



KE2 Temp + Valve Controller User Guide

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KE2 Temp + Valve Controller



This reference should remain on site with the installed KE2 Temp + Valve controller.

KE2 Temp+Valve Control

For Temp. Air Defrost, and Electronic Valve Control Condensed Quick Start Guide KIT PN 21301



What's in the KE2 Temp + Valve kit, pn 21301



- **A** (1) KE2 Temp + Valve controller (pn21393 – controller only)
- **B** (1) 10' pressure transducer
- **C** (1) temperature sensor – 45"
- **D** (1) temperature sensor – 10'
- **E** (4) self-tapping mounting screws
- **F** (1) sensor ziptie
- **G** (1) screwdriver
- **H** (2) screws for high voltage shield

Supplies List

Truck stock items are required to install the controller:

- conduit between the controller & evaporator
- (2) conduit connectors (straight or elbow as required)
- (4) high voltage wires (matched to LLS/compressor contactor & the controller load)
- wire labeling (numbers colors etc)
- additional wire ties
- 18 gauge twisted shielded pair (if extending sensor wires)
- Cat5e (if adding communication)
- foam insulation (if running wires outside the space)
- silicone (for sealing any box penetrations)

Complete Instructions

Please visit:

<http://ke2therm.com/product/ke2-temp-valve-control/>

scroll down the page and click

Link to Literature

— OR —

use this QR code.

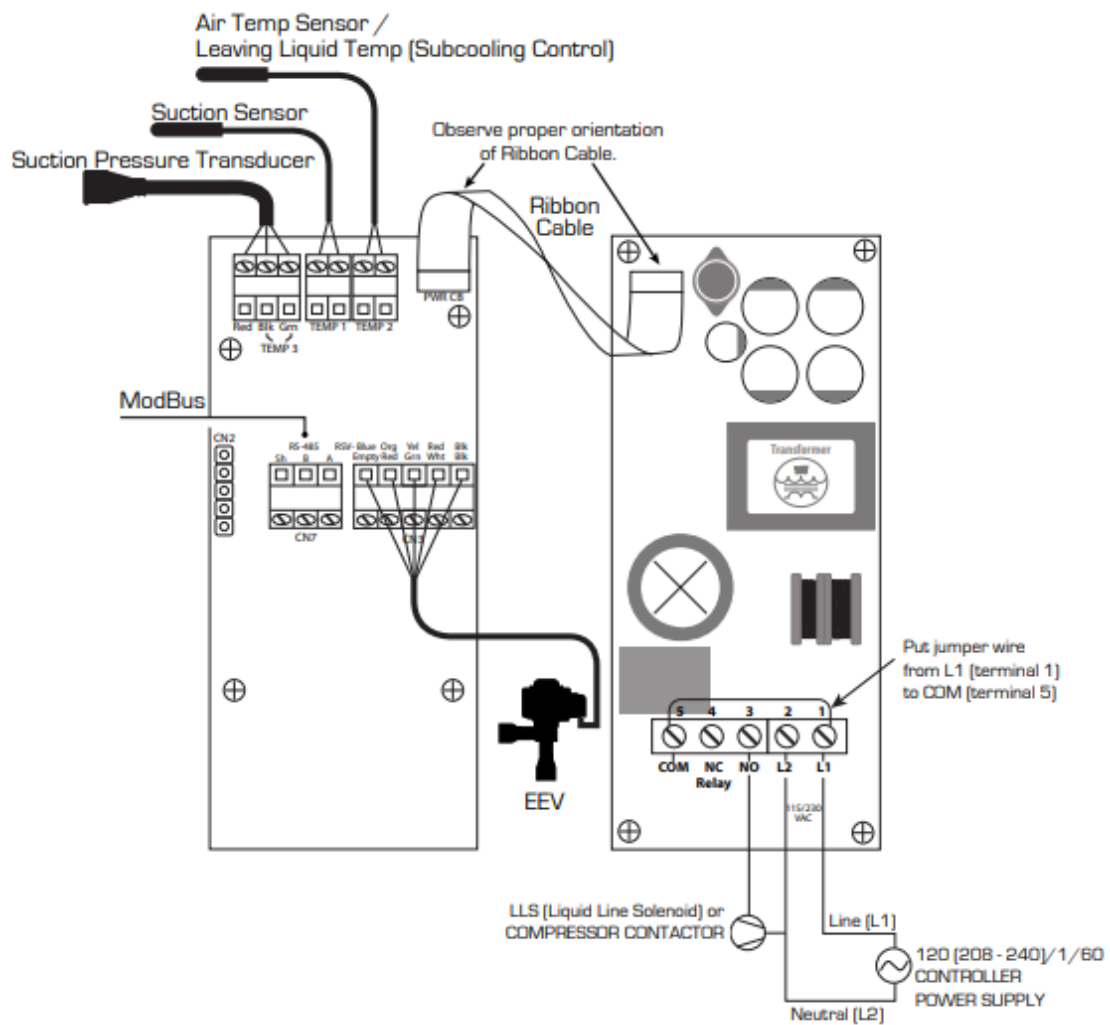
KE2 Temp + Valve Literature



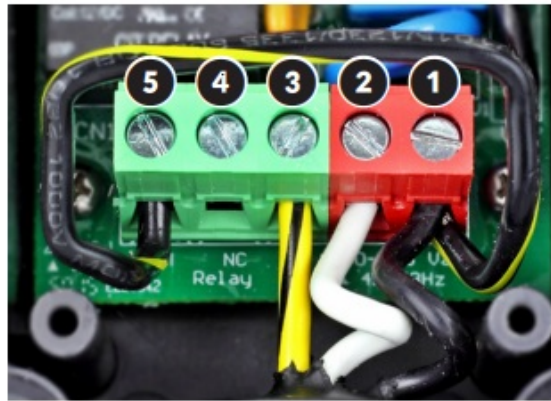
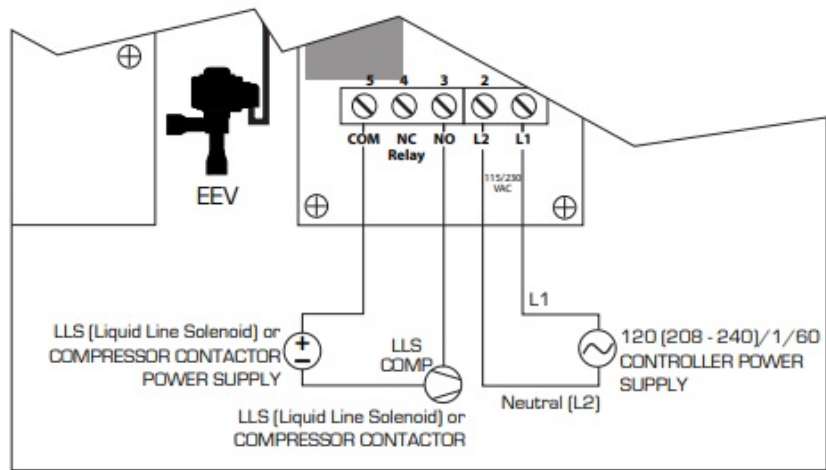
KE2 Temp + Valve Videos



Wiring Diagram



Alternate Wiring Method



Basic Menu: "Out of Box" or if Superheat (SHt)

Setpoint		Description	Range	Default
CtL		Control Type – EEV+Temp, EEV Only, EEPR, EHGBP, Subcool	SHt, SH, EPr, HGb, SUB	SHt
Edt (Expansion device type)		Valve Type: Mechanical (tHr), K E2- HSV (HS), KE2-RSV (rS), S EI, SER, Carel (CrL), Custom (CUS)	tHr, HS, rS, SEi ,SEr CrL, CUS*	rS
Only if CUS is used for Edt (valve type)	Sr	Step Rate	30 – 400	30
	SFS	Steps Full Stroke	200- 6400	500
	Ub	Motor Type	Uni-(unipolar), bi (bipolar)	Unipolar
Only if inP (input) is Pt under Advanced Menu	rFg	Refrigerant Type	See Refrigerant List below	404
SSP		Superheat Setpoint**	5°F (2.8K) to 50°F (28K)	8°F (4.4K)
tS		Temperature Setpoint	-50°F (-45°C) to 100°F (38°C)	35°F (9.7°C)
AdF		Air Temperature Differential	1°F (0.5K) to 30°F (17K)	2°F (1.1K)
CSH		Compressor Starts/Hour Maximum	5 (Off)*** to 10	6
dPd		Defrost Per Day	0 to 12, CUS*	4
Only if dPd (Defrosts per Day) is CUS	tOd	Time of Day	00:00 to 23:59	12:00
	d1 to d12	Start time of Defrost #1 – #12	00 – 23	diS (disabled)
dFt		Defrost Time	6 min to 720 min	45 min

* Selecting CUS (custom) unlocks additional Setpoints.

** Min. superheat in Subcool control.

*** 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.

Controller Navigation

The display will show room temp (rtp), superheat (SH), suction pressure (PrS) or leaving liquid temp (LLT) depending on control type and setup.

Indicator lights



- Red light – Critical alarm (system is NOT running).
- Yellow light – Non-critical alarm (system running).
- Green light – Liquid Line Solenoid (LLS) relay energized.
- Green blinking – Waiting on min. run or min. off timer to energize/de-energize LLS relay.

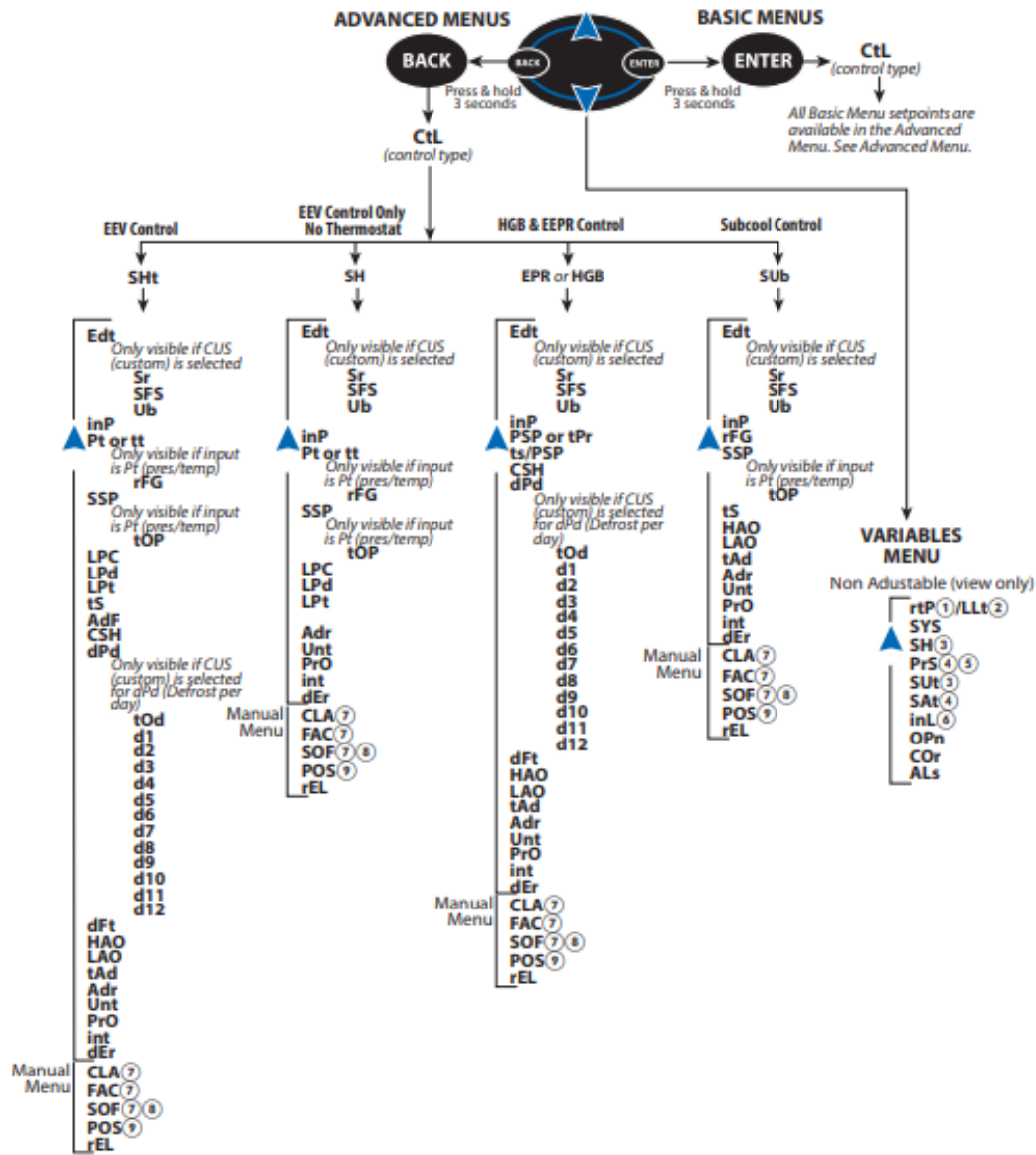
1. Access Setpoint mode by pressing and holding  until (CtL onrol type) displays on the screen
2. Use  and  to advance through available setpoints.
3. Press  to view the current setting.
4. Press  to move between digits to accelerate the changes.
5. Use  and  to change the setpoint
6. Press  and hold to confirm each setpoint change
7. Press **back** to escape.

Service Call Saver- Post Defrost Indicator

The display will switch between room temp and dEF after a defrost. The controller will refrigerate as normal, and dEF will clear automatically.

Accessing the Menus

For a complete list of setpoints and descriptions see Q.3.49.



Footnotes

1. Not shown if in EEPR, EHGBP, SH, or SUB control, and input is pressure.
2. Only shown if SUB control is selected.
3. Only shown if SH, SHt, or SUB control is selected.
4. Only if SH, SHt, or SUB and Pt control is selected .
5. Only shown if input is pressure for EEPR or EHGBP
6. Only shown if in SH, SHt, or SUB control and tt selected.
7. P ress & hold ENTER for 3 seconds to activate.
8. Press BACK button to return to normal operation.
9. Press ENTER to enter manual valve control, & to adjust, and press BACK to exit.

Alarm List

Alarms		Description
CRITICAL System is off - Red LED	iSA iSA	Inlet Sensor Alarm
	PSA PSA	Pressure Sensor Alarm
	SSA SSA	Suction Temperature Sensor Alarm
NON - CRITICAL System is still running, and trying to maintain cooling - Amber LED	ASA ASA	Room (Air)Sensor Alarm
	HPA HPA	High Pressure Alarm
	HSH HSH	High Superheat Alarm
	HtA HtA	High Temperature Alarm
	LPA LPA	Low Pressure Alarm
	LSA LSA	Leaving Liq. Temperature Sensor Alarm
	LSH LSH	Low Superheat Alarm
	LtA LtA	Low Temperature Alarm
	Pdt Pdt	Pump Down Timeout Alarm
	PF PF	Power Failure
	SCC SCC	Short Cycle Compressor Alarm

Refrigerant List

Refrigerant	Abbreviation
R-22	R22
R-134a	134
R-404A	404
R-407A	40A
R-407C	40C
R-410A	410
R-717	717
R-422A	42A
R-422D	42d
R-507	507

Refrigerant	Abbreviation
R-448A	448
R-449A	449
R-450A	450
R-438A	438
R-408A	408
R-409A	409
R-407F	407
R-744	744
R-513A	513
R-458A	458

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Documents / Resources

	KE2 Temp + Valve Controller [pdf] User Guide Temp Valve Controller, Temp Controller, Valve Controller, Controller
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References

-  [Product – KE2 Therm Solutions](#)
-  [ke2therm.com](http://www.ke2therm.com)