



## Datasheet

# Digital Sensor (PL-T500)

## Description

The Prolon T500 digital sensor is designed to work with a variety of Prolon controllers, to which it transmits information such as the ambient zone temperature, heating and cooling setpoints as well as the schedule override request from the zone. The T500 has backlit graphical LCD display and a knob mounted on an precision rotary encoder with incremental feedback.

## Features

- 10KΩ Type 3 NTC thermistor 1% precision
- Circular knob and graphical display, which allow simple and intuitive control
- Infinitely turning rotary encoder with incremental detents (mechanical feedback) allows for precise setpoint adjustment
- Designed to work with various Prolon C1000 and VC2000 series controllers, sending them zone temperature, setpoints and schedule override request
- Easy wiring with numbered screw type terminal block or RJ45 modular jack
- Oval-shaped screen and curved features offer a modern look. Other colors available!

## Technical Specifications

- **Supply:** 24 VAC  $\pm$ 10%, 50/60 Hz
- **Power:** 5 VA (max)
- **Inputs:** None
- **Outputs:** None
- **Screen:** LCD 80x130 pixels with backlighting
- **Interface:** Knob mounted on rotary encoder with detents and schedule override push-button
- **Microprocessor:** SyncMOS 8-bit, 11 MHz, 64KB FLASH memory
- **Connection:** Screw type terminal blocks (16 AWG max) and RJ45 modular jack
- **Dimensions:** 3.23" x 4.96" x 1" (82 mm x 126 mm x 25 mm)
- **Weight:** 0.5 lbs (0.23 kg)
- **Environment:** 32-122 °F (0-50 °C)
- **Mounting:** Standard electrical box 2" x 4"

## Compliance

- FCC Compliant to CFR47, Part 15, Subpart B, Class B
- Industry Canada (IC) Compliant to ICES-003, Issue 5: CAN ICES-3 (B)/NMB-3(B)
- RoHS Directive (2002/95/EC)

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 undesired operation.

Caution: Any changes or modifications not approved by Prolon can void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential

installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This Class (B) digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment regulations.

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## Datasheet

# Zone Controller (PL-VC2000)

## Description

The ProLon VC2000 series zone controllers are designed for variable air volume zoning systems. The built-in microprocessor offers precise digital control to maximize performance. The outputs and control sequences are all fully configurable, either locally or remotely, using free software or from the digital room sensor. The on-board brushless actuator provides electronic feedback on damper position. When in a network, the VC2000s can share information such as the occupancy state, the demand, the supply temperature and more.

## Features

- Proportional integral (PI) control loops maximize performance
- Precise control of the Belimo actuator using Halomo® technology
- 1 digital output and 1 analog output, both protected with resettable fuses
- Supports Modbus and BACnet protocols
- Remote monitoring and configuration with FREE ProLon Focus software
- Standalone or networked (up to 127 nodes)
- Configurable sequences for radiant floor and duct heater
- Analog input can monitor discharge air, occupancy, CO2 levels and more
- Works with or without a flow sensor
- Monitoring and configuration from a digital sensor
- Quick and easy installation using detachable numbered terminal blocks
- Possibility of multiple actuator control
- FlexiZone system facilitates multiple zone management by evaluating the average weighted demand of the zones using customized groups

## Technical Specifications

- **Supply:** 24 VAC ±10%, 50/60 Hz, Class 2
- **Power:** 3 VA (Typ Consumption), 5 VA (Max Consumption), 24 VA (Input)
- **Inputs:** 1 general purpose analog input supporting 3 types of input signals (0-5V, 4-20mA and thermistor), as well as an RS485 communication port for a digital zone temperature sensor
- **Flow sensor:** 0-2 inches of H2O (optional)
- **Digital output:** 1 triac 10-30 VAC dry contact, 300 mA max (resettable fuse), ON/OFF or pulsed, heating or cooling
- **Analog output:** 0-10 VDC, 40 mA max (resettable fuse), modulating, ON/OFF or pulsed, heating or cooling
- **Indication lights (LED):** State of each output / Communication/ Power / State of microprocessor
- **Casing:** Molded ABS, UL94-HB
- **Microprocessor:** PIC18F6722, 8 bits, 40 MHz, 128KB FLASH memory
- **Communication:** 1 RS485 network port (Modbus RTU or BACnet MS/TP - up to 127 nodes), and 1 RS485 port for digital sensor or computer interface.
- **Baud rates:** 9600, 19200, 38400, 57600, 76800, 115200
- **Connection:** Removable screw-type terminal blocks (16 AWG max)
- **Dimensions:** 5" x 5" x 3" (127 mm x 127 mm x 77 mm)
- **Weight:** 1.15 lbs (0.5 kg)
- **Environment:** 32-122 °F (0-50 °C) Non-Condensing
- **Certification:** UL916 Energy Management Equipment, CAN / CSA-C22.2, FCC part 15: 2012 class B, RoHS
- **Actuator:** Belimo® with Halomo® technology, 45 in-lb  
Minimum Spindle Length: 37 mm / 1.5 in (Belimo LM)  
Spindle Diameter Range: 6-20 mm / 0.25-0.75 in (Belimo LM)

Spindle length	Spindle diameter
 min. 1.5 inch.	 1/4...3/4 inch.