LIGHTING AND PLUG LOAD FLEX CONTROL POWER PACK

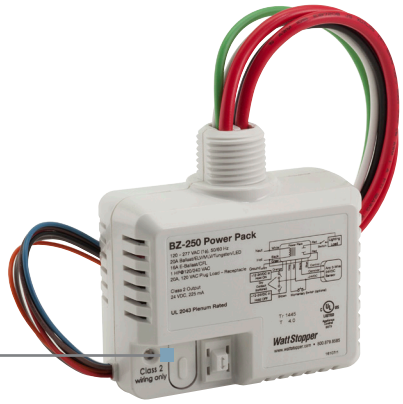
BZ-250

High-efficiency, plenum-rated switching power supply

Hold-On and Hold-Off inputs

Mechanically held latching relay with selectable power loss operation: On, Off, or last state

Load On/Off button to verify wiring



Auto-On or Manual-On operation for code compliance

Zero crossing and for reliability and increased product life

Low voltage over current protection

120-277VAC and 120-347VAC models

DESCRIPTION

The BZ-250 power pack switches lighting or plug loads On and Off in response to low voltage control inputs, and provides up to 225mA at 24VDC to power Wattstopper occupancy sensors. It enables Manual-On sequences of operation, as well as Hold-On, Hold-Off and load shed applications when used with lighting control panels or building automation systems. This device is constructed with environmentally friendly materials and is RoHS-compliant.

OPERATION

The BZ-250 consists of a high-efficiency switching power supply and a high-current relay. It turns the connected load Off automatically based on occupancy sensor input, and On either automatically based on occupancy, or manually in response to a low-voltage momentary switch. The installer can select Auto-On or Manual-On operation via an actuator switch on the power pack. The BZ-250 also accepts low-voltage Hold-On and Hold-Off inputs for broader applications. The BZ-250 relay can be set to open, close or maintain state prior to loss of power, so that lighting is in the preferred state (On, Off or last state) when power is restored.

MANUAL-ON AND BI-LEVEL SWITCHING

Increasingly, energy codes require Manual-On control as well as bi-level switching, and the BZ-250 enables both of these requirements. When used with a low-voltage wall switch, Manual-On operation can be selected while in the field by using the conveniently located actuator switch on the front. Combining switches, power packs and sensors provides easy and cost-effective code-compliant solutions.

APPLICATIONS

The BZ-250 can control lighting circuits, plug load circuits, self-contained air conditioners, pumps, fans, motors and motorized damper controls. Bi-level switching with Manual-On operation can be achieved using two low-voltage switches, a ceiling sensor and two BZ-250s (one set to Auto-On and one set to Manual-On). The Hold-On input is ideal for overriding an occupancy sensor to force lighting On during normal business hours in retail and commercial facilities. After hours, a time clock signals the BZ-250 to cancel the Hold-On mode, allowing the sensor to resume control. The Hold-Off input can be used for load shedding or security systems.

FEATURES

- Hold-On and Hold-Off inputs integrate with BAS, lighting control panels & other building systems
- Integrates with low-voltage momentary switch to control any 24VDC occupancy sensor
- Field-selectable Auto-On or Manual-On operation
- Efficient switching power supply provides optimized current output based on number of sensors
- Includes short circuit and thermal protection
- LED indicates status of relay or presence of low-voltage overcurrent
- UL 2043 plenum rated for cost-effective installation
- UL listed for control of lighting and plug loads
- Tested to NEMA 410 criteria for electronic ballast and driver inrush current
- 1/2" threaded nipple attaches to standard electrical enclosures through 1/2" knockouts
- 12 AWG wires on the relay for 20A operation
- The product meets the materials restrictions of RoHS
- BAA/BABA-compliant model available

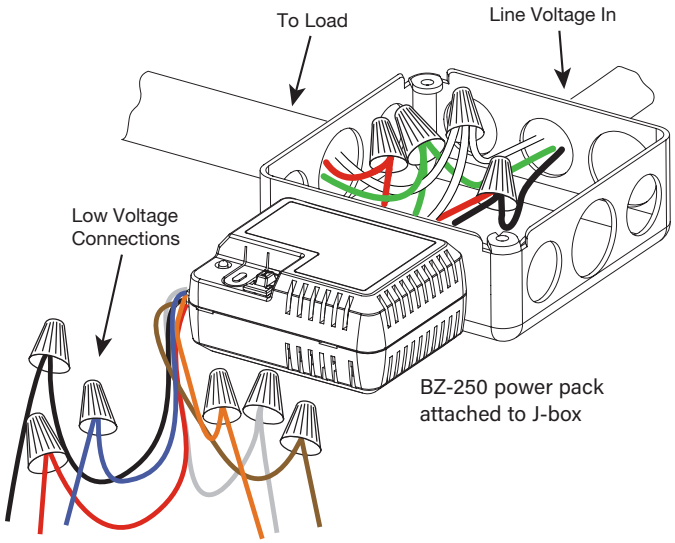
PROJECT		LOCATION/ TYPE	

SPECIFICATIONS

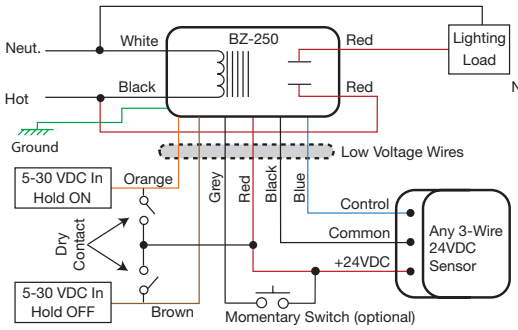
- Input/output voltage:120-277VAC or 120-347VAC, 50/60Hz
- Secondary output: 24VDC, 225mA
- Low-voltage leads rated for 300 volts
- UL-rated 94 V-O plastic enclosure
- Power up options: On, Off, previous state
- Operating conditions: -4 to 131ḥF (-20 to 55ḥC); 5-95% RH, non condensing
- Dimensions: 1.5" x 3" x 2.4"
- (37mm x 77mm x 61mm) H x W x D with .6" L (15mm) threaded nipple
- UL and cUL listed : UL244A, UL508 and C22.2 No. 14-10
- Five year warranty

INSTALLATION & WIRING

Installation Diagram

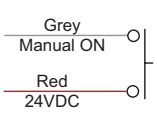


Wiring to Occupancy Sensor

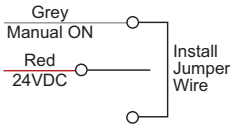


NOTES:
- BZ-250 power packs should be grounded to ensure signal integrity, not for safety ground.

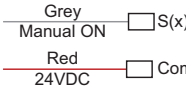
Low-voltage Momentary Switch Options



Two-wire Switch



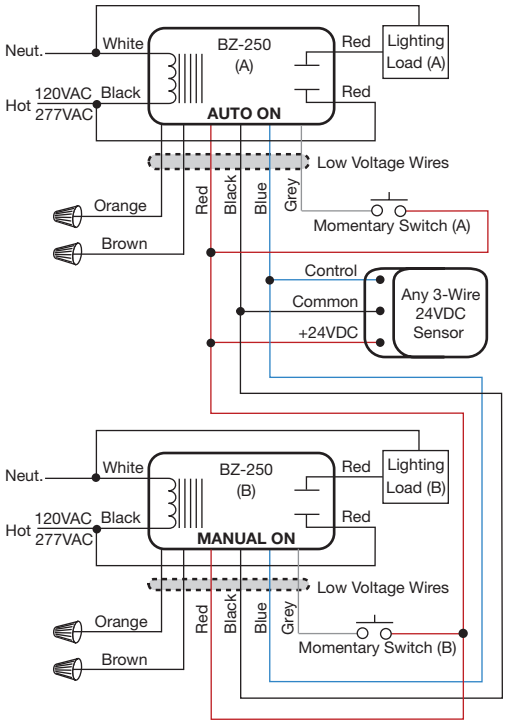
Three-wire Switch



Multi-button Switch

Do not use pilot or locator light connections

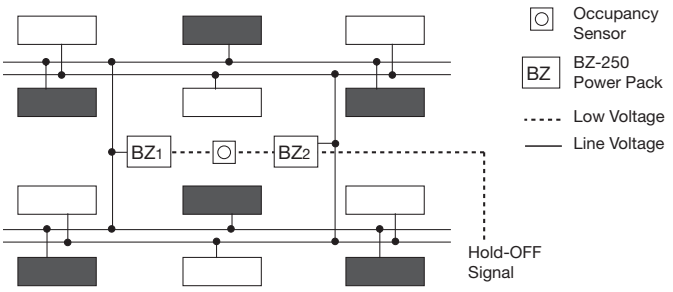
Manual-On and Bi-Level Switching



Connect two low-voltage switches, a ceiling sensor and two BZ-250s (one set to Auto-On and one set to Manual-On) for bi-level switching with manual-on operation.

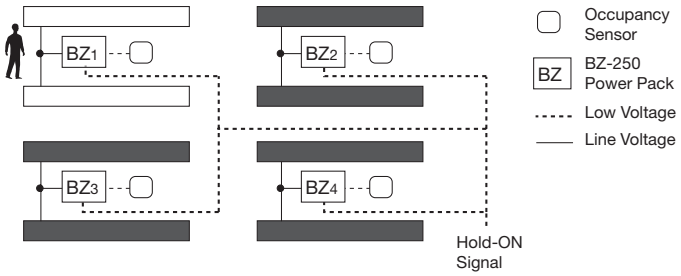
HOLD-OFF & HOLD-ON APPLICATIONS

Load Shed (Hold-Off) Application



The occupancy sensor normally keeps lights On when the space is occupied. When a load shed command is received (from utility meter, BAS, etc.), lights connected to BZ_2 are held Off. Remaining lights (connected to BZ_1) are still controlled by occupancy.

Retail (Hold-On) Application



During store hours, a signal from a time clock to the BZ-250 holds lights On, regardless of occupancy. After hours, the clock schedule cancels the Hold-On and occupancy sensor control takes over.

All Wattstopper power packs should be installed in accordance with state, local, and national electrical codes and requirements.

Power packs are designed to attach to existing or new electrical enclosures with .5" 125.40mmJ knockout (check electrical codes in your area).

Most applications require UL-listed, 18-22 AWG, 3-conductor, Class 2 cables for low-voltage wiring. For plenum return ceilings use UL-listed plenum-approved cables.

For a complete listing of Multi-button Low-voltage and Momentary Toggle Switches that will provide Manual-On switching with the BZ-250, please refer to the product cut sheets in the section on Lighting Control Systems.

ORDERING INFORMATION

Catalog #		Input Voltage	Load Ratings				Output
			Ballast/ELV/MLV Incan/LED	E-Ballast CFL	Motor	Plug Load	
☐	BZ-250	120-277VAC, single phase; 50/60Hz	20A	16A	1HP	20A	24VDC, 225mA
☐	BZ-250-U						
☐	BZ-250-347	120-347VAC, single phase; 50/60Hz	16A	16A	1/4HP	15A	

-U = Product is compliant with Buy American Act and Build America, Buy America Act

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