KELE CONSTANT VOLUME ZONING SYSTEM

KTEC ZONING SYSTEM

DESCRIPTION

The technologically advanced **KTEC Zoning Control System** provides efficient space temperature control for constant volume zoning systems in multi-zone heating and cooling applications. This cost-effective zoning control system can operate as a stand-alone system, or it can be mapped into a supervisory controller via a BACnet - Master-Slave/ Token-Passing (MS/TP) Bus to enable remote monitoring and programmability within a Building Automation System (BAS).

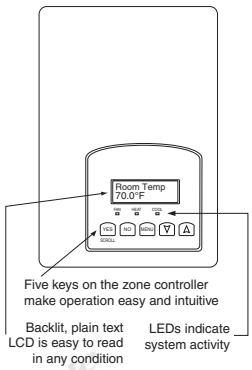
FEATURES

- ***Fully scalable zoning control system meets the requirements of small and large zoning control systems***
- ***BACnet MS/TP communication provides compatibility with a proven communication network***
- ***True stand-alone zoning control system offers additional application flexibility***
- ***Backlit Display offers real-time control status of the environment in easy-to-read, English plain text messages with constant backlight that brightens during user interaction***
- ***Simplified setpoint adjustment enables the user to change the setpoint by simply pressing the UP/DOWN arrow keys***
- ***Configurable binary inputs provide additional inputs for advanced functions such as remote night setback, service or filter alarms, motion detector, and window status***
- ***Over 20 configurable parameters enable the zoning control system to adapt to applications with varying requirements, allowing installer parameter access without opening the controller cover***

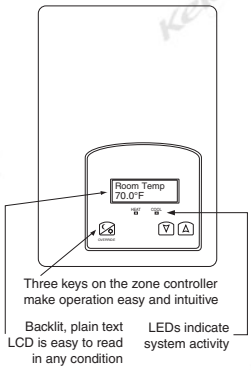
KTEC2664Z Rooftop Controller

KTEC2647Z Zone Controller

CONTROL LAYOUT



KTEC2664Z Rooftop Controller



KTEC2647Z Zone Controller

See installation instructions for wiring diagrams

SPECIFICATIONS

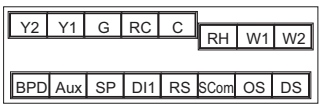
Supply Voltage	19 to 30 VAC, 50/60 Hz
Supply Current	2 VA @ 24 VAC
Analog Input	
KTEC2647Z	Resistive inputs (RS and UI3) for 10KΩ Type II thermistor
KTEC2664Z	Resistive inputs (RS, OS, and DS) for 10KΩ Type II thermistor
Analog Output	0 to 10 VDC into 2kΩ resistance load (minimum)
Digital Inputs	
KTEC2647Z	Dry contacts across terminal scom to terminals BI1 and BI2
KTEC2664Z	Dry contact across terminal scom to terminal BI1
Auxiliary Contacts	Triac output 19 to 30 VAC, 15 mA to 1 A continuous current, 3A peak in-rush current
Static Pressure	0 to 5 VDC for full static pressure range selected
Accuracy	±0.9°F (±0.5°C) at 70°F (21°C)
Sensor Type	10k ohm NTC thermistor (Local)
Setpoint Range	Heating 40° to 90°F (4.5° to 32°C) Cooling 54° to 100°F (12° to 37.5°C)
Deadband	2°F (1°C)
Number of Zones	31 zones maximum per 1 rooftop controller
Operating Temperature	32° to 122°F (0° to 50°C)
Display	-40° to 122°F (-40° to 50°C) in 0.5° increments
Operating Humidity	0 to 95% RH (non-condensing)
Dimensions	4.9"H x 3.4"W x 1.1"D (12.5 x 8.6 x 2.9 cm)
Weight	0.75 lb (0.34 kg)
Approvals	
United States	UL Listed, CCN XAPX, Under UL 873, Temperature Indicating and Regulating Equipment FCC Compliant to CFR 47, Part 15, Subpart B, Class A, RoHS
Canada	UL Listed, CCN XAPX7, Under CAN/ CSA C22.2 No. 24
RoHS Statement	Yes
Warranty	3 years

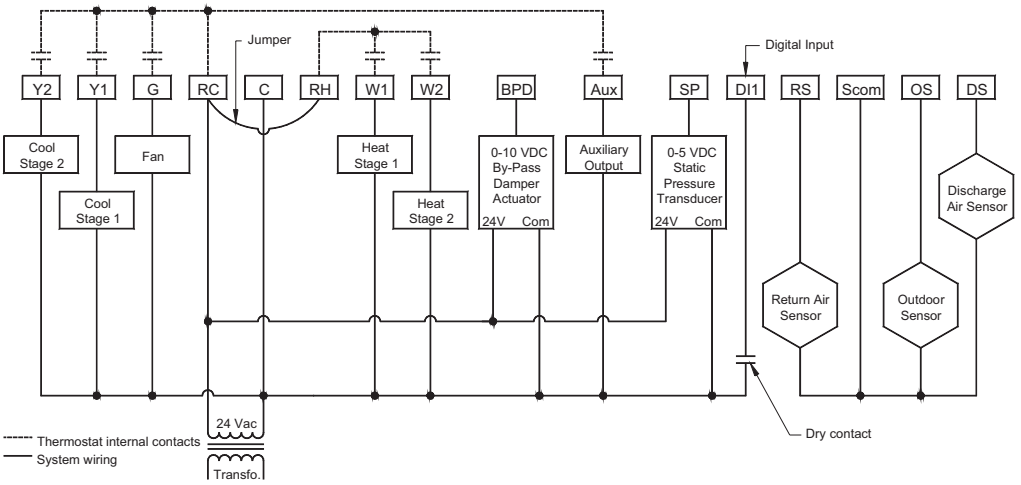
TERMINAL IDENTIFICATION - KTEC2664Z

Terminal Use	Terminal Identification	Description
1 – Cool2	**Y2**	Output for RTU cooling stage number 2.
2 – Cool1	**Y1**	Output for RTU cooling stage number 1.
3 - Fan	**G**	Output for the fan.
4 - 24 V ~ Hot	**RC**	Power supply of thermostat, hot side (Delivered from the RTU).
5 - 0 V ~ Com	**C**	Power supply of thermostat, common side. Also used as reference for the analog BPD output when used (Delivered from the RTU).
6 – Heat Switch Leg	**RH**	24 VAC switched leg for the heating stages. • If heating stages are part or RTU, install a jumper across RC & RH. • If heating stages are part of a separate equipment with a different power supply, feed external switched power leg through RH ***without*** installing a jumper across RC & RH.
7 – Heat1	**W1**	Output for heating stage number 1.
8 – Heat2	**W2**	Output for heating stage number 2.
9 – By-pass damper	**BPD**	Local analog 0 - 10 VDC by-pass damper output.
10 – Aux output	**AU**	Auxiliary output used to disable economizer damper minimum position or control lighting during unoccupied periods.
11 – Static pressure	**SP**	Local analog 0 – 5 VDC static pressure input.
12 - DI1	**DI1**	Configurable extra digital input. See parameter section for more information.
13 - RS	**RS**	Return air temperature sensor input. If sensor fails, thermostat will use the on-board thermistor sensor to control if the communication is lost.
14 - Scom	**Scom**	Reference input for DI 1, RS, OS & DS.
15 - OS	**BI2**	Outside air temperature sensor input.
16 - DS	**UI 3**	Discharge air temperature sensor input.
BACnet Network Connections		
BACnet Com	**Com +**	BACnet communication bus + connection.
BACnet Com	**Com -**	BACnet communication bus – connection.
Ref	**Ref**	Communication bus reference terminal. ○ ***DO NOT USE FOR OTHER THAN SERVICING ISSUES*** ○ ***DO NOT WIRE SHIELD TO THAT POSITION***

WIRING - KTEC2664Z

KTEC2664Z Thermostat Terminals





KELE CONSTANT VOLUME ZONING SYSTEM

KTEC ZONING SYSTEM

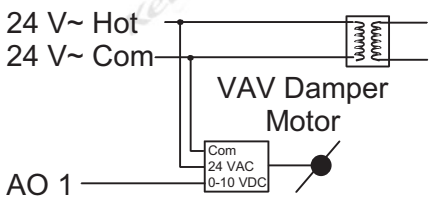
TERMINAL IDENTIFICATION - KTEC2647Z

Terminal Use	Terminal Identification	Description
4 - 24 V ~ Hot	**24 V~ Hot**	Power supply of thermostat, hot side.
5 - 0 V ~ Com	**0 V~ Com**	Power supply of thermostat, common side. Also used as reference for the analog outputs when used.
6 - On/Off Rht	**BO 5** →	Local isolated triac reheat output when used.
7 - On/Off Rht	**BO 5** →	Local isolated triac reheat output when used.
9 - Analog Rht	**AO 2**	Local analog 0 - 10 VDC reheat output when used.
10 - VAV Damper	**AO 1**	Local VAV analog 0 - 10 VDC output.
Not Used	***Blank***	*Blank unused terminal.*
12 - BI1	**BI 1**	Configurable extra digital input. See parameter section for more information.
13 - RS	**RS**	Remote room sensor input when used. Input auto-detects a remote sensor and will automatically by-pass the internal sensor when used.
14 - Scom	**Scom**	Reference input for BI 1, BI 2, UI3 and RS.
15 - BI2	**BI2**	Non-configurable extra digital input for monitoring local functions over the network.
16 - UI3 SS	**UI 3**	Non-configurable extra analog input for monitoring local discharge or supply temperatures over the network.

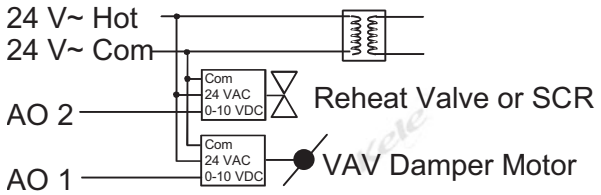
BACnet Network Connections		
BACnet Com	**Com +**	BACnet communication bus + connection.
BACnet Com	**Com -**	BACnet communication bus – connection.
Ref	**Ref**	Communication bus reference terminal. ○ ***DO NOT USE FOR OTHER THAN SERVICING ISSUES*** ○ ***DO NOT WIRE SHIELD TO THAT POSITION***

WIRING - KTEC2647Z

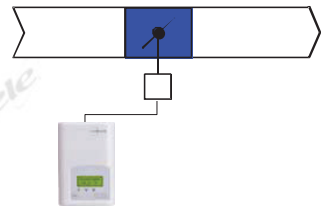
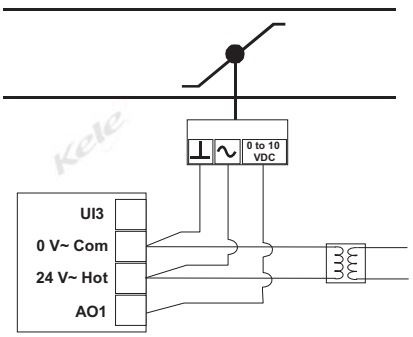
VAV Damper Wiring



VAV Damper and Analog Reheat Wiring

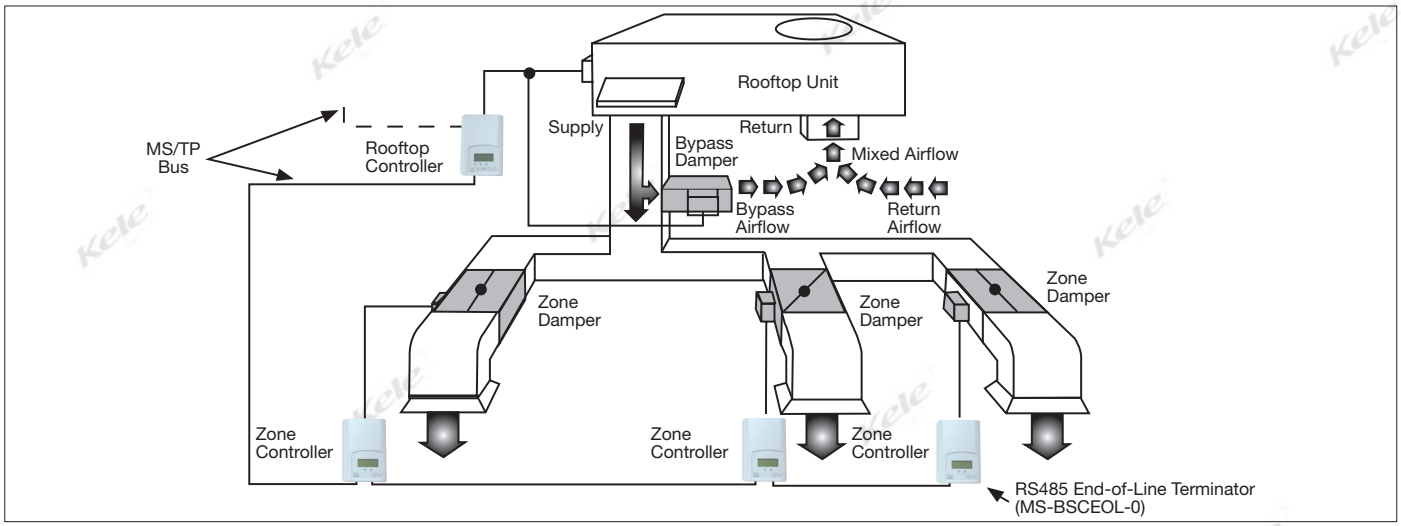


APPLICATION - KTEC2647Z

Schematic	Wiring	Settings
Pressure dependent VAV cooling only system		
Analog VAV Actuator  Room Temperature Control Minimum & Maximum Position Adjusted at Thermostat		**Mandatory** • RehtConf = 0 None

KELE CONSTANT VOLUME ZONING SYSTEM

KTEC ZONING SYSTEM



Typical Zoning Control System Installed on a Single MS/TP Bus

This installation consists of multiple KTEC2647 Zone Controllers, each controlling a single zone damper; and a KTEC2664Z Rooftop Controller controlling a rooftop unit. Optionally, the MS/TP Bus can be wired to a supervisory controller to provide centralized monitoring and control of the system. Refer to the Installation Instructions document under "Related Documents" at www.Kele.com for complete wiring and setup details.

* See installation instructions for wiring diagrams

KTEC2664Z ROOFTOP CONTROLLER CONFIGURATION

Parameters that must be configured locally at start of initial commissioning...

RTC Mac
- RTC network address
- Default - 4
- Address must be unique on the network
- Valid range - 4 to 127

RTC Baud Rate
- One controller per bus
- Default - Auto
- Sets the network baud rate, 38400 recommended
- Baud rates - 9600,19200, 38400, 76800, Auto

KTEC2647Z ZONE CONTROLLER CONFIGURATION

Parameters that must be configured locally at start of initial commissioning...

ZONE Mac
- ZONE network address
- Default - 255
- Address must be unique on the network
- Valid range - 1 to 127

RTC MAC
- Network address must be specified to RTC
- Default - 4
- Rooftop controller to which this zone controller is tied
- Valid range - 1 to 127

ORDERING INFORMATION

MODEL	DESCRIPTION
KTEC2647Z-2	Zone Controller for Proportional Zone Damper, On/Off, or Proportional Reheat Control
KTEC2664Z-2	Rooftop Controller for Control of Up to Two Stages of Heating and Two Stages of Cooling in Rooftop

	ACCESSORIES	PAGE
M230-005PD-V5	Differential pressure transducer, 0-5" WC, 0-5 VDC	1041
MS-BACEOL-0	EOL BACnet R485 terminator	
ST-D24	10K Type 2 duct temperature themistor	1197