

# COMMERCIAL ZONING APPLICATION GUIDE

This workbook is intended to support you in the application / selection process for your commercial zoning projects. It is divided into sections.

## SECTION 1

Is a worksheet containing all the common questions you will need to be able to answer to apply and select the proper components for your commercial zoning system.

## SECTION 2

Is factory information on the Honeywell Rapid Zone™ system.

## SECTION 3

Is factory information on Johnson Controls zoning products.



January 1, 2016

## COMMERCIAL ZONING QUESTIONNAIRE

1	Manufacture Preference	JCI	Honeywell
2	Internet Access desired?	Y / N	
3	Does Job Require System Expansion	i.e. additional equipment in bldg for future	
4	Type of Equipment	i.e. RTU / Split Sys/H.P. / Conventional	
5	Zones Accessable for Wiring to Zone Sensors	Y/ N	
6	How Many Zones are Required	JCI = 17	Honeywell = 18
7	How Many Stages of H / C	Htg	Clg
8	Type of Htg / Clg	ex: DX/Elect/Gas Fired/Water	
9	Room Stat Options	ex: adj sp/temp only/override button	
10	Integrated Economizer	Y / N	
11	Types of Zone Dampers	Round / Square (W X H) Horiz/Vert	
12	Size of Zone Dampers	Inches	
13	How many Zone Dampers	Does one zone require multiple dampers	
14	Bypass Damper Type	Round / Square	
15	Size of Bypass Damper	Inches	
16	Target Staic Pressure Setpoint	In. W.C. i.e. 1"/1.25" 1.5" etc	
17	Individual Zone Scheduling Required	Y / N	

# THE AFFORDABLE WAY TO BALANCE CUSTOMIZED COMFORT AND ENERGY SAVINGS

## CUSTOMIZED COMFORT

For building owners and managers, the top two complaints are “I’m too hot” and “I’m too cold” — often at the same time, but from different building occupants. It doesn’t have to be that way.

Right now, you’re trying to provide optimal comfort throughout multiple areas, rooms and floors — all with varying exposures, occupancy levels and locations within the building. And at the same time, you want to minimize energy use, because it’s one of the easiest operating costs to control.

Try as you might, you can’t make everyone comfortable at once — and there’s a reason for that. Without zoning, your heating and cooling system treats the entire building as one “zone.” And each piece of HVAC equipment can only respond to a single input from its thermostat. A single zone unit simply can’t meet all occupants’ comfort needs. But Honeywell’s RapidZone™ Commercial Zoning System can.

The RapidZone Commercial Zoning System is a simple, low-cost solution that’s easily installed in new or existing construction. It’s compatible with all makes of forced-air heating and cooling equipment, too. RapidZone controls the air flow from dampers leading to each room or assigned zone, based on input from the wall modules or sensors installed in each zone. And that gives you the best of all worlds: low-cost, customized comfort that doesn’t waste energy.

## HERE’S HOW IT WORKS

1. Honeywell wall modules can be installed in each zone. Up to 18 zones or rooms can be individually controlled from each rooftop unit. Each network can support up to 10 rooftop units. Using your RapidZone Command Display or a PC, you or your contractor can easily set optimum temperature ranges and occupancy schedules for each zone — in minutes. Ventilation settings can be adjusted to optimize indoor air quality.
2. Use RapidZone’s remote dial-up and diagnostics to prevent problems and comfort complaints, and to reduce costly service calls. You or your contractor can easily make changes, respond to alarms and perform diagnostics using the self-guided menu on the Command Display or the remote access capability.

# **THE SIMPLE WAY TO BALANCE COMFORT AND ENERGY SAVINGS**

## **LOWER INITIAL COST**

The low-cost RapidZone system saves you money right from the start because it's so simple to set up and install. Honeywell eliminated the need for complex programming and time-consuming engineering tasks, and decreased installation risk with its automatic custom wiring diagrams. And our easy Online Estimator™ tool helps your contractor provide accurate estimates for project evaluation.

## **LOWER FUTURE COSTS**

Thinking of upgrading your current HVAC equipment? Honeywell's RapidZone System allows you to use your current equipment more efficiently. Or if you're contemplating building a new facility, zoning can help lower your HVAC system requirement by using fewer pieces of equipment. And you'll still enjoy a level of comfort and control comparable to larger, more expensive systems. As your space and occupants grow, just add room sensors and dampers, then easily reconfigure RapidZone to accommodate your changing needs. It's a simple, affordable way to grow. And since all components use LONWORKS® open system communications, RapidZone is interoperable for easy, low-cost future upgrades.

## **CONVENIENT, MONEY-SAVING FEATURES**

RapidZone gives you the comfort and energy-saving features you need to ensure occupant comfort and reliable, cost-effective building operations.

### **Customize comfort**

- Intuitive, easy-to-use temperature adjustment in every room/zone

### **Lower energy costs**

- More control points in each room or zone mean more control over energy use and costs
- Energy-saving options like occupancy, time-of-day and holiday scheduling give you precise, customized temperature control
- Cooling/heating is provided only where there is a need
- Save even more energy dollars by using free outdoor air for cooling
- Maximum re-use of pre-conditioned air

### **Ensure reliable operations**

- Remote alarms, trends and diagnostics help prevent problems and comfort complaints
- Control algorithms help extend equipment life

### **Improve indoor air quality**

- CO2-based ventilation setting delivers fresh air where it's needed

# KEEP IT SIMPLE. COMFORTABLE. AND ENERGY EFFICIENT.

## TEC ZONING CONTROL SYSTEM

The TEC Zoning Control System is a cost-effective product for constant volume, pressure dependent zoning systems with multi-zone heating and cooling applications. The TEC Zoning Control System has a fully scalable network architecture utilizing BACnet® MS/TP. It can operate as a standalone zoning system, or it can operate with a Building Automation System (BAS) that enables remote monitoring and programmability. This system is designed for retrofit projects and new construction. Typical applications include banks, retail facilities, churches, restaurants, office buildings and other multi-tenant buildings.

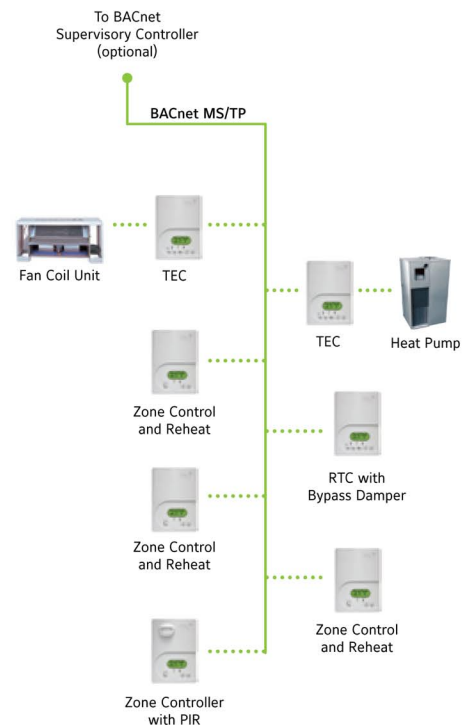
### System Components

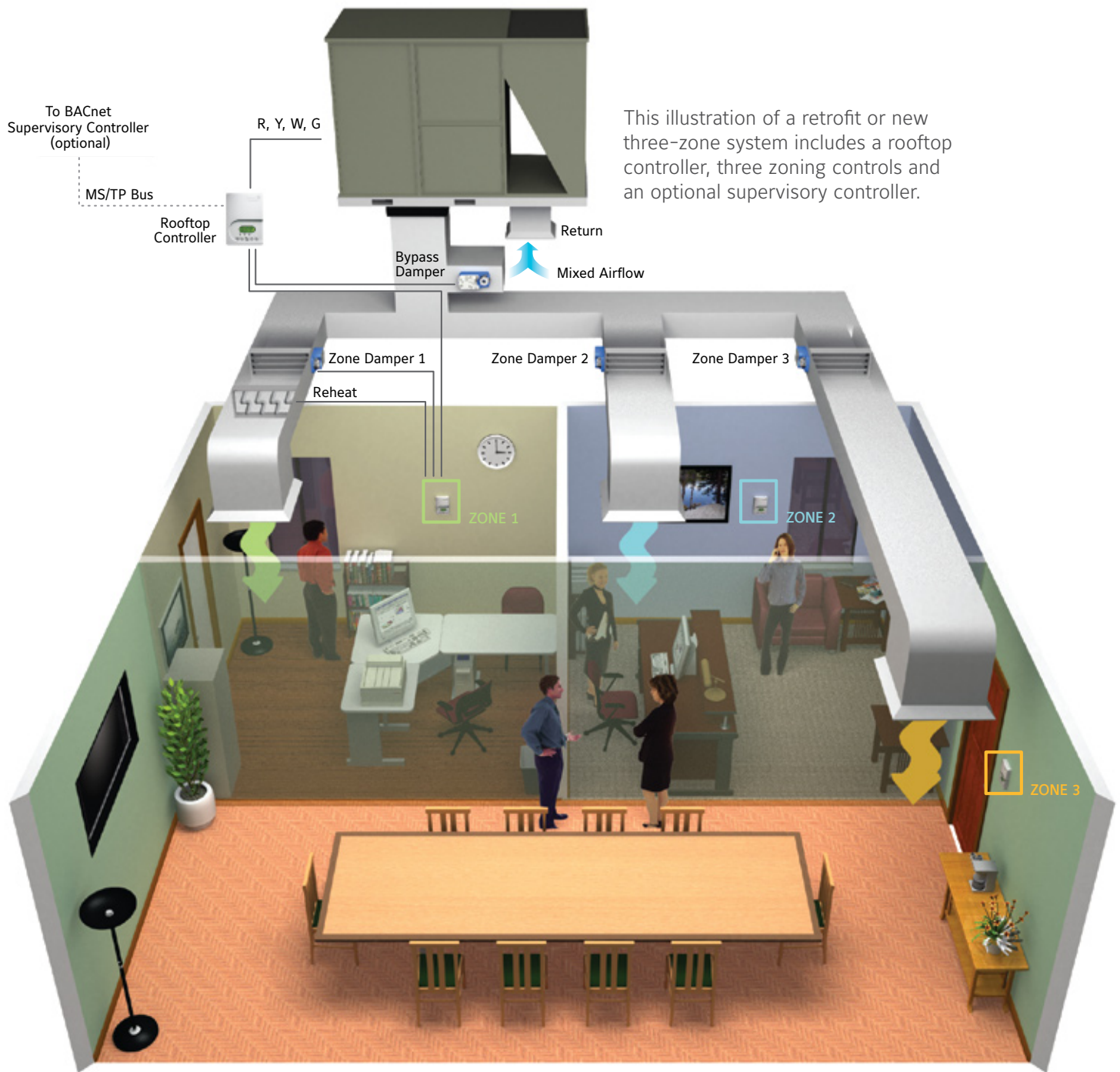
- TEC2664Z-2 Rooftop Controller (RTC)
- TEC2647Z-2 Zone Controller (ZC)
- TEC2647Z-2+PIR Zone Controller with Occupancy Sensor

Together, the rooftop controller and the zone controller provide efficient space temperature control to multiple zones. This system uses standard BACnet objects for automatic 'self-binding' ZC-to-RTC configuration and communicates in a peer-to-peer manner. Pre-configured sequences reduce the need for programming and eliminates flash downloading.

### Additional features of this system:

- RTC and ZC feature intuitive user interface with backlit display that makes setup and operation quick and easy
- Uses existing TEC controller technology for ease of installation
- No configuration tool needed – just set a few parameters to get the system up and running
- Several configurable parameters - enabling system to adapt to zoning applications with varying requirements
- Onboard Occupancy Sensor - provide energy savings without additional installation time or cost





This illustration of a retrofit or new three-zone system includes a rooftop controller, three zoning controls and an optional supervisory controller.



**Rooftop Control Unit**  
Controls Rooftop and Provides Supervisory Functions

**TEC2664Z-2 Rooftop Controller**

- Controls up to two stages of heating and two stages of cooling.
- Controls the bypass damper to maintain air pressure in the duct.
- Schedules occupied and unoccupied times when desired.
- Multiple zone demand strategies determine heat or cool modes.
- Keypad lockout levels to avoid tampering.



**Zone Controllers**  
Provide Local Digital User Interface

**TEC2647Z-2+PIR Zone Controller**

- Onboard occupancy sensor minimizes number of components to install
- Occupancy sensor offers efficient setpoint strategies

**TEC2647Z-2 Zone Controller**

- Contains LCD display and temperature sensor.
- OVERRIDE key to override schedule.
- 0 to 10 VDC control of pressure dependent VAV equipment.
- On/off or 0 to 10 VDC control of local reheat.
- A 'get from' parameter allows you to copy parameter values from another zone controller.

## TEC ZONING SYSTEM COMPONENTS

PRODUCT CODE	CONTROL DESCRIPTION
TEC2664Z-2	Controls up to two stages heat / two stages cool for rooftop, proportional bypass damper, fan, zone demand strategies
TEC2647Z-2	Proportional zone damper, on/off or proportional reheat
TEC2647Z-2+PIR	Occupancy sensing and controls proportional zone damper, on/off or proportional reheat

## ACCESSORIES

PRODUCT CODE	DESCRIPTION
TEC-7-PIR	Occupancy sensor cover either replaces an existing TEC2647Z-2+PIR cover or converts a non-PIR TEC2647Z-2 to have occupancy sensor capability
TE-6363P-1	Outdoor air temperature sensor (10K NTC)
TE-6361M-1	Duct mount air temperature sensor (metal enclosure)
DPT2650-005D-AB	Duct static pressure transmitter (24 VAC power, 0-5" wc input, 0-5 VDC out)
MS-BACEOL-O	BACnet end of the line terminator
ZOVSD	Rectangular damper with a factory-installed Johnson Controls M9104-GGA-3 Electric Actuator for proportional zoning applications. Widths (www) are available from 8 in. / 20.3 cm (008) to 30 in./76.2 cm (030) in 1 in./2.5 cm increments. Heights (hhh) are available from 6 in./15.2 cm (006) to 30 in./76.2 cm (030) in 1 in./2.5 cm increments. Example: To order a rectangular damper assembly measuring 8 in./20.3 cm wide by 6 in./15.2 cm high, use code number ZOVSD-008X006.
RZGddPNNO	Round damper with a factory-installed Johnson Controls M9104-GGA-3 Electric Actuator for proportional zoning applications. Diameters (dd) are available from 6 in./15.2 cm (06) to 18 in./45.7 cm (18) in 1 in./2.5 cm increments. Example: To order a round damper assembly measuring 6 in./15.2 cm in diameter, use code number RZG06PNNO.
SEN-600-1	Remote Indoor Air Temperature Sensor
SEN-600-4	Remote Indoor Air Temperature Sensor with Occupancy Override and LED

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