menu and Dixell products play an important role in ensuring human comfort and protecting food throughout the cold chain



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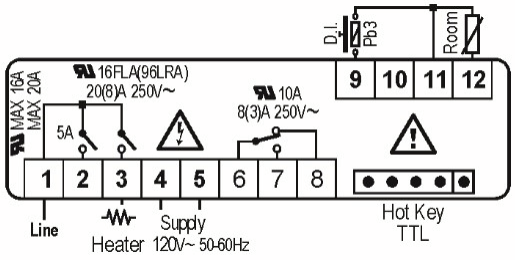
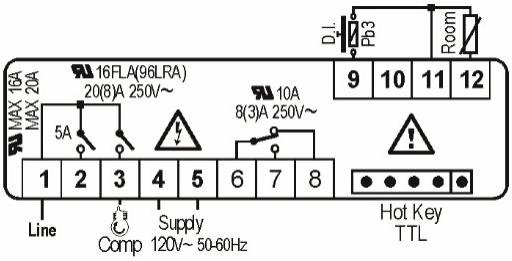
# Universal-XR Controller

The Universal-XR controller offers a 7 in 1 solution for heating/medium & low temperature/defrost/fans/alarms etc. in just one control. Select one of the six 6 preset maps in the application menu, and you now have a replacement of virtually any control. It's the one control that is a must have on your service vehicle. Ultra simplified one does it all. The Universal-XR Advanced Map (tC=7) allows total flexibility with inputs and outputs.

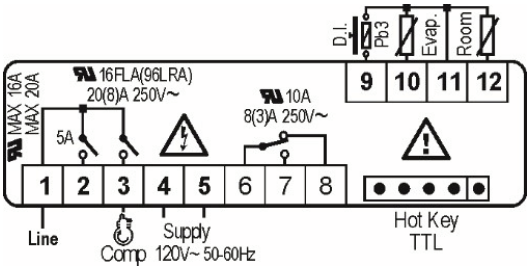
## Heat/med/low temp w/ defrost w/ fan w/ alarm

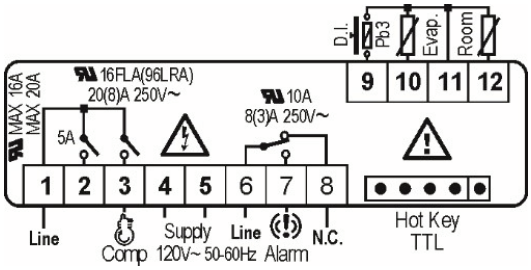

tC = 1 XR10CX / XR01CX heating



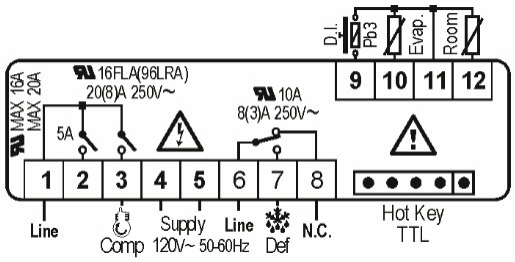

tC = 2 XR20CX med. temp time / time def.



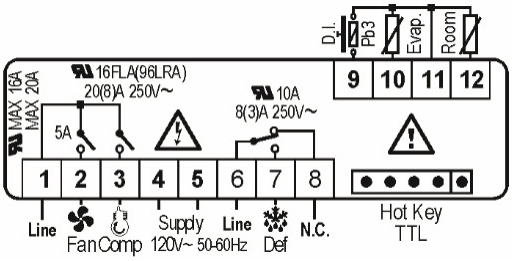

tC = 3 XR02CX/XR20CE med. temp time / temp def.



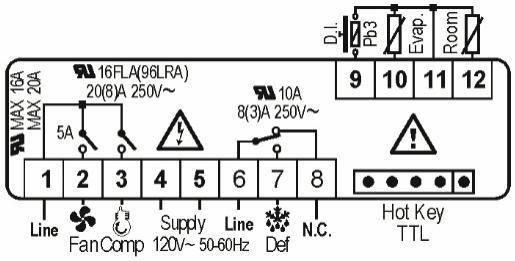

tC = 4 XR03CX/XR30CX med.temp time/ temp/alarm




tC = 5 XR04CX/XR40C




tC = 6 XR06CX/XR60CX low temp time/ temp def./fan




tC = 7 XR60CX advanced

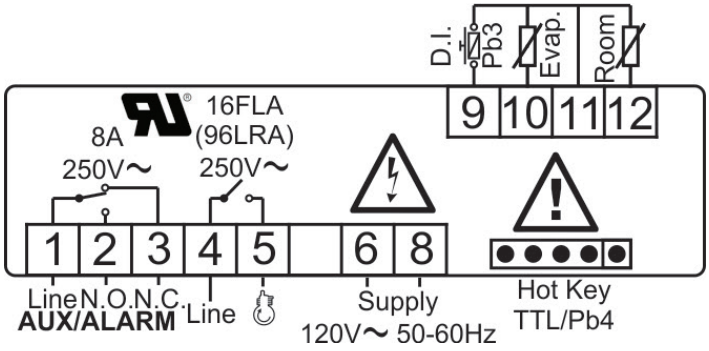
# Prime Controllers

The Dixell Prime Series confi¬gurable controllers provide digital solutions for both medium temperature and low temperature refrigeration units. Depending on the model the installer can adjust through the parameter menu such fi¬elds as set point, differential, short cycle protection, energy savings temperature differential, digital input con¬figuration, fan cycling plus alarm levels and delays. Included TTL Modbus communications via Hot Key port.

## Low temp refrigeration

Comp/Def/Fan

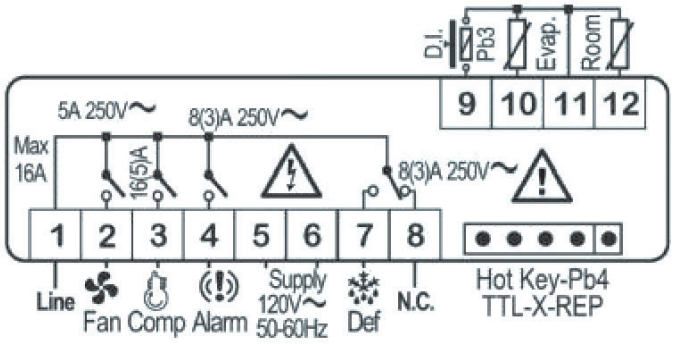

XR30CX




## Low temp refrigeration

Comp/Def/Fan/Alarm


XR70CX



# XW Walk-In

The Dixell XW controls for walk-in Refrigeration replace the functions of mechanical thermostats, defrost time clocks, fan controls and alarms, in a compact unit that display' s the temperature and equipment status in an easy to read LED Display. Fully configurable to meet all Medium and Low temperature applications, the XW Series Controls are UL and NSF listed and operate with line voltage power (120 V ac or 230V ac) and large internal relays (16A) to ensure a long and reliable operation.

The serial communication enables the XW controls to connect to XWEB Monitoring Systems and other open systems using ModBus-R TU. Multiple temperature and Digital Inputs and up to four relay outputs allows the XW Controls to meet various refrigeration applications including:

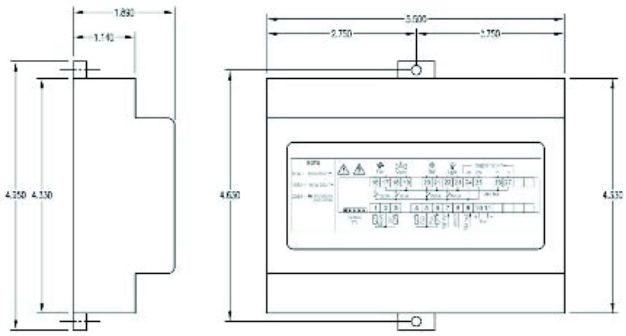
- Liquid line solenoid control
- On-Demand defrosts (electric and hot gas)
- Evaporator fans
- Dirty condenser alarm
- Hi & low temp & door alarms
- Light control with auto-off feature
- Kit includes control and display, enclosure, door switch, 2 probes, 2 hot keys(for medium and low temp)

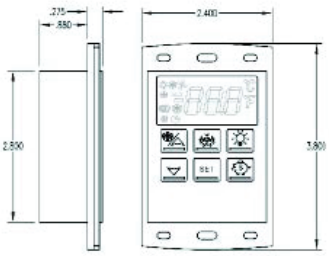
## Specifications

| | |
|---|---|
| Power | 120V/230V ac 50/60hz |
| Output | 16FLA /96LRA |
| | 2 x 16 A |
| | 1 x 10 A |
| Inputs | NTC / PTC |
| Range | -40/230 |
| Display | 3 Digits |
| Icons | 8 |
| Panel mount | 32 x 74mm |
| Connections | Probe screw terminals |
| Mounting (dimensions) | 10 DIN |
| Outputs | 1/4" fast-on |
| KeyPad | J-Box mount/IP65 |
| Communications | TT L Modbus |
| Approvals | c UL us NSF |

## Medium Low Temp Refrigeration for Walk-ins Comp / Def/ Fan/ Light

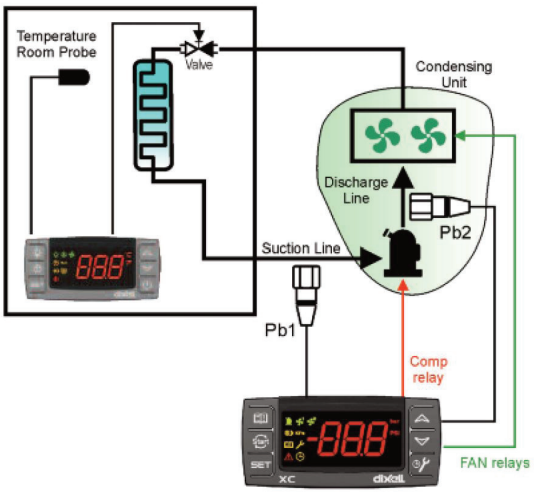
**XW60K**



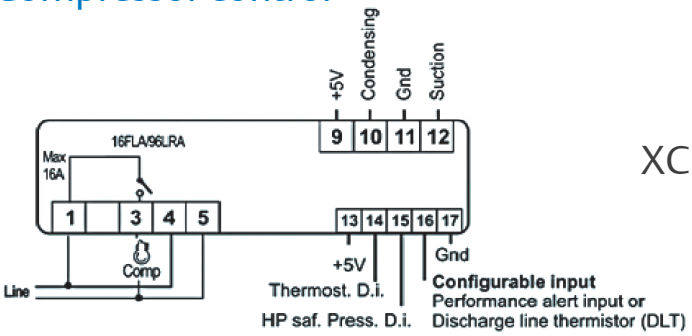


# XC Condenser Controls

The Dixell XC10 & 30CX Controls replace old Mechanical Pressure Switches that are inaccurate, diffi¬cult and time consuming to set up. The XC Controls can directly control a compressor and up to 2 fans (XC30CX model).It is possible to control the pressure values of the suction and discharging lines by using a new low cost ratio-metric pressure sensor input. With the addition of a ¬fixed Pressure Switch you can Shut down (and save) the compressor on High Pressure Alarm conditions. The XC30CX will also Control up to two Condenser fans, rotating them for equal run times. A Service Menu records information on Starts, Run Times, Manual Starts, and Alarms.

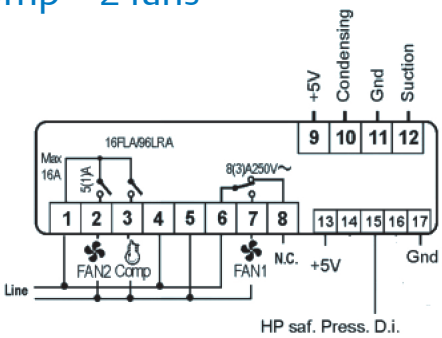



## Compressor control




XC10CX


## Comp + 2 fans




XC30CX


| | XC10CX | XC30CX |
|---|---|---|
| Circuits | 1 | 1 |
| Compressors | 1 | 1 |
| Fans | 0 | 1-2 |
| PSI sensor | 1 | 2 |

# XC Rack Controls

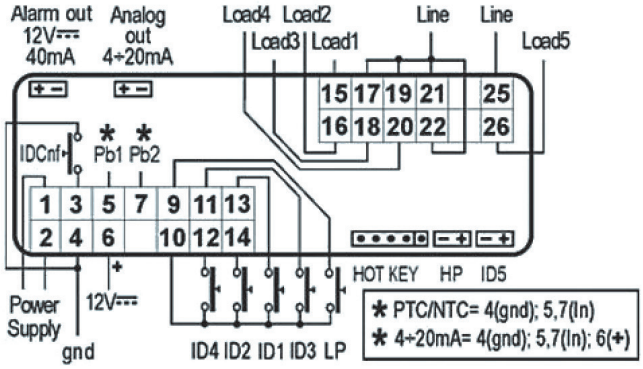
Dixell offers a f ull line of Compressor Rack Controllers for systems of all sizes. Project specifications may include working with multiple stages, compressors of differing power, condenser fans, digital scroll management, proportional band or dead band adjustments.

Options on certain models can include alarm relay and analog outputs. Tell us about your next project.

| | XC650CX | XC645D | XC1015D |
|---|---|---|---|
| Circuits | 1 | 1 | 2 |
| Compressors | 2-5 | 2-5 | 2-15 |
| Digital scroll | no | yes | opt. |
| Fans | 1-3 | 1-3 | 1-15 |
| Unloaders | yes | yes | yes |

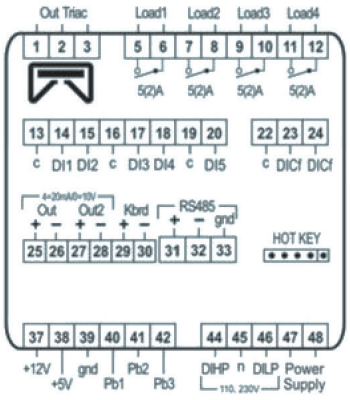
## XC650CX Mini rack

Up to 5 comps and/or fans

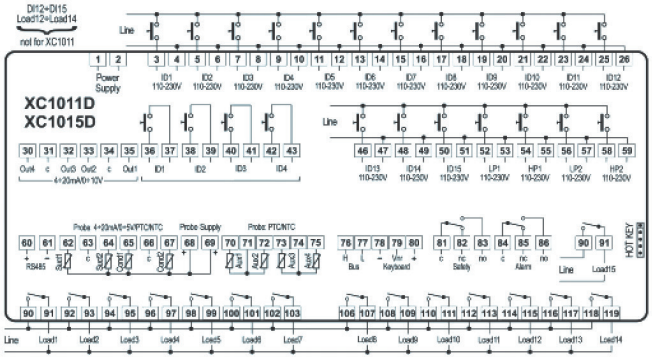

## XC645D

1 Digitalscroll + up to 4 comps and/or fans




## XC1015D

Advanced Rack Control - 15 Relays outs + 4 Analogs outs

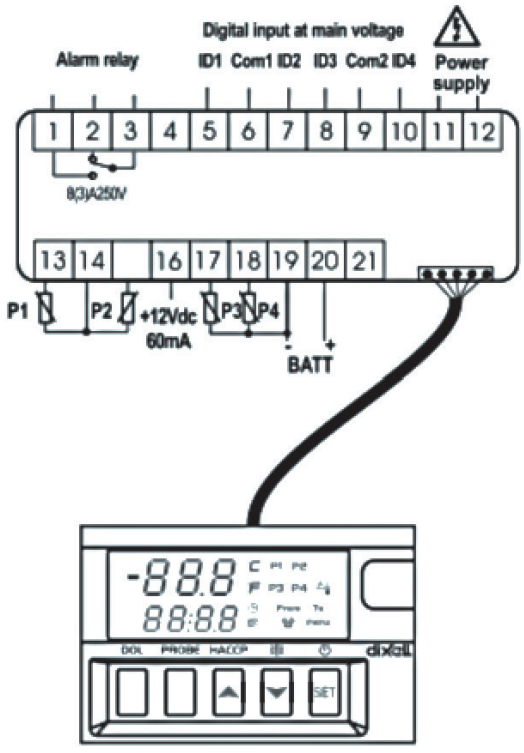


# XJDL Data Logger

Record up to 4 temperatures every 15 minutes and store up to 1 Year with the XJDL Digital data logger. Operators can take the guesswork and human error out of HACCP recording. Record up to 4 temperatures and 4 events, such as door openings or defrost cycles on a single unit. Data transfer to a PC with ease using a standard USB drive to a .TXT file that can be uploaded to Excel. Dated security prohibits tampering. A built-in dry contact relay can be used for audible or visual alarms, phone dialer, BMS or security system interface.

- (4) 8 ft. NTC probes included – 40/230°F&C
- Record every 15 minutes and store for up to 1 year
- Download .TXT file to USB key/upload to any PC & Excel®
- Hi & Low alarm setpoints with dry contacts SPDT
- 4 door switch inputs
- 24V Plug-in transformer
- Wall mounting enclosure

Optional - XH10P Humidity probe

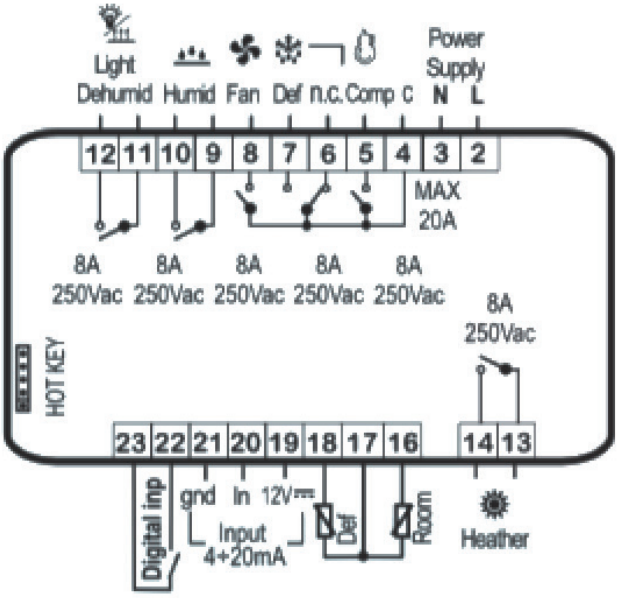



| DATE | PB1(F) | PB2(F) | PB3(F) | PB4(F) |
|---|---|---|---|---|
| 12/12/2008 15.00 | 36 | 37 | -5 | -2 |
| 12/12/2008 15.15 | 32 | 36 | -2 | -1 |
| 12/12/2008 15.30 | 34 | 35 | -1 | 0 |
| 12/12/2008 15.45 | 37 | 38 | -3 | 2 |
| 12/12/2008 16.00 | 39 | 38 | -4 | 4 |
| 12/12/2008 16.15 | 40 | 39 | -5 | 5 |
| 12/12/2008 16.30 | 41 | 40 | -4 | 3 |
| 12/12/2008 16.45 | 42 | 40 | -2 | 0 |
| 12/12/2008 17.00 | 42 | 41 | -1 | 0 |
| 12/12/2008 17.15 | 43 | 41 | 0 | -2 |
| 12/12/2008 17.30 | 44 | 39 | 2 | -4 |
| 12/12/2008 17.45 | 44 | 39 | 4 | -5 |
| 12/12/2008 18.00 | 41 | 37 | -1 | -2 |
| 12/12/2008 18.15 | 36 | 37 | -3 | -1 |
| 12/12/2008 18.30 | 32 | 36 | -5 | 0 |
| 12/12/2008 18.45 | 34 | 38 | -3 | 2 |

# XH260V - Temperature and Humidity Control

The XH260V allows you to control temperature and humidity in one dual display control. With up to two temperature probes and one humidity probed the XH260V can manage heating, cooling, humidification and de-humidification. The Dual display shows the actual temperature and humidity as well as 14 function icons that indicate the status of the application. Perfect for wine storage or specific refrigeration needs like pastry or meat aging.The two temperature probes are for control and defrost. The unit accepts a 4...20mA humidity probe such as the XH10P (+/-5% @ 30-90%RH) or XH20P (+/- 3% @ 0-99%RH).

| | | |
|---|---|---|
| Power | : | 24Vac 10VA |
| Inputs | : | 2 x NTC Temp. probes |
| | : | 1 x 4...20mA %RH probe |
| | : | 1 x Digital input |
| Outputs | : | 6 x 8A Relays |
| | : | Comp. |
| | : | Fan |
| | : | Def |
| | : | Heater |
| | : | Humidification |
| | : | De-humidification/light |

# XH55P - Anti-Sweat Controller

The XH55P is an Energy Saving anti-sweat controller that can manage anti-sweat heaters on walk-in coolers and freezers by using internal temperature and humidity sensors to calculate dew point, the best way to regulate glass door condensation. The internal 16A relay can control from 6 to 10 glass doors*, controlling either a door heater or door frame heater with our Dew Point PWM calculation.

The XH55P features a fine tuning adjustment knob to work the “Dew Point Edge” to save energy and allows for seasonal adjustments.

The XH55P mounts in the ambient space convenient to the heater connections away from A/C discharge or return ducts. An optional outboard “Solid State Relay” (SSR–25A) kit is available for loads greater than 16A or dual temperature (Medium temp & Low Temp) applications. There is a standard analog output of 0/10V & an optional remote sensor input for advanced control. Can be used as a stand-alone controller or connected to an XWEB System via MOD-BUS.

* Typical amp draw on a 10 Med. Temp doors or 6 Low Temp door heaters, your exact amp draw may be different.


XH55P

## Applications include control of

- Walk-in coolers & freezers
- Glass doors
- Temperature and humidity monitoring
- Energy saving

## SSR-Kit

SSR Box


Solid state relay - 25A

# XWeb 300D/500D

**Xweb500 internet control & monitoring for HACCP and energy savings**

The Dixell XWEB300D is a web server that is connected to Dixell probe acquisition modules and/or Dixell digital controllers for a distributed control system. Devices connect via an RS485 network or Wireless options. The data collected from the HVAC/R systems can be viewed and remotely controlled online. Additionally, the Dixell XWEB allows for SMS alarms to be sent in the event an alarm is triggered via email.

Two features found in the Dixell XWEB500D are the scheduler and layout view. The scheduling feature allows for the devices to be set into energy savings mode or turned off at a preprogrammed time. The layout view offers the customer the option to incorporate a fl¬oor plan of the facility with the locations of the equipment showing their operating conditions.

The Dixell XWEB300D and XWEB500D do not require any additional software and there are no fees associated with using the monitoring/controlling web site. Scalable and economical, the XWEB System can manage Energy usage, collect and store important Food Safety data.

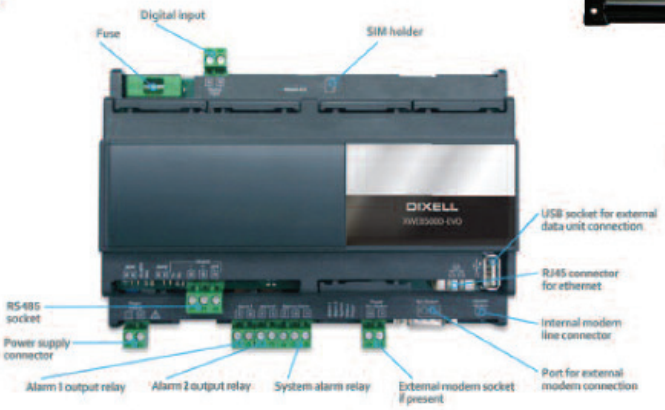
## Applications for food safety and energy saving:

- Schools
- Food warehouses
- Institutional food service
- C-Stores
- Hotel kitchens
- Food process
- Restaurants
- Supermarkets

XJM60D Multi I/O & Play module
- Lighting
- Temp & Door alarms

iCool900 Wireless
120Vac/5Vdc

XWeb500-EVO
Connect to the Internet




XJR40D Relay module
- Lighting
- Security

Thermostat
- 2 Heat
- 2 Cool
- Heatpump

XJR60D Monitoring module
- Temperature/HACCP
- Pressure

XW60K
Walk-In

XR70CX
Refrigeration controller
- Reach-in's

# XJR40D - On/Off Module

The XJR40D is a network module that can manage up to 4 lighting zones. It features four on/off keys and LED indicators on the front. Each output can be controlled with 4 corresponding digital inputs such as a remote switch or occupancy and light sensors for sunrise/sunset operation. In addition, the XJR40D is connected to an XWEB LAN and receives on/o signals from the Scheduler Function via the RS485 Serial connection. 24/7/365 control is easily set up with the XWEB scheduler in order to reduce energy. The unit transfers the data to an XWEB over a RS485 Network.

The serial communication enables the XJP40D to connect to XWEB Monitoring Systems and other open systems using ModBus-RTU.


## Applications include control of:

- 4 zones of lighting
- Sprinkler systems
- Occupancy/security
- On/Off of loads via scheduler

# XJP60D - I/O Module

The XJP60D is a network module that can accept up to 6 NTC Temperature inputs or 4...20mA and 0/10V analog inputs from Pressure, Humidity or other inputs. The unit transfers the data to an XWEB over a RS485 Network. The serial communication enables the XJP60D to connect to XWEB Monitoring Systems and other open systems using ModBus-RTU.

The unit includes 3 Digital Inputs typically used for Door Alarms using a magnetic door switch, or a CT to monitor other events. Alarm setpoints with delays can be assigned to each probe.


## Applications include monitoring of:

- Walk-in coolers and freezers
- Reach-in's
- Food warming cabinets
- A/C and outdoor temps
- Pressure and humidity
- Level or flow (with any 4...20mA or 0/10V output)

18NB – NTC

XH10P

PP11

## Probe options:

- 18NB–NTC –1.5m : 1/4" x1/8" Nickle Plated Brass 5Ft.
- XH10P : 4... 20mA output 10–90% RH
- PP11–7 to160 psi
- PP30 0 to 435 psi
- Any probe with 4...20mA output

# XJM60D - Advanced Monitoring

The XJM60D-KIT is a Multi Input module that can accept up to 6x NTC, PTC, PT1000, and up to 3x4...20mA, 0/10V, 0/5V , as well as Pulse and 12 Digital inputs. In addition the XJM60D has 4 x 5A relay outputs and one 4...20mA analog output (tied to the fi¬rst input), and is housed in a 4 DIN platform with a dual display plus 14 status Icons on the LED readout. The XJM60D is XWEB/ModBus Compatible allowing you to monitor multiple items on one unit, or multiple units with on board RS-485 connection. The four relays can manage Lights/Temperature and Door Alarms/or other on/o requirements via either Digital Input commands, manual keyboard or XWEB remote commands.

## Monitor:

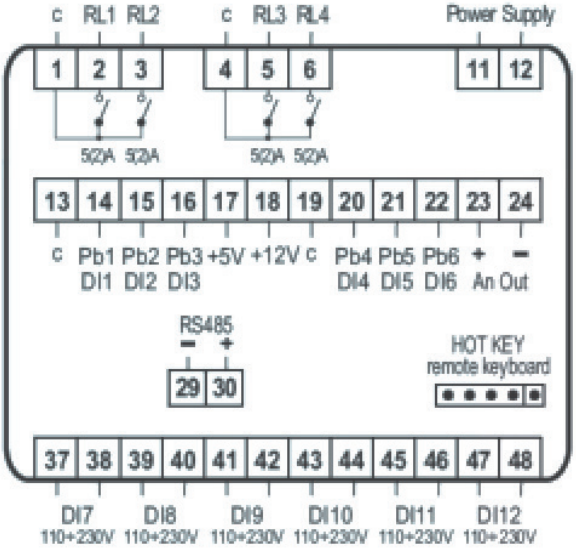
- 6 Temperatures (ntc/ptc/PT1000)
- 3 Pressures/%RH/or 0/5V, 0/10V , 4...20mA
- Up to 6 + 6 (low and line voltage)
  Digital inputs for:
  Door switches/leak detectors/defrost detection/fan loss detection w/ CT switches, Panic Alarms, etc.
- 2 Pulse inputs (Electric, Gas, Water meters)

## Control:

- Relay outputs (4x5A relays): Lighting, sprinklers, appliances, alarms, on/off remotely etc.

## Connect:

- ModBus RS485

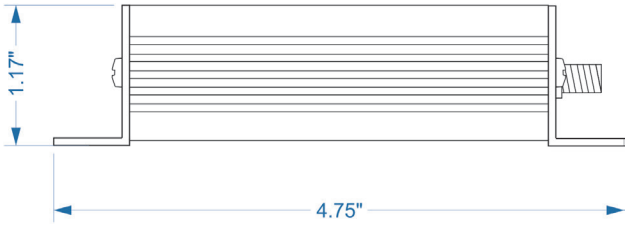


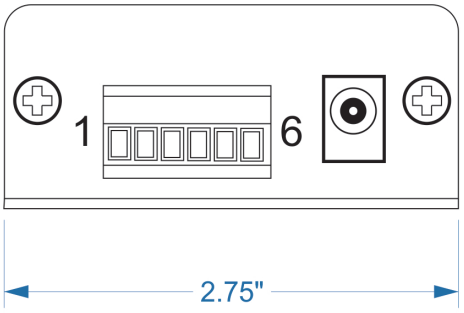
# iCool 900 - Wireless System

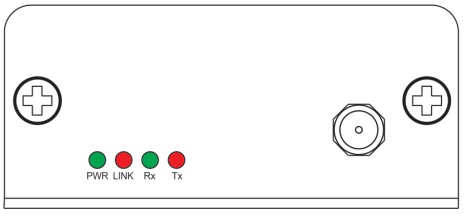
The iCool900 is a full 1 watt/900 Mhz RF radio, that uses hopping frequency technology to self find the most reliable path between senders and the receiver . The units are line voltage powered so you do not have to worry about changing batteries. The XWeb compatable monitoring system includes an RS-485 Test Program to ensure reliability .

If you need to go between buildings be sure to add an outdoor antenna and coax cable to reach the antenna.

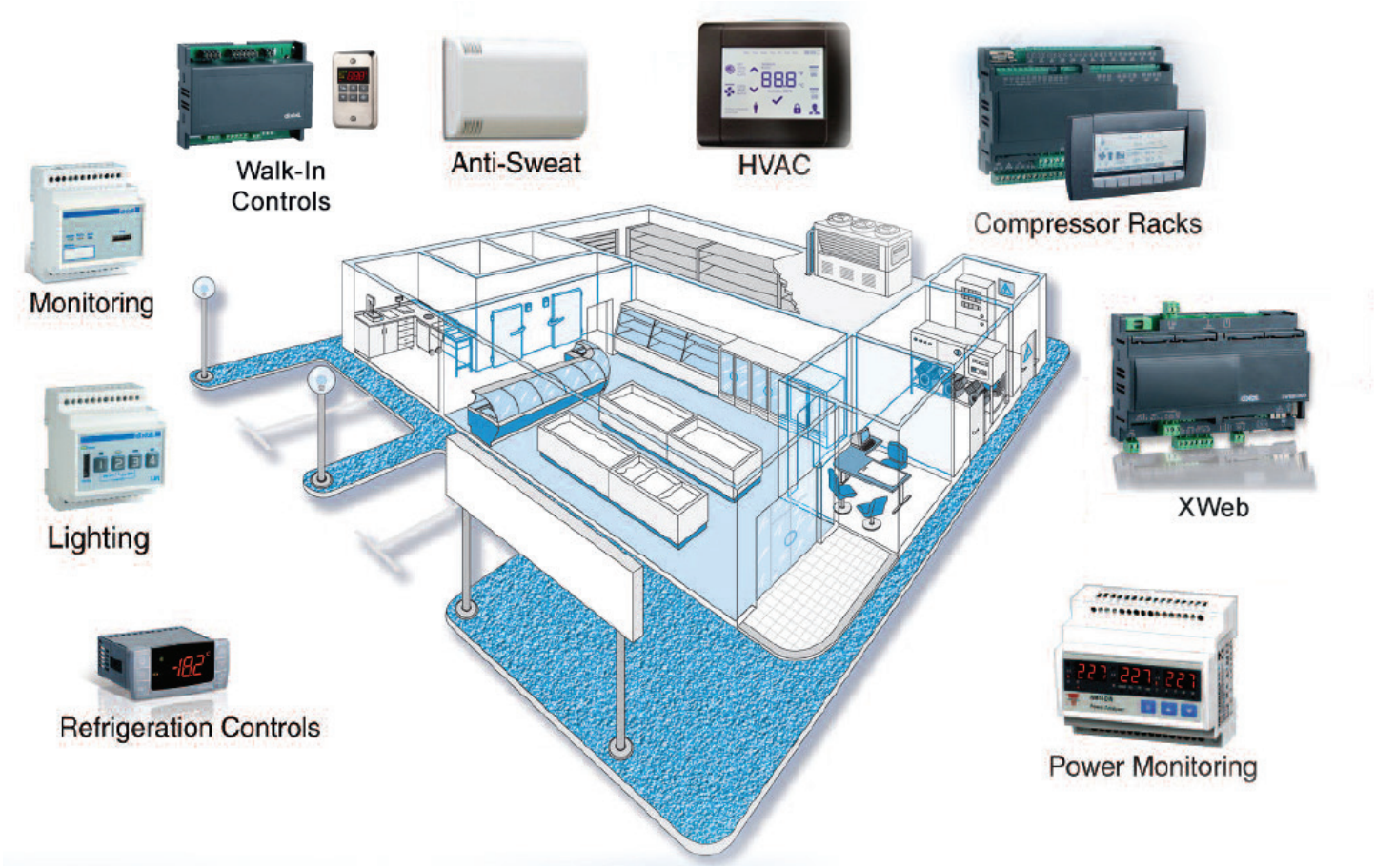
| | |
|---|---|
| Dimensions | 4.4 x 2.7 x 1.4 in.<br>(111 x 69 x 36mm) |
| Weight | 6 oz. (170g) |
| Interface | Serial RS485 screw terminals |
| Data rate | Up to 115.2 Kbps |
| Output power | 1000mW |
| Transmission range | Up to 1500 Ft. (450 m) indoors<br>Up tp 20miles (32 km) with outdoor antannae |
| Power supply included | 6 Ft. cable, 100-240VAC<br>50/60Hz power connector plug in cULus listed<br>Power draw (@ 12V dc) 400mA TX, 40mA RX |
| Environmental conditions | Operating temp. -40° to 80°C, 10 to 90% humidity<br>(non-operating |

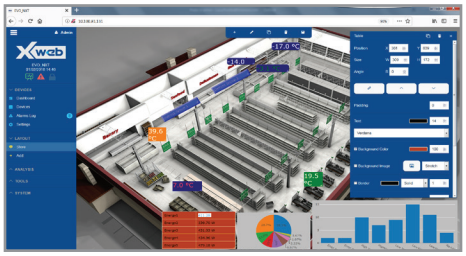



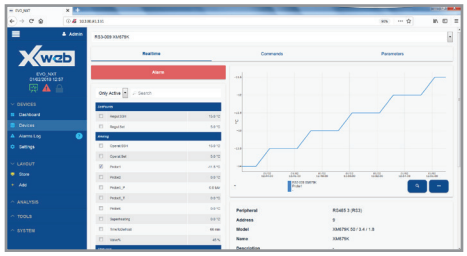



# XWeb



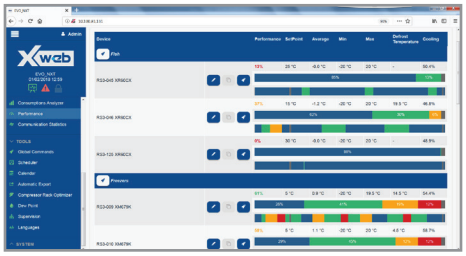



Layout



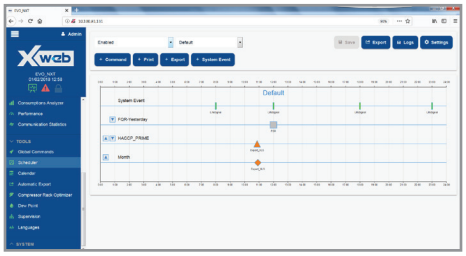
Device view

Charts



Performance meter

Dashboard



Scheduler PC tablet

# 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

# Probes

Nickel plated brass

Standard 10K Ohm NTC Thermistor -40/230°F -- 1.8" x ¼" molded/potted probe

501-7076 18NB NTC 1.5 Meters
501-7071 18NB NTC 2.5 Meters
501-7058 18NB NTC 4.5 Meters
501-7077 18NB NTC 6.0 Meters

Stainless steel

SST 3.0" x ¼" Molded / Potted Probe

30SS-NTC-x.xM Lengths noted above, max length 300ft. -- *Other lengths, NP T Fittings and Thermo-wells available .

Emerson Probe P/N's

Pipe mount condenser molded probe

201-3001 PMT6-67-1.5M
201-3000 NT6-67-3.0M
201-3004 N6F2 1.5M, XT11S
318-9216 XH10P 30-90%RH +/-5% 4-20mA
318-9217 XH20P 0-99%RH +/- 3% 4-20mA
202-2451 PP11
202-2459 PP30
202-2453 PPR15
202-2454 PPR30
202-2455 0-150 PSI Transducer +/-1.5% 0/5V
202-2456 0-500 PSI Transducer +/-1.5% 0/5V
302-1016 1/4" x1/4" Male NPT Fitting
302-1020 1/4"x1/2" Male NPT Fitting

Wall mount°6RH Sensor

XH10P 30-90%RH +/- 5% 4...20mA
XH20P 0-99%RH +/- 3% 4...20mA

Pressure transducer

PP1 1 0-160psi +/- 1% 4....20mA
PP30 0-435psi +/- 1% 4....20mA
7/16"- 20 male

PPR1 5 0-218psi +/- 1.2% 0/5V
PPR3 0 0-435psi +/- 1.2% 0/5V
7/16"- 20 female

W528-15 0 0-150psi +/- 1.5% 0/5V
W528-50 0 0-500psi +/- 1.5% 0/5V
7/16"- 20 female

019-0001 1/4" Compression fitting for Stainless Steel Bulb

019-0002 1/2" Compression tting for Stainless Steel Bulb

Emerson.com



Information Sources: 1. Convenience Store Market Intelligence Report, Technomic, Inc, February 12, 2014; 2. CSD's 2014 Food-service Study, John Lofstock, Convenience Store Decisions and Joshua Tahan, Study Hall Research, February 19, 2014; 3. C-stores Raise the Bar on Convenience Foods, Kelly Hansel, Institute of Food Technologies, January 2012.

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