

# VX Series Energy Management Thermostat

## Model: VX3-TW-W-LIT\* Wireless Energy Management Thermostat With Lighting Control

- > **Easy to use Thermostat**
- > **Unparalleled Energy Savings**
- > **Aux output for occupancy-based control of external devices (i.e. lights, receptacles, outside air dampers)**
- > **Facilitates compliance with energy efficiency codes such as Title 24, and IECC 2015/2018.**
- > **Online management capabilities<sup>1</sup>**

The Verdant VX3-TW-W-LIT thermostat delivers unprecedented energy savings without compromising guest comfort.

New energy efficient building codes have raised the energy performance standards required of commercial buildings.

California's Title 24 (Part 6) building code as well as other state building codes founded upon IECC 2015 or 2018 energy efficiency codes have now mandated occupancy-based control of heating and air-conditioning, lighting, outside air dampers, and/or receptacles.

The Verdant VX3-TW-W-LIT thermostat reduces HVAC runtime by dynamically setting back temperature in empty rooms, without disturbing the comfort of occupants.

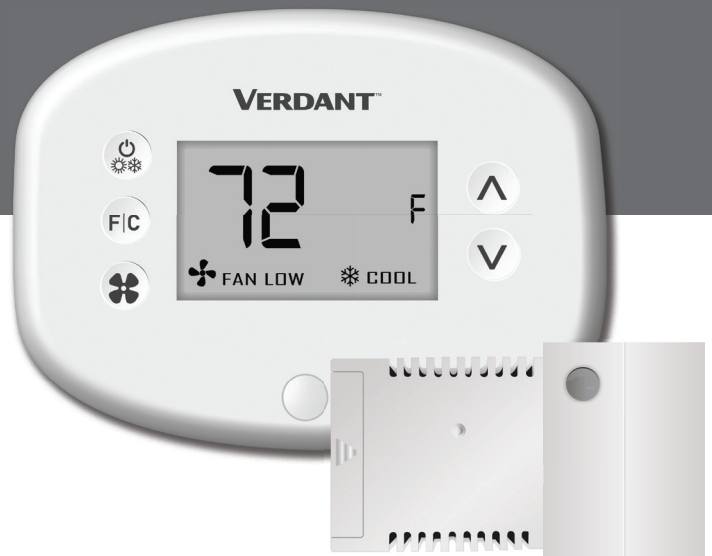
The thermostat can also power a lighting circuit by using an external relay that receives the thermostat's occupied/unoccupied signal.

The occupancy-based thermostat solution includes a dry contact switch on port J9 of the HVAC controller (see diagram on next page) that closes when occupancy is detected by the onboard sensor or any other remote wireless occupancy sensor.

When occupancy is detected, the dry contact J9 (activated by positioning a jumper in port J10) will close and allow a 24VAC transformer to energize the coil of an external relay R1 installed to control the lighting circuit.

In the absence of occupancy detection, after a configurable amount of time, the J9 switch will open and interrupt the flow of power to the lighting relay.

The Verdant thermostat and Verdant HVAC Controller communicate wirelessly for a simple and effortless installation. The Verdant HVAC Controller connects to the HVAC unit using a standard wire harness.



In the case of a mini split or VRF unit, please contact Verdant Sales for the applicable part number.

Verdant's combined solution offers building owners a cost effective energy management system that can be deployed with minimal accessories, and little to no extra labor, making it simple to install.

The VX3-TW-W-LIT thermostat facilitates building-code compliance by addressing the following requirements:<sup>2†</sup>

### IECC 2015

1. *C.405.2.4.3 Specific application controls for sleeping units.*

### IECC 2018

1. *C.403.7.6 Automatic Control of HVAC system serving guestrooms integrally.*
2. *C.405.2.4.2 Specific application controls for sleeping units*

### Title 24 Part 6

1. *Section 130.1(c)8 Shut-off controls for Hotel/Motel guestrooms.*
2. *Section 120.2(e) Shut-off and Reset Controls for Space-conditioning Systems*
3. *Section 130.5(d) Circuit Controls for 120V Receptacles and Controlled Receptacles.*

<sup>1</sup> Requires a network access license for each thermostat (Part Number: XMF) and one "Online Connection Kit" (Part Number: ZX-OL-U). Additional fees apply.

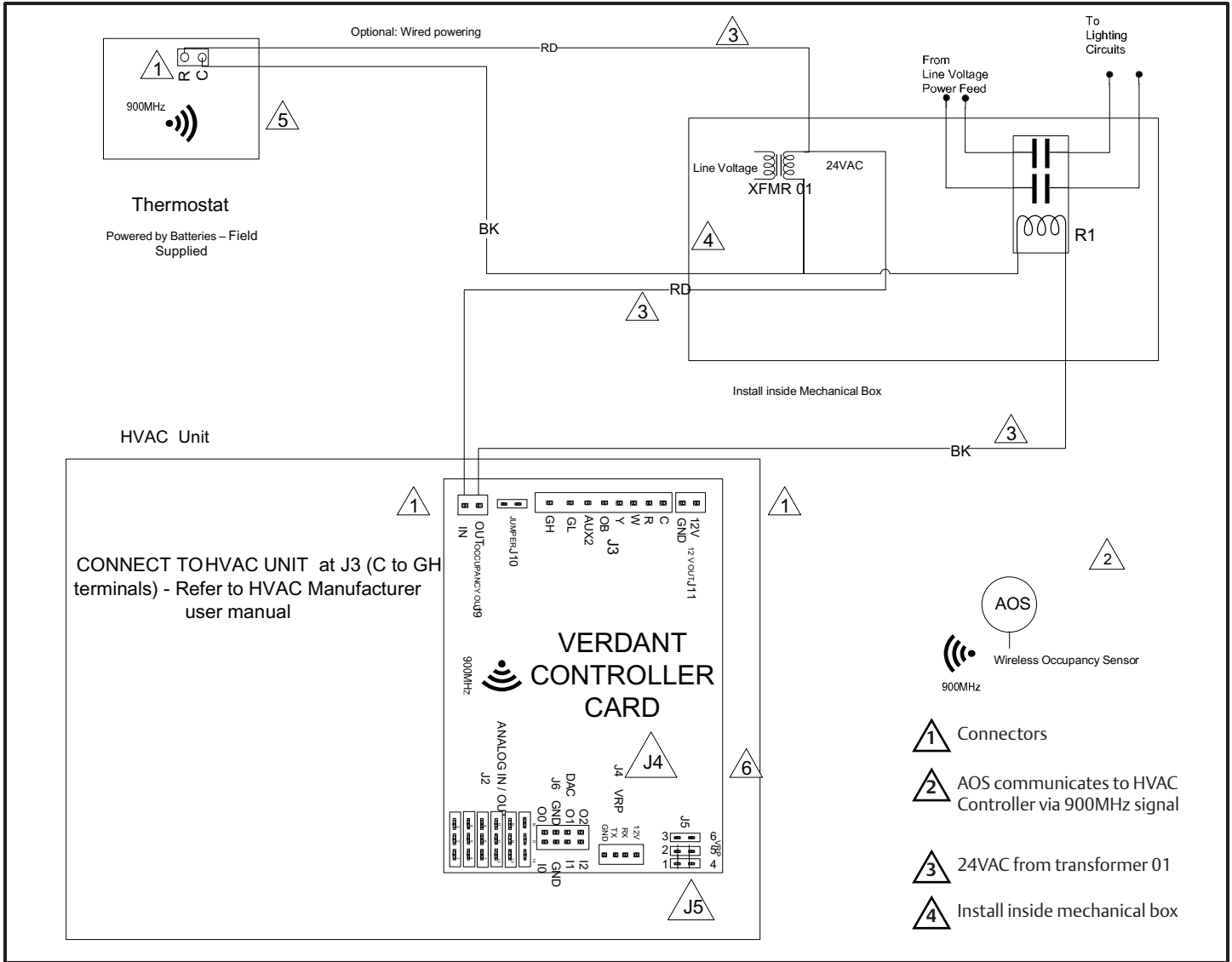
<sup>2†</sup> In jurisdictions where building code mandate any of the undermentioned measures, additional software licenses (Part Number: XMF) and one (1) Online Connection Kit are required. Additional fees apply.

\* SKU VX3-TW-W-LIT includes the VX-TW thermostat, ZX-LV HVAC Controller, and ZX-AOS Occupancy Sensor as one (1) kit. Also available in black. For black, replace W with B.

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# VX Series Technical Specifications



	Thermostat	HVAC Controller	Occupancy Sensor
Case Dimensions (Imperial)	3.00" x 4.73" x 1.32"	4.84" x 2.76" x 1.02"	1.82 x 2.4 x 0.74
Case Dimensions (Metric)	76mm x 120mm x 34mm	123mm x 70mm x 26mm	46mm x 61mm x 19mm
Screen Dimensions (Imperial)	1.88" x 0.94"	N/A	N/A
Screen Dimensions (Metric)	48mm x 24mm	N/A	N/A
Operating Voltage	2 *AAA* Cell Batteries	24VAC	3V - (2 AAA Batteries - Not Supplied)
Control Outputs		Fan High (GH)	
		Fan Low (GL)	
		Compressor (Y)	
		Heat Pump (OB)	
		Heat (W)	
		Occupancy Out (Aux 1)	
Occupancy Sensor Beam Width	±47° (94°)	NA	±47° (94°)
Wireless Frequency	900MHz	900MHz	900MHz
Temperature Accuracy	±1°F	NA	N/A
FCC ID	XEYZWU	XEY-ZX-LV	XEYZ9RF
IC	8410A-ZXWU	8410A-ZXLV	8410A-Z9RF

## Typical HVAC Applications

- PTAC with Electric Heat
- FCU 2-Pipe, 2 Fan, with Electric Heat
- Heat Pump, 2 Fan, with Electric Heat
- VRF Systems (Part # VX3-RSW-W)
- PTHP with Electric Heat
- FCU 4-Pipe, 3 Fan
- WSHP, 2 Fan, with Electric Heat
- Mini Splits (Part # VX3-RSW-W)



THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRABLE OPERATION.

PURSUANT TO PART 15.21 OF THE FCC RULES, ANY CHANGES OR MODIFICATIONS TO THIS EQUIPMENT NOT EXPRESSLY APPROVED BY VERDANT ENVIRONMENTAL TECHNOLOGIES, INC. MAY VOID VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

US PATENTS: 8,369,994; 8,141,791; 7,918,406; 7,841,542; 7,838,803; RE40,437; 7,232,075; 7,185,825; 7,156,318; 7,152,806; 7,145,110; 7,058,477; 7,050,026; 7,028,912; 6,902,117; 6,789,739; 6,786,421; 6,619,555; 6,581,846; 6,578,770; CANADIAN PATENTS: CA2615065; CA2633113; CA2633121; CA2633200; OTHER PATENTS PENDING.

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