KE2 Temp + Defrost (pn 20611)
General Product Information

Introduction

The KE2 Temp + Defrost controller is designed to simplify refrigeration controls by combining the functions of a thermostat and defrost timeclock. The KE2 Temp eliminates complexity, by increasing functionality and reducing unnecessary wiring.

The KE2 Temp's robust design provides versatility for a wide range of medium and low temperature applications. When applied to medium temperature applications of 37°F and higher, the built-in defrost clock may be used to perform time-initiated and time-terminated defrost cycles.

In low temperature applications, the KE2 Temp provides an easy-to-understand thermostat that eliminates end user frustration with the overly complicated options available today. The KE2 Temp has been thoughtfully setup to provide the best system operation and an intuitive user interface, and the battery powered real-time clock won't lose time during a power outage.

The controller's single-pole-double-throw relay controls the refrigeration and defrost cycles.

Applications

Walk-in

Under Counter

Wine Cabinet

Commercial

Features

- Thermostat
- Off time defrost on schedule or custom defrost
- Compressor protection - Maximum starts per hour
- Manual defrost
- 1st defrost 2 hrs after start up
- Visual Alarming - High temp/Low temp/Sensor

Service Call Saver - Post Defrost Indicator

To eliminate unnecessary/unwarranted service calls, the KE2 Temp + Defrost alerts the user when it is coming out of a defrost cycle using the onboard display. The display alternates between dEF and the actual temperature measured by the air sensor. This continues until the temperature has reached setpoint, or for the amount of time set by dFt (Defrost Time) whichever is shorter.

Hardware

- Relay for solenoid / compressor
- 3 digit 7-segment display
- 4-button user interface
- Modbus terminals

The **space temperature sensor** is supplied with a 45 inch lead, and functions to control the space temperature of the room.

Communications

The KE2 Temp includes RS-485 Modbus communication.

Specifications

Controller

Input Voltage:	120V / 208-240V
Storage Temp:	-13° to 120°F (-25° to 49°C)
Operating Temp:	-40° to 120°F (-40° to 49°C)
Display:	3 digit 7-segment LED
IP Rating:	IP65
Input:	1 temp. sensor (Replacement SKU 20199)

Outputs: (1) Relay Single Pole Double Throw		Normally Open		Normally Closed	
		120V	**240V**	**120V**	**240V**
	FLA	30A	30A	N/A	10A
	LRA	98A	80A	20A	20A
	Resistive	N/A	30A	N/A	30A
	Horsepower	1 hp	2 hp	1/4 hp	1/2 hp
	Pilot Duty	800VA	720VA	290VA	360VA

Communication:	RS-485 (Modbus)

Temperature Sensor

Sensor Specs:	-60° to 150°F (-51°C to 66°C) moisture resistant package

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Programming the Controller

Indicator lights 🔴 **Red light** - Not used
🟡 **Yellow light** - non-critical alarm (system running)
🟢 **Green light** - compressor on
🟢🟢 **Green flashing** - compressor waiting on timer to start/stop

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KE2 Temp

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🟢

BACK ⬆⬇ ENTER

└Hold for manual defrost┘

- Access Setpoint mode by pressing and holding the ENTER button until tS (temperature setpoint) displays on the screen
- Use the ⬆ up and ⬇ down arrows to scroll through the available setpoints.
- Press ENTER to view the current setting.
- Use the ⬆ up and ⬇ to change the setpoint
  Press ENTER to move between the digits to accelerate the changes.
- Press ENTER and hold to confirm each setpoint change
- Press BACK to escape.

Setpoint	Description	Minimum	Default	Maximum
tS	Temperature Setpoint	-50°F	35°F	100°F
diF	Differential	1°	2°	30°***
CSH	Maximum Compressor Starts/Hour	5 (Off)*	6	10
dPd	Defrost Per Day	0	6	12, CUS**
dFt	Defrost Time	0 min	15 min	720 min
HAO	High Alarm Offset	1°	5°	10°
LAO	Low Alarm Offset	1°	3°	10°
tAd	Temp Alarm Delay	1 min	90 min	180 min
Adr	Mod Bus Address	1	1	247
Unt	Units for temp display	FAH	FAH	CEL

*Selecting fewer than 5 compressor starts per hour results in the starts per hour feature being turned off. The compressor will then function on temperature only. ** Selecting CUS (custom) unlocks additional Setpoints. See Q.1.20 for details.***Maximum 10° on versions 1.7 and before.
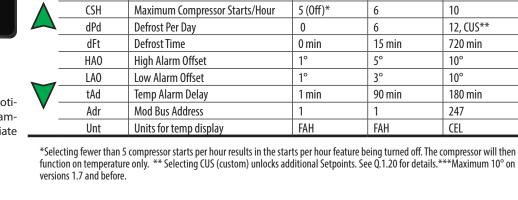
Alarm Codes

When the KE2 Temp is in alarm, it notifies the user by illuminating the amber LED, and displays the appropriate Alarm Code:

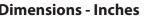SSA – Shorted Sensor Alarm
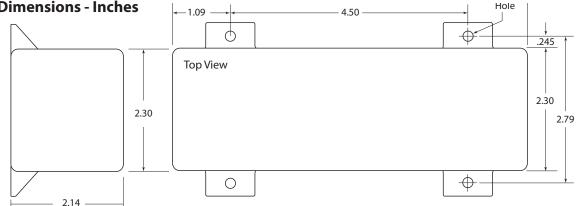OSA – Open Sensor Alarm
HtA – High Temperature Alarm
LtA – Low Temperature Alarm

Dimensions - Inches

| ← 1.09 → | ← 4.50 → | Hole |

Top View

2.30

2.30
2.79

.245

2.14