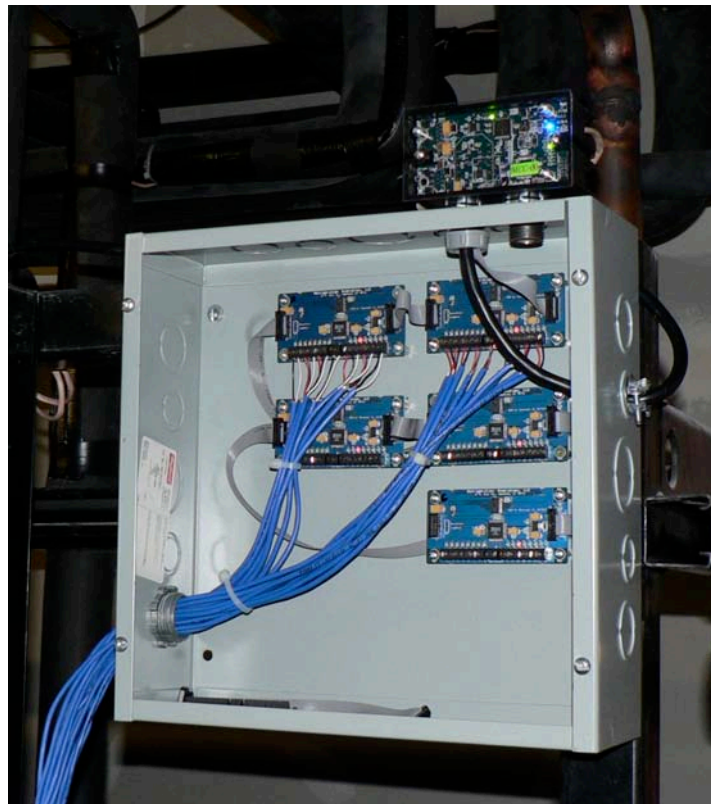


WiDAQ TECHNICAL MANUAL

Before installing contact support or the warranty could be voided



Products designed and manufactured in the USA

Technical support 8-5 pst 530.666.3020

After hours 916.390.1250

or online

ridotcom.com

WiDAQ 360

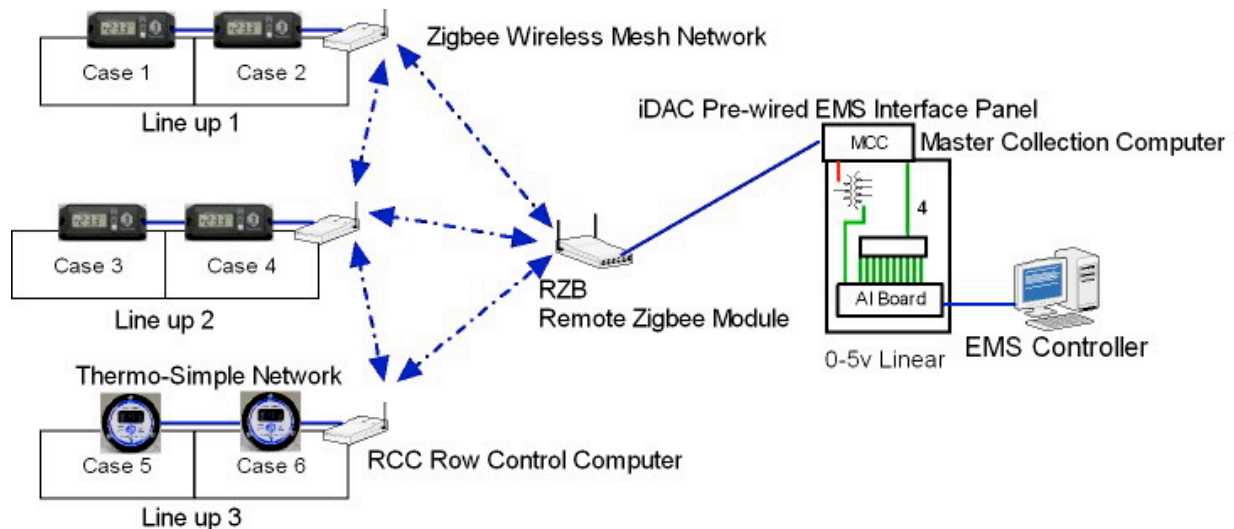
WiDAQ

The WiDAQ wireless mesh network data acquisition system is designed to provide the Industry's first reliable wireless data network. The WiDAQ enables reliable temperature monitoring with no wires from equipment to the controller or other monitoring system. The universal interface allows quick and easy installation regardless of the monitoring equipment. The WiDAQ is an intelligent data collection and distribution system utilizing ZigBee wireless technology and an advanced digital communication system with virtually unlimited scalability.

General info

If your first thought of wireless temperature monitoring brings chills to your spine, we have great news. We have spent years in the field working with the very equipment, you learned the hard way, does not work. Refrigeration Innovation's WiDAQ Wireless Data Acquisition system is guaranteed to work, does not use batteries and eliminates the need for line of sight. It is, quite simply, "wireless that works".

The diagram featured below illustrates the mesh network advantage, courtesy of the industry's most advanced wireless technology, ZigBee.



Components

The main component is the iDAC panel which consists of a single MCC (Master Collection Computer), RZB (Remote ZigBee Module) and DAC16 boards for providing the universal monitoring interface. The DAC16 boards can provide simple 0-5Vdc outputs for EMS AI boards and/or simple digital signals for many other uses. The

MCC communicates with a “family” or network of RCC (Row Control Computer) wireless nodes which control and communicate to wired sensors on a case lineup such as the Thermo-Simple 1 or 2, analog sensors and our newest product the Sensor Tap (Digital temp sensor with no visual display or alert). See our product manual for detailed descriptions of these products. Each RCC is capable of controlling up to 20 Thermo-Simple devices and 16 analog sensors of varying types, when accompanied with the AIM (analog input module), and up to 80 Sensor Tap based temperature sensors per lineup, (digital sensor only models).

The “Spinal Tap” cable system eliminates field installed connectors reducing time, money and error. See spinal tap cable detail in following pages for more information.

Cost Reduction

With the WiDAQ system, wire is eliminated between any lineup and the machine room. Device addressing is as simple as pushing a few buttons to trigger an LED indicator for the point the device is assigned to, making commissioning fast, easy and accurate. Compare the Sensor Tap solution against standard analog probe wiring and the difference is staggering. A 30-60% typical system cost reduction can be achieved. The digital temperature sensor has guaranteed accuracy in the specified range and cannot provide false temperatures, as is common with analog thermistors.

Reliability

Some will argue that wireless is less reliable than wired for temperature control applications. You be the judge. The WiDAQ knows every RCC, Thermo-Simple device or Sensor Tap registered with the system. If an RCC does not respond the registered points of the devices associated with that RCC are all flagged to 90°F. If an individual device on a lineup is lost, its registered point is flagged to 80°F, (with the exception of hot case devices). This creates a high temperature alarm and will cause the EMS to maintain refrigeration to the case. With a wired analog system, a sensor must be open or shorted to maintain refrigeration. The more common occurrence with thermistors is a random temperature usually far below what is really being sensed. The monitoring device has no way to know what is accurate or not, significantly reducing reliability. Our digital sensor data is verified with error checking codes from the sensor and cannot deliver incorrect temperatures.

Example:

Walk in cooler [A] is using an analog probe to monitor temperature and runs great at -5°F.

Monday morning, Walk in cooler [A] analog probe fails due to a crimped wire and reads -15.

Temperature is satisfied and refrigeration is off. By late Monday the real temperature is +25°F. Tuesday morning the employees find the cooler is not working and all product is lost, (-\$30,000).

Walk in cooler [B] is using a Thermo-Simple 2 with the WiDAQ network and is running great at -5°F.

Monday the wireless link between the Thermo-Simple 2 and the WiDAQ is lost. Within five minutes the monitoring controller submits a high temperature alert of +90°F. The manager has an employee check the Thermo-Simple 2 and finds the device is still blue and reading -5°F. A call for service is placed for the error, but no product is lost because refrigeration is maintained and the Thermo-Simple continues to operate indicating the condition of the box to the employees. The manager knows his product is safe and service to repair the problem has been scheduled.

Flexibility

The WiDAQ enables protection for any situation, even without a monitoring controller. The WiDAQ can light up a strobe light, sound a buzzer, be connected to a voice auto-dialer or show alerts on an attractive wall mounted floor plan wirelessly (EZ-View).

Availability

Contact us today for a quote. Small systems can be supplied within a few days, with larger systems requiring 3 weeks.

Specifications

Power	Range	Communication
Input 120-240v AC	350' - 1000' Non Line of sight	Zigbee Wireless Mesh Network
Output 5v-40vDC (5v standard)	The more devices the farther the range	Ethernet/IP and LON coming soon

Network layout

The family begins with the MCC. The MCC is the parent of up to 6 Child RCCs. Each Child RCC can have up to 6 Children extendable up to 5 layers deep. Network layout should be chosen carefully for optimum performance. The first six RCCs associated to the master should be placed in a medium radius around the Master's Remote ZigBee Module (RZB). This is the small black box with the antenna. This is attached to the MCC with a Cat3 cable with modular phone jack connectors. The RZB module can be placed up to 3000 feet away from the Master. Optimum location of the RZB would be on the ceiling above the majority of the RCCs but this may not be possible. Often the RZB is located on the wall outside the machine room facing the sales floor.

Association is accomplished by powering up each of the first 6 RCCS individually with all other RCCs powered off one at a time while the MCC has power. The RCC is commissioned using the Service Switch on the face of the RCC, Service Switch Function 4. (Reference the WiDAQ Service Switch Function sheet).

Once the first six RCCs are associated and commissioned, additional RCC's can be connected and commissioned while the rest of the network is running. In places where distances will exceed 500' repeater nodes may be necessary. These nodes are commissioned in the same manner but have no Thermo-Simple units attached to them.

Installation

Non-Pre-wire system:

- 1) Install the iDAC panel and survey the distance between the panel and where the majority of the RCC's will be installed. If the panel is located in a remote room with more than 50' and walls the RZB can be located on the opposite end of the wall preferably facing the sales floor. The optimal location would be on the ceiling roughly close to the center of most RCCs but this may not be practical. It is possible to install the system and when fully operational make the decision to either keep the RZB in its current location or move it based upon the levels of RCC signal strength and frequency signal strength is indicated on the RCCs. For stable operation during power fluctuations, it is mandatory to connect the iDAC/MCC power to a "UPS" battery backup device.
- 2) Install the Thermo-Simple devices or Sensor Taps in cases as needed unless units have been pre-installed by the case manufacturer.
Survey the floor plan and locate your first six RCC devices in a radius pattern around the location of the MCC

RZB. If using the Spinal Tap cable system, (ST2), install the RCC on the top or backside of the case/cooler. If you have RCCs with the optional RZB remote antenna you may elect to install the RCC in the raceway and simply remote mount the RZB on the top or back of the case/cooler.

- 3) Connect the spinal tap cable from the RCC to the first Spinal Tap Connector, (ST2, used with the Thermo-Simple) or the Sensor Tap which directly connects to the spine cable. When using the ST2 the Thermo-Simple unit must be plugged into the connector marked with *Thermo Simple* on the ST2! Check for power to the Thermo-Simple or Sensor Tap. Sensor Tap will light a green LED indicating power. Repeat for as many devices are on the line up network.
- 4) Continue installing the RCC lineup networks as necessary using the precautions and considerations above.
- 5) To begin commissioning the Thermo-Simple devices, follow the commissioning procedure for each particular model. 1)Thermo-Simple 1 - Press and hold the M/L switch down, while pressing the F/C switch three times. Then let go of the M/L switch. The Red LED will flash rapidly and display the assigned address number. 2)Thermo-Simple 2 – Using a “Magik Wand” Trigger the Function switch twice, (Refer to the Thermo-Simple 2 Switch Function sheet) and wait for the Blue LED to flash rapidly. An address should be assigned by the RCC within a few seconds and will show on the unit display. Make a note of the address displayed on the unit for system mapping.
- 6) Move to the next Thermo-Simple device until all units have been provided an address by the RCC heading the lineup. Note the assigned Thermo-Simple unit addresses on the floor plan blueprints for use in assigning DAC points.
- 7) After at least the first six RCCs in the first tier radius have been installed with sensor units assigned with addresses you may choose to begin commissioning the wireless system. From the factory an uncommissioned RCC has the ZigBee radio node disabled and will not start communicating until it is commissioned. To commission an RCC, use the RI Magik wand to trigger the Service Switch on the faceplate of the RCC. You will need to refer to the RCC Service Switch Function sheet for the Service LED codes.
- 8) Trigger the Service Switch to select service function 4, the first green LED, wait until the Service LED starts blinking, (about 6 seconds), then trigger the Service Switch again to light the bottom red LED. After approximately six seconds the red LED will blink and the RCC will request commissioning from the wireless network. When the RCC is associated the green [WAN Association] LED will flash twice per second. Shortly after the WAN Association the RCC will be assigned an address from the Master and the red [Service] LED will blink once per second. The RCC’s assigned address will show on the Signal Strength LEDs and is determined by adding up the numbers next to the LEDs that are on. Make sure to look at the LEDs straight in front of the RCC faceplate to determine the LEDs that are lit. Note the RCC’s address on the floor plan blueprint at its location and label the RCC with its assigned address for future use. (The RCC address is used in DAC point assignments. It is also used if it becomes necessary to replace a malfunctioning RCC).
- 9) Power down the first RCC and move to the next RCC in the first six tier. Repeat the RCC wireless commissioning procedure outlined above for the other RCCs in the first tier. The sixth RCC will stay powered on after association to the MCC. You can now power up the previous 5 RCCs and leave them on. This first tier network should now be communicating and all six RCCs should be displaying signal strength indicators with packet transmission.

To assign a DAC16 point, you must wait 2-1/2 minutes after the last unit address has been assigned on an RCC lineup before any unit on that lineup can be assigned to a DAC point. This step is best performed by two people using a radio communication system for point assignment. One person will be on the sales floor triggering units to be registered to a DAC16 point with the other person at the Master verifying the point assignments with flashing LEDs at each new point. After 2-1/2 minutes trigger the Thermo-Simple address assignment switch combinations as in step 5 above. This will display the assigned TS unit address on the display and will now automatically assign the next available DAC16 point at the iDAC panel to that unit. The person at the iDAC panel can observe the new point as it is being registered and make the notation on his system point map. (Note: once a DAC16 point is assigned the LED next to that point will continue flashing at the brightest level for 2-1/2 minutes or until the Thermo-Simple unit registration flash has been cleared. This is done by triggering the F/C switch on the unit to clear the LED. It is recommended that the flash be cleared on the unit to reduce confusion with flashing LEDs at the iDAC panel. If a Thermo-Simple unit is in alarm at the case, when the point gets registered at the iDAC panel the LED next to the point will continue to flash at a medium level until the case reaches temperature.) Repeat this step for each sensor unit that is to be assigned to a system DAC point. Make a note on the Board and Point map of the RCC Address of the lineup,

the TS unit address of the point, the corresponding DAC16 board number and point number. To complete your map you will note the EMS Analog Input board number and point number that is wired to that DAC point. If you desire a completely plug and play system, your WiDAQ system can be associated, pre-commissioned and all points registered at the factory which allows installation to be as simple as unpack, install as shipped then power the system up. All networks come labeled with board and point maps already filled out. All boards are pre-wired and ready for 3-wire network connection to the EMS controller, with temperature transmission beginning within minutes of system start up.

The Pre-wired and Pre-Commissioned WiDAQ is plug and play with careful attention to installation directions. We are able to do this by using a final fixture floor plan to pre-configure the system in our state of the art facility. Every Thermo-Simple or Sensor Tap, each RCC and the iDAC panel are all commissioned, pre-wired, point-registered then carefully packed and shipped, fully labeled with the corresponding fixture floor plan.

Spinal Tap Cable and Connector System

The Spinal Tap cable and connector system eliminates field installed connectors and provides installers a true plug and play system when Thermo-Simple devices are supplied by the OEM case/cooler manufacturer. This system is used when wireless communication is desired and is incorporated into the WiDAQ wireless system as a standard option. All Thermo-Simple devices are shipped with the ST2 standard connector system. This connector system is available with options such as a dual temp relay built in, dry contact alarm output and remote DAC communication output.

Power Supply-
Either Transformer
or RCC
See specs

Network communication
requires an RCC and RI Spine Cable.
If not using network communication-
Cut the RJ45 connector and Connect
Brown to 5v ground and White Brown
to 5v positive.
Tape back all other unused wires.

Brown
White/Brown
Green
White/Blue
Blue
White/Green
Orange
White/Orange

T568B

Most RI cables use the TIA/EIA 568B Standard

RI Spine Cable
Call for pricing

Length	Part #
6'	5114-1-1
8'	5114-1-2
12'	5114-1-3
13'	5114-1-4
24'	5114-CUST

The Spinal Tap cable system eliminates field installed connectors reducing time and error. If you need to modify a cable simply follow the instructions included with this manual, Titled "How To Make A Cat5 Cable".
Cables are always in stock at RI and custom lengths are available up to 24' with no lead time.

Title: **Spinal Tap Cable System**

Author: Refrigeration Innovation

Date: 7.4.07 Sheet: 1

Revision: 0 phone 530.666.3020

RCC/MCC Technical Data

Supply voltage is 100v-240v single phase TS Network “spine” voltage is typically 5vdc however fall of 2008 may become a standard 12vdc “spine” voltage. Hardwire or standard 120v plug styles available.

EMS/BAS AI Point setup

Microthermo

1. Start at the “Refrigeration” “Main” Screen
2. Select “Configure” at the top of the screen
3. Choose “Sensor Models”
4. Look for “Refrigeration Innovation”, select if found, if not found proceed to the next step
5. Choose “+ADD”
6. Type “Refrigeration Innovation” in the “Manufacturers” section
7. Type “Thermo-Simple Wireless” next to “Model”
8. Under “Type”, “Physical” choose “Temperature”
9. “Electrical” choose “0-5v”
10. Select “Absolute” not “Differential”
11. “Time Constant” set as “0”
12. Under “Network” set “Max Time” at “00:00:30”
13. “Min Send Time” choose “00:00:03”
14. “Send on Delta” set to “0.7”
15. Under “Properties” set “Max Range” to “89.5”f
16. “Min Range” set to “-25.6”
17. “Max Offset” set to “2.3”
18. “Point 1 (Ref)” set to 4.0589 “at” set to “89.4898”f
19. “Point 2” set to “0”v “at” set to “-25.6”F
20. Review your settings and choose “OK”
21. See picture below

Microthermo Support (need to ask for technical support) 450.668.3033

MT Alliance

File Access Subsystem Mode View Events Reports Options Tools **Configure** Network Support Help

Customer...
Views...
Sensor Models...
Sensor Alarm Settings...
Alarm Relay Types...
Equipment Types...
Point Types...
Action Templates...
Software...
System Malfunction...
Subsystems...
Add-Ons...

Priority	Date/Time	Event Source	Event	Acknowledged by	At Date/Time	Subsystem

Refrigeration Main

Configure Sensor Models

Manufacturer	Model	Type	Min Range	Max Range
Platinum	RTD 100ohm -50..0C [NOT RECOMMEND...	Temperature (Absolute)	-58.0 °F	32.0 °F
Platinum	RTD 100ohm -50..150C [NOT REC...			
Refrigeration Innovation	Thermo-Simple Wireless			
RF Technologies inc.	PTX1-01 17.4 psig [4-20mA]			
Rochester Gauges	HM8443 100% (1-5V)			
Rochester Gauges	HM8443 100% (1-2V)			
Texas Instruments (TI)	67CP..150SN 150 psig (0.5-4.5V)			
Texas Instruments (TI)	67CP..500SV 500 psig (0.5-4.5V)			
Veris Industries	H8043-0800-4 Pwr 800 CT 208V (4-			
Veris Industries	H8043-1600-4 Pwr 1600 CT 208V (4-			
Veris Industries	H8043-0100-2 Pwr 100 CT 208V (4-			
Veris Industries	H8043-0300-2 Pwr 300 CT 208V (4-			
Veris Industries	H8043-0400-3 Pwr 400 CT 208V (4-			
Veris Industries	H8043-2400-4 Pwr 2400 CT 208V (4-			
Veris Industries	H8044-0100-2 Pwr 100 CT 480V (4-			
Veris Industries	H8044-0300-2 Pwr 300 CT 480V (4-			
Veris Industries	H8044-0400-3 Pwr 400 CT 480V (4-			
Veris Industries	H8044-0800-4 Pwr 800 CT 480V (4-			
Veris Industries	H8044-1600-4 Pwr 1600 CT 480V (4-			

Sensor Model - "Refrigeration Innovation Thermo-Simple Wireless"

Manufacturers: Refrigeration Innovation
Model: Thermo-Simple Wireless
Wireless: Can be Wireless

Diagram

Type
Physical: Temperature
Electrical: 0-5V
Absolute: Differential:
Ratiometric:
Time Constant: 0 s

Network
Max Send Time: 00:00:30
Min Send Time: 00:00:03
Send On Delta: 0.7 °F

Properties
Max Range: 89.5 °F
Min Range: -25.6 °F
Max Offset: ± 2.3 °F (0 to 20% of total range [Default: 2%])
Point 1 (Ref): 4.0589 V at 89.489 °F
Point 2: 0 V at -25.6 °F

OK Cancel

CPC E2 (Ultra-Site)

1. Go to AI physical input
2. Change input set up for each input
3. From Ultra-Site choose "Edit Application"
4. From Ultra-Site Change "Sensor Type" to "Linear"
5. Set "Eng Units" to "DF"
6. Go to "Scaling" tab
7. "Setup Method" change to "End Point"
8. "Low End Point" set to 0
9. "Low End Limit" set to "-.5"
10. "Low end EU" set to "-25.6"
11. "High End Point" set to "4.06"
12. "High End Limit" set to "6.5"
13. "High End EU" set to "89.49"
14. Click "O.K"
15. Be sure each dip switch (S1 and S2 switches located on Multiflex AI board) with a point wired to the DAC16 is set to "Off".

CPC Support (Need to ask for technical support) 770.425.2724

DAC16 Wiring (Non-Prewire systems)

If you are using a "Non-prewire" iDAC panel, follow these rules for wiring and grounding:

Make sure the iDAC panel is not powered on when wiring to the AI points. Recommend using 24 awg or higher single pair, unshielded, "Belden" type cable.

1. Wire each point from a DAC16 board, point for point with the AI board. Connect a single wire from the DAC16 point to the AI "Sig" Repeat this for each point being used
2. Connect 1 ground wire from the DAC16 ground to any of the "0v" points on the AI board. The AI board has a common ground reference so it doesn't matter which of the 16 points you choose.
3. Other controller setup documents are available at ridotcom.com or by calling:
Refrigeration Innovation technical support 530.666.3020

RCC/MCC Service switch functions

- 32) **BLUE LED**: [**RCC Only**]: Reset ZigBee Node. Disassociate Node from network and re-join network seeking same or new parent, notify Master of new join. [**MCC Only**]: Wi-DAQ Network-wide reset of all nodes on the network. Causes all nodes to disassociate from the PAN and then re-join seeking same or new parent. **WARNING! Use with caution!**

- 16) **GREEN LED**: [**RCC Only**]: Clear all TS unit assignments in memory. [**MCC Only**]: Clear all RCC Nodes and associated DAC-16 assignments from memory. **WARNING! Use with caution!**

- 8) **GREEN LED**: [**RCC Only**]: Swap missing RCC with this replacement RCC and attach missing RCC's associated DAC-16 points with this replacement RCC. [**MCC Only**]: Erase RCC and all associated DAC-16 points from WiDAQ Network. **WARNING! Use with caution!**

- 4) **GREEN LED**: Commission RCC Node on the WiDAQ Network, [**Master must be running**]

- 2) **YELLOW LED**: Auto Discover TS Units attached to the local spine TS Network.

- 1) **RED LED**: [**RCC only**]: Display the recorded Address of this RCC.
 - A) Press the Service Switch as many times as needed to select any of the above functions as long as the Service LED is on solid. The LEDs will light one at a time and cycle from Red to Blue to no LED. Stop on the LED of the Function that you wish to perform. If you do not want to perform a Service Function then press the switch until no LED is lit.

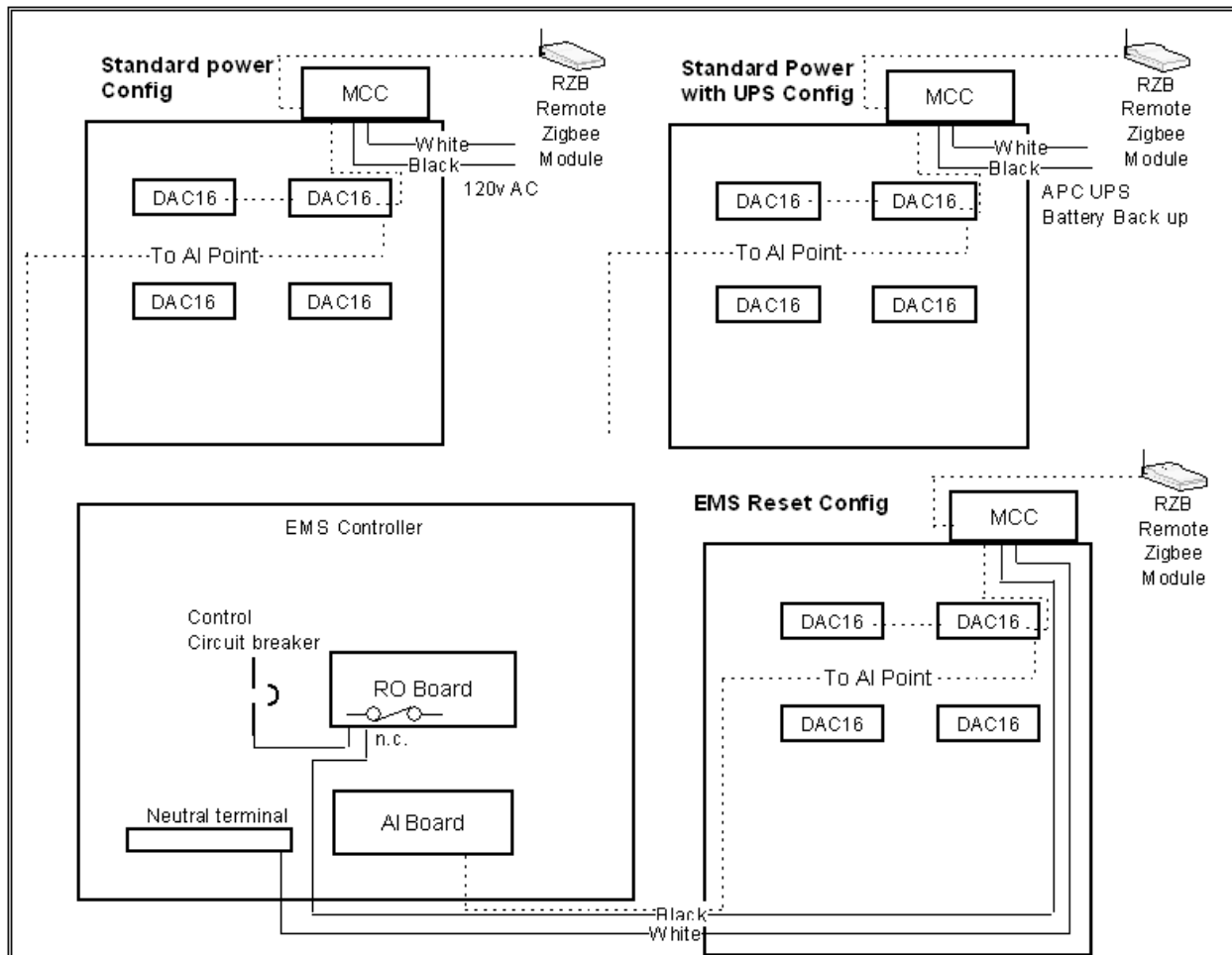
 - B) Once you have selected a Service Function wait for the Service LED to start blinking, approximately 6 seconds. When the Service LED is blinking press the Service Switch as many times as needed to select the options for that Function. The Option LED will start blinking now. Most Functions will only light the Red LED or no LED. Choose no LED if you do not wish to execute that Function. Wait for the Function Option LED(s) to stop blinking to execute that Function. For the Swap or Delete Function press the switch until the Option LEDs light the Address of the RCC desired. The RCC Address is determined by adding up the numbers next to the lit LEDs on the front panel.



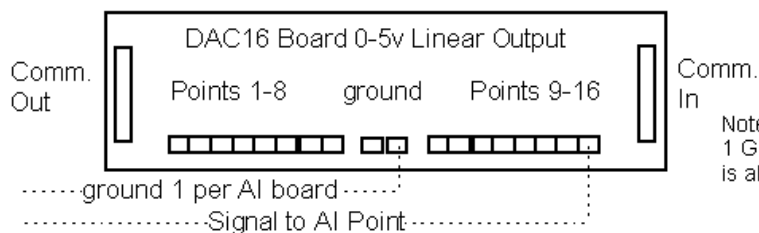
RCC/MCC	On	Off
Power	Solid Light	No Power
TS Net Transmit	Intermittent Flash, Data Transmitted	Not Communicating
TS Net Receive	Intermittent Flash, Data Received	Not Communicating
TS Net Error	Inconsistent flash ok, consistently on bad	No Error
Association	Constant flash associated, solid on no association	Not Powered or non op.
LON/Zigbee Error	Inconsistent flash ok, always on problem	No Error
LON/Zigbee Transmit	Intermittent Flash, Data Transmitted	Not Communicating
LON/Zigbee Receive	Intermittent Flash, Data Received	Not Communicating
Signal Strength	Communicating, level of strength = number of LEDs on	Not Communicating
Service	Various Function Requests and TS Alarms	

See Installation Detail for more information and use of the above diagram.

Title: RCC/MCC Detail	
Author: Refrigeration Innovation	
Date: 3.6.08	Sheet: 1
Revision: 2	



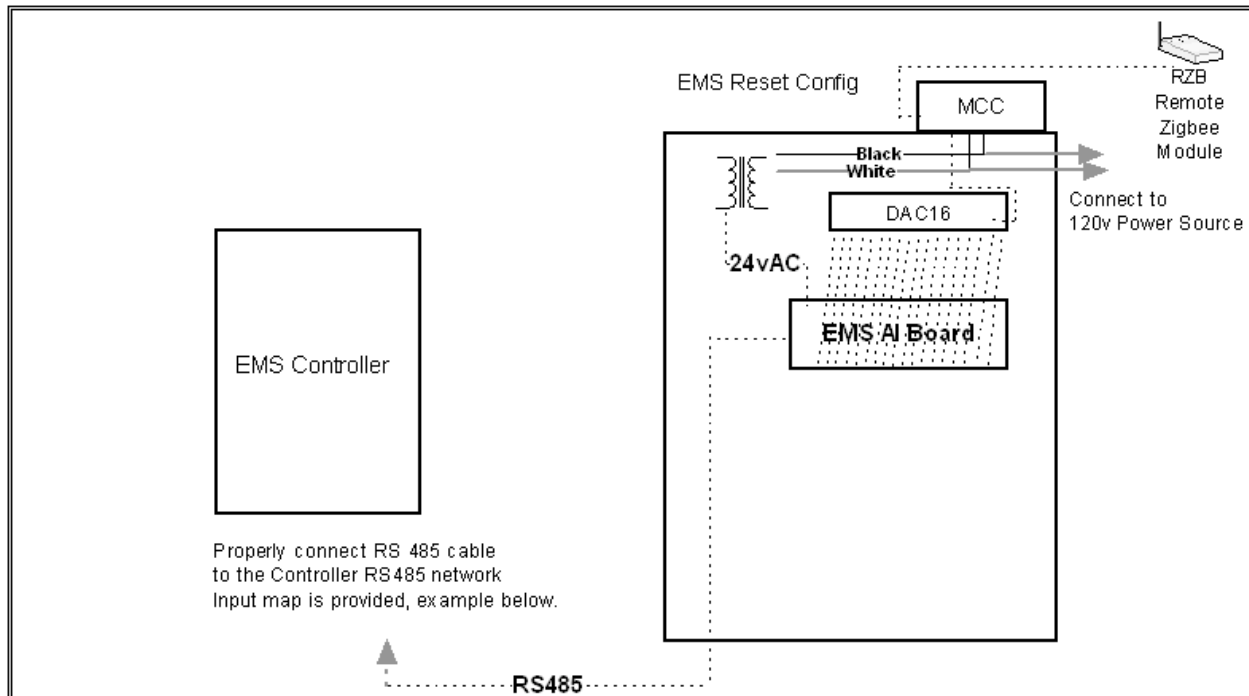
Note: iDAC panels are sent with a 120v Power cord and socket plug. If flex conduit is required, simply order with the number of feet of conduit needed and the amount of wire. For example: 10' flex conduit and 20' power wire, blk and white.



Note: Most AI boards use common ground. 1 Ground wire from DAC16 to each AI board is all that is needed, and is non point specific.

Each DAC16 output has a red LED. When a Thermo-Simple is commissioned it will flash on the point it is assigned. Write the case and or system info under name for the point it is assigned to. Then set up the point in the EMS controller with this name. The DAC 16 output should be set up as a 0-5v linear sensor type with *f. Use the End point method with settings below
 0v = -25.6
 4.06v = +89.49
 Each Controller Manufacturer is different, the above works well with CPC, Danfoss and Microthermo. Control requires an offset and gain. Call RI to get the set up info before installation.

Title: iDAC Panel Wiring Configurations Non Prewired AI	
Author: Refrigeration Innovation	
Date: 7.6.07	Sheet: 1
Revision: 0	



Input Assignment Map Provided

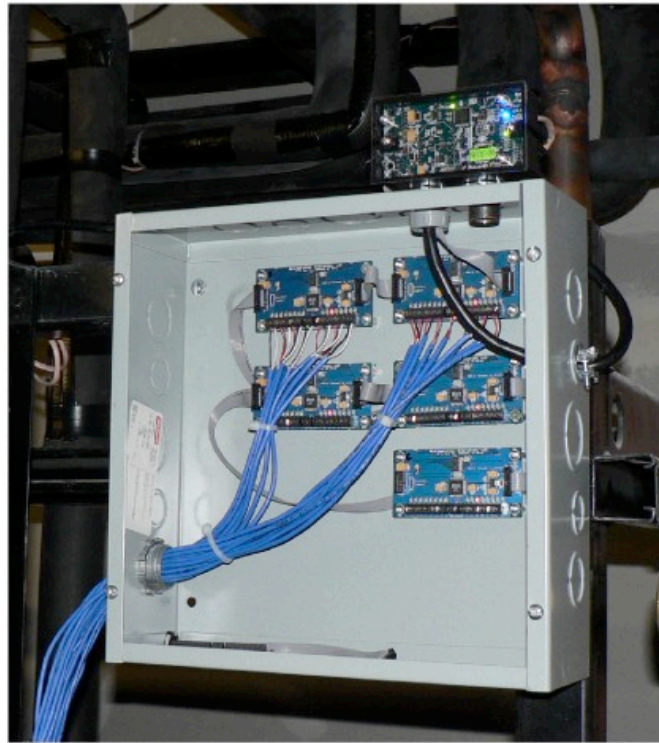
AI Board	DAC16 Board	AI Point	DAC16 Point	NAME
1	1	16	16	
1	1	15	15	
1	1	14	14	
1	1	13	13	
1	1	12	12	
1	1	11	11	
1	1	10	10	

Note: iDAC panels are sent with a 120v Power cord and socket plug.
 If flex conduit is required, simply order with the number of feet of conduit needed and the amount of wire. For example: 10' flex conduit and 20' power wire, blk and white.

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Each Controller Manufacturer is different, the above works well with CPC, Danfoss and Microthermo. Control requires an offset and gain. Call RI to get the set up info before installation.

Title: iDAC Panel Wiring Configurations Prewired AI	
Author: Refrigeration Innovation	
Date: 7.6.07	Sheet: 1
Revision: 0	



Title: IDAC Panel Non AI Prewire	
Author: Refrigeration Innovation	
Date: 7.6.07	Sheet: 1
Revision: 0	

Trouble Shooting (This is going to become more helpful over time, call 530.666.3020 if you are experiencing problems)

Temperatures flatlined at +90. Check the status of the RCC, is the power light on? Is the association LED blinking?

If both are yes, unplug the RCC and wait 5 seconds then reconnect. After the RCC association LED begins flashing check the temperatures again, are they back online? If not call 530.666.3020

Temperatures are flatlined at +80. Locate the Thermo-Simple devices for the points and check the arrow in and out found on the left hand upper and lower of the Thermo-Simple 2 display. If the Thermo-Simple devices are off, find the connections and correct. If they are on, and you see an arrow in but not out, then the Thermo-Simple 2 device needs to be replaced. Always disconnect the cable to the RCC and reconnect to verify a good connection when more than 1 Thermo-Simple 2 is reading 80. Call 530.666.3020 for support

RCC will not power and correct power is verified to be at receptacle. Remove the TS network cable. Remove the screws from that side of the RCC (opposite the power connection). Carefully slide out the faceplate and check the power connection and wires inside the RCC housing. Correct problem if obvious. If not obvious contact 530.666.3020

Warranty

Refrigeration Innovation products are backed by a two year warranty against manufacturers defects. Detailed warranty info available online. Warranty requests are handled directly by RI and can be done over the phone by calling 530.666.3020.

Please contact us for technical support before making a warranty replacement request. Most problems can be repaired with a call to support while a technician is onsite. If a replacement part is needed it will be mailed with the required service (ground, NDA etc) and a return label will be supplied for the part being replaced. Any unreturned part will be billed in full.

Other Information

Tyler tylerrefrigeration.com 800.992.3744

Hussmann hussmann.com 314.291.2000

Hill Phoenix hillphoenix.com 800.283.1109

Kysor Warren kysorwarren.com 800.866.5596

CPC cpcus.com 770.425.2724

Microthermo microthermo.com 450.668.3033