



KE2 Evap Advanced Configuration

Multi-Evap Single Condenser Applications

IMPORTANT:

Please note, the configurations found in this publication are for illustration purposes only. For recommended sensor location please refer to bulletin Q.1.3 KE2 Evaporator Efficiency Installation Manual.

The KE2 Evaporator Efficiency's distributed structure has been carefully designed to facilitate the creation of custom systems while eliminating expensive overhead of unnecessary functionality. This provides an affordable solution to any project. The KE2 Evap can be applied to the most simple single evaporator system, or to larger applications with up to 8 evaporators attached to the same condenser.

When applied to larger systems, the distributed structure KE2 Evap controllers may be combined to fit the system needs through the Refrigeration Network. KE2 Therm Solution's products use Transmission Control Protocol/Internet Protocol (TCP/

IP), the future of communication technology, to provide seamless performance. Traditional refrigeration communication techniques use outdated technology, preventing the information exchange necessary for proper system control.

The use of communication provides built-in system redundancy. When networked, sensor readings are shared with all bonded controllers throughout the network, creating a system with maximum uptime.

Below are examples of how KE2 Evap controllers can be connected to create a Refrigeration Network.

Additional resources:

KE2 Evaporator Efficiency Installation Manual - Q.1.3 Step by step instructions on installing and setting up the KE2 Evap

KE2 Evaporator Efficiency Installation Instructions - N.1.1 Provides better understanding of controller's operation.

KE2 MasterView Setup - N.5.1 Setup KE2 Evap using a computer.

KE2 Switch - Q.5.2 Explains the functioning of the Switch and provides basic configuration of router with controller.

KE2 Establishing Gmail - Q.5.3 Steps to setup an e-mail account that can later be used to receive notifications from the controller.

KE2 SmartGate - Q.5.24, Q.5.25, B.5.2 bulletins cover the configuration, VPN setup and general information on the KE2 SmartGate.

Legend:



KE2 Evaporator Efficiency

p/n 20178



KE2 SmartGate

p/n 20695



KE2 Switch

p/n 20166



Coil/Air Temperature Sensor

NTC Thermistor assembly - 40 ft p/n 20200



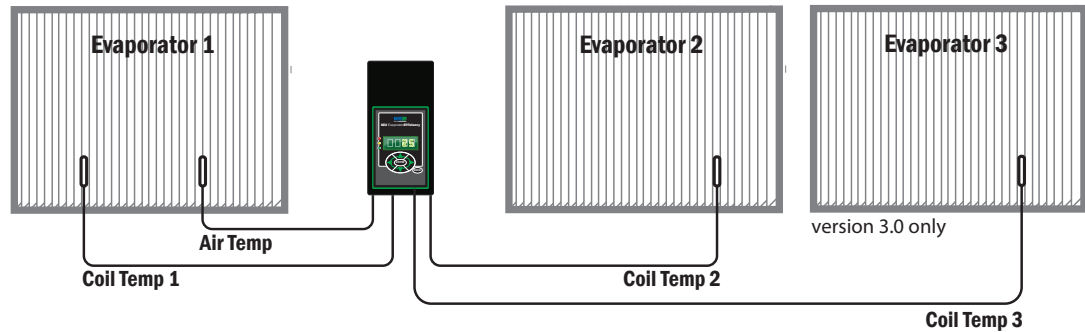
CAT5e Shielded Ethernet Cable

50 ft. with connectors p/n 20185

100 ft. with connectors p/n 21067

1000 ft. bulk box - solid p/n 21087

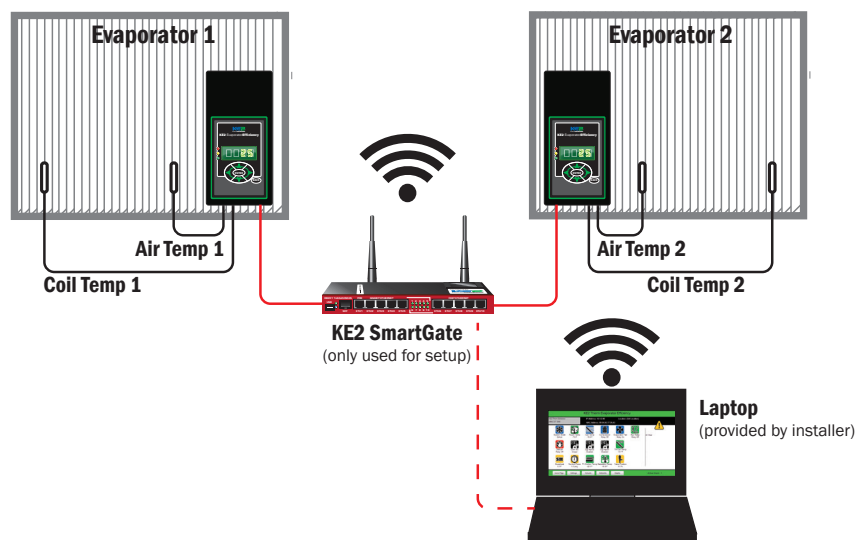
Medium temperature with even loading



Low temperature or larger medium temperature

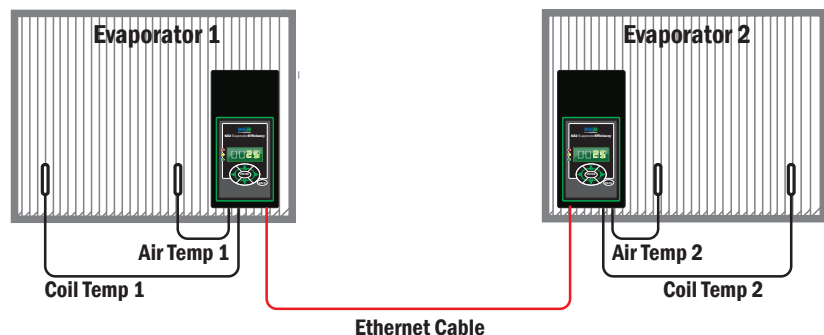
- Two directly linked controllers - No external communication

Setup



Once the controllers have been bonded, the router can be removed. The controllers will now operate as configured in setpoints.

Operation

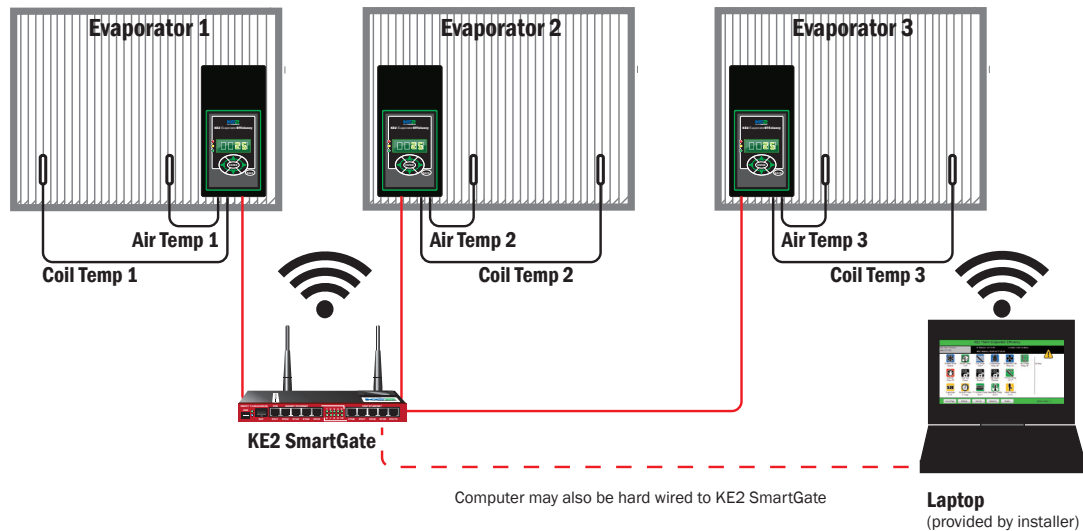




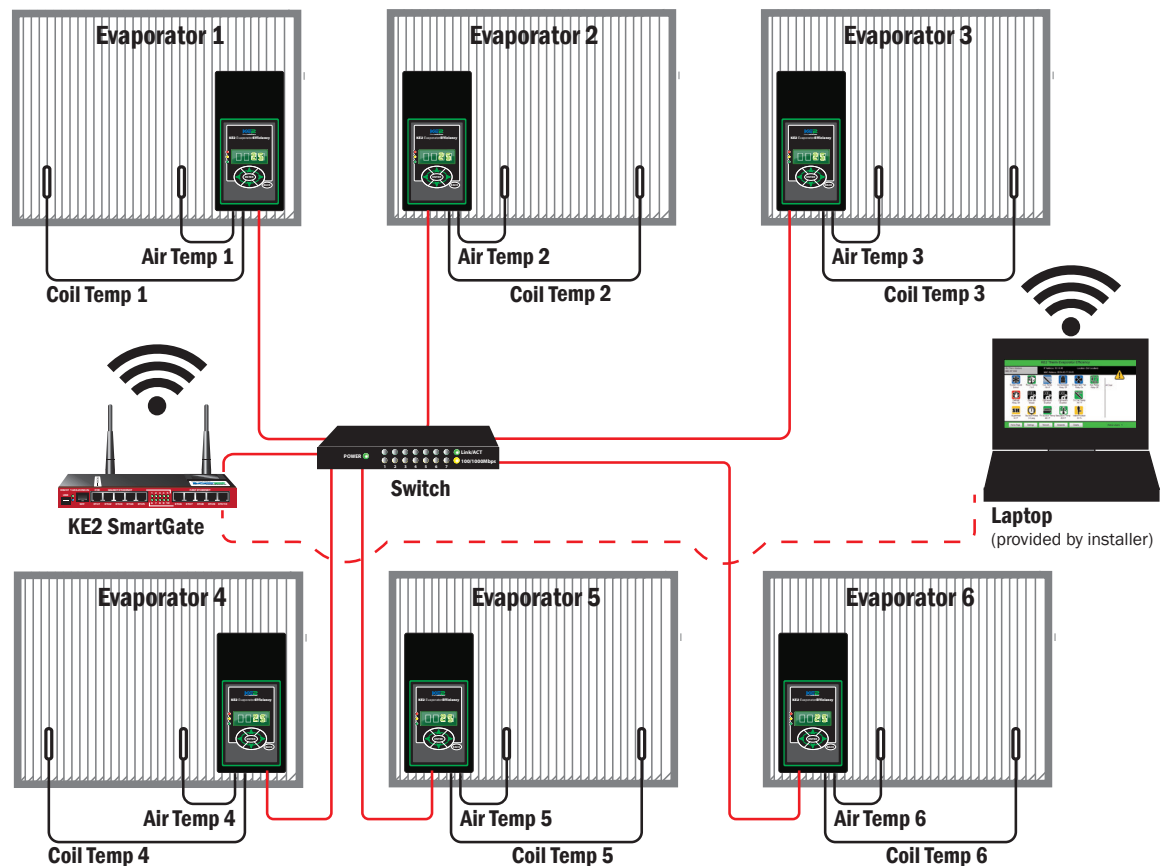
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■ Controlling systems with 3 or 4 KE2 Evap controllers on a single condenser



■ Controlling system with 4 to 8 KE2 Evap controllers





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Networking KE2 Evaporator Efficiency Controllers for two evaporator, one condenser setup.

Connect your KE2 Evap controllers to a KE2 SmartGate (SKU 20695) and connect your computer either wirelessly or using a wired connection (to ports 2-10)

1 Open a browser window (e.g. Internet Explorer or Google Chrome). Type the IP address of one of the controllers into the browser address field, (the IP address can be found on a sticker on the inside of the controller). You should see a screen similar to the one at right.

2 When the screen is loaded, click **Network** at the bottom of the screen.

3 Log into the controller by clicking the **Login** button in the lower right corner.

4a Prior to Version 3.3: A password prompt will appear, enter "2222" for the password.

4b Version 3.3: User Name and Password prompt will appear, enter "ke2admin" for both.

5 Then click **Submit**, or press **Enter** (Return) on your keyboard.



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- 6** On the Network Setup Screen, Click **Discover**

- 7** The IP address of the other controller(s) will populate under **Controller 2 - 8**.

- 8** From the **Bond State** dropdown select **Group 1** to bond the controller.

- 9** Click the **Save/Group** button to view the controllers to be Bonded. Controllers with a blank Bond State field will be deleted from the list.

- 10** Then click the **Bond/Unbond** button. The controllers will cycle power. They are now networked.

- 11** Next you will want to ensure the controllers are in synchronous mode for a two evaporator, one condenser setup. At the bottom of the screen, click on the **Home Page** button,

- 12** then select **Setpoints**.



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13 To put the controllers in **Multi Evap Cool Mode**, find the Bonded Controller section of the page,

14 click the drop down arrow at **Multi Evap Cool Mode** and select **Synchronized**. This will cause the controllers to go into cooling mode at the same time.

Multi Evap Defrost will either make all the bonded controllers go into defrost at the same time (Synchronized) or limit the system to only one evaporator at a time (Independent).

Multi Evap Sensor tells the controller whether or not to share sensor information. For example, if the controllers are "Shared" and one controller was to lose its air temperature sensor, then it could continue running using the temperature read by the other bonded controllers. This should be the default mode. If the controllers are located in different spaces, therefore controlling at different temperatures, then "Independent" mode should be selected. If a controller loses a sensor, the controller will continue to run based the default safety mode for the current alarm.

15 Next, find the Refrigeration section of the page.

16 Select the type of **Multi Air Tmp Ctrl** (Warmest or Average air). This tells the controller which method to use to control the temperature.

17 Click **Save**

18 then click **Home Page**.

19 The second controller and subsequent controllers must be configured to match the "Multi" settings of the first controller. This is accomplished by **entering the IP address of the second controller in the browser**, and navigating to the **Setpoints** page and completing steps 14 - 17.

NOTE: Make sure you **Login** before making changes, and then click **Save** after changing any settings on each page before navigating away from that page, otherwise your settings will not take effect.

Your bonded KE2 Evaporator Efficiency controllers will now be operating in Synchronized mode. You can view the current operating status for each controller by connecting to the router and navigating to the IP address of each.