Predator Four Loop Controller

Description

The LONMARK® certified Predator® Four Loop Controller provides closed loop control for HVAC equipment and miscellaneous spare input/output points. The Predator Four Loop Controller is designed to reside on a LONWORKS® network, providing seamless interaction with all LONMARK products.

Features

- Conforms to and is certified to the LONMARK interoperability guidelines, enabling information sharing with other LONMARK products.
- Point expansion and/or internal processing of up to 4 control loops provide flexibility to meet any job site need.
- Field-selectable parameters allow entry and updating of setpoint and control parameters via the TALON® Interface.
- Unique two-piece design, consisting of a plenum-rated Enclosure Cover with Embedded Controller Board and a separate Wiring Base, to protect electronic parts from potential damage during installation.
- Advanced PID control minimizes offset and maintains tighter setpoint control.
- Return to service from power failure without operator intervention.

Applications

The Predator Four Loop Controller contains 4 control loops that can be configured to control a variety of equipment. The loops can be configured so they are cascaded, parallel or run independent of each other. The following are a few examples of the configurable capabilities of the Four Loop Controller:

- Pressure loops
- Reheat temperature control
- Chilled water control
- Humidity Control
- VAV terminal with discharge control
- Hot water converter
- Miscellaneous I/O

Hardware

The unique design of the Predator Four Loop Controller consists of two components:

- Enclosure Cover with Embedded Controller Board
- Wiring Base

This design reduces threat of damage to the controller board during installation and reduces service time. The wiring connections are made to the wiring base, allowing this component to be installed early in the project cycle. Additionally, if the board needs repair, the controller board can be removed easily, without disrupting the wiring connections.

Enclosure Cover with Embedded Controller Board

To further enhance the protection of the controller board, it is embedded into the enclosure cover. Installation consists of snapping the enclosure cover onto the wiring base.

The Enclosure Cover with Embedded Controller Board offers 6 Inputs, 8 Digital Outputs, 3 Analog Outputs, 1 Room Sensor

The Controller Board communicates to all LONMARK devices via a Neuron® chip. The controllers are shipped with pre-loaded applications, reducing engineering start-up time.

Spare Input/Output Points

The Predator Controller can be configured to control spare I/O exclusively or shared with one of the 4 control loop configurations.

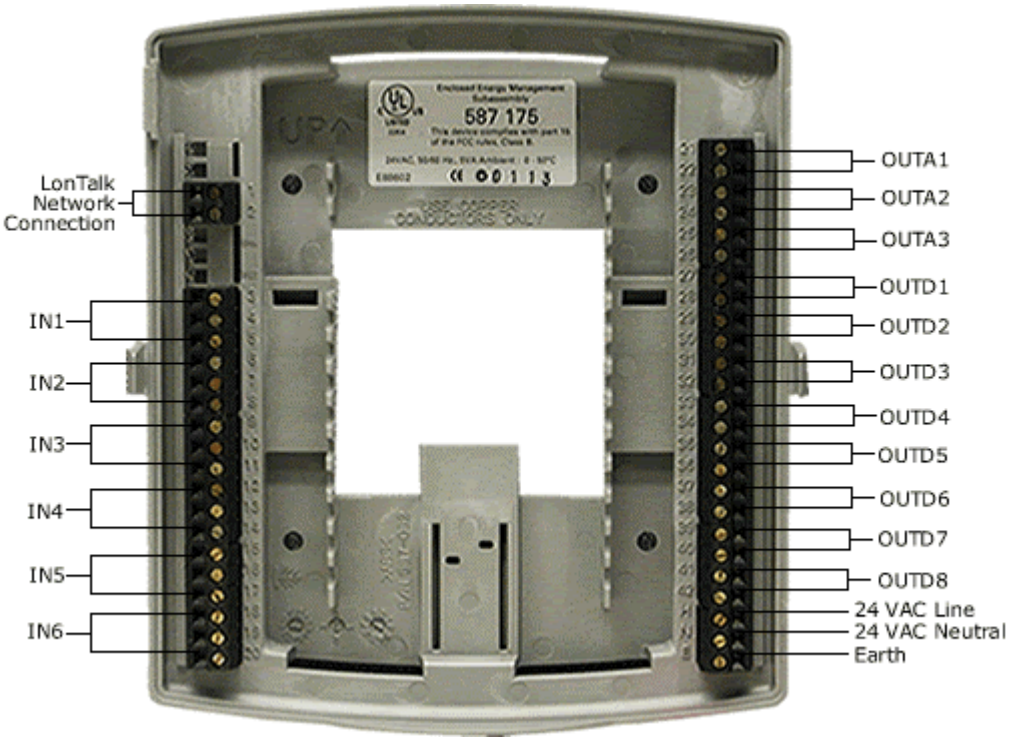
Wiring Base

The Wiring Base is designed to handle the inputs and outputs for the Four Loop controller.

Specifications

Specification	
Processor Type	Neuron 3150
Processor Clock Speed	10 MHz - Neuron
Network Communication Speed	TP/XF-10 (78.8K bps)
Memory Size	49 K Flash Memory 10 K SRAM
Voltage Requirements	24 Vac @ 50/60 Hz
Power Consumption	5 VA plus loads
Ambient Operating Environment	+32°F to +122°F (0°C to +50°C) 5 to 95% RH (Non-condensing)
Agency Listings	UL/CUL 916 PAZX/PAZX7 (Enclosed Energy Management) LONMARK 3.2
Regulatory Compliance	FCC Part 15, Class B CISPR 22 Class B CE Mark Australian EMC Framework
Dimensions:	6.75" H × 7" W × 2.45" D (171 mm × 178 mm × 62 mm)
Weight	2 lbs. (.9 kg)

Wiring Diagram



Wiring Recommendations:

Input/AO	20 to 22 AWG
DO	18 to 22 AWG
Power	16 to 18 AWG
LONWORKS Network	22 AWG Level 4

Transformer Requirements and Recommended Voltages

Type	Class 2 , 24 Vac, 50/60 Hz

Optional Accessories

Predator Room Temperature Sensors

The Predator Room Temperature Sensors offer a wide range of features and functions. The sensors work with the Staefa TALON building-automation system to deliver exceptional occupant comfort in even the most demanding application environments. The product family ranges from temperature-sensing-only variants to sensors that include LCD display, setpoint and override. All sensors incorporate precision temperature-sensing elements to accurately and reliably measure room temperature. Their compact design results in an attractive, inconspicuous installation. A styled ventilation ring optimizes airflow through the cover for fast measurement response.

Predator Room Sensor Specifications

Dimensions	3-11/32" H × 2-1/2" W × 1-1/2" D (85 mm × 63 mm × 38 mm)
Temperature Monitoring Range	55° to 95°F (13° to 35°C)
Thermistor Resistance Value	10,000 Ohms @ 77°F (25°C)
Setpoint Range	55-95°F
Calibration Adjustments	None Required
Standard Colors	White

Predator Ordering Information

Controllers

Description	Product Number
Predator Four Loop 6IN 8DO 3AO 2 IN 100K Ω Thermistor or Dry Contact 4IN 0-10 Vdc or Dry Contact 8 DO 24 Vac, 12VA, Triac 3 AO 0-10 Vdc 1 RS 10K Ω Thermistor Room Sensor	587-290
Predator Full Point Wiring Base Termination support up to 6IN, 8DO and 3AO	587-175

Accessories

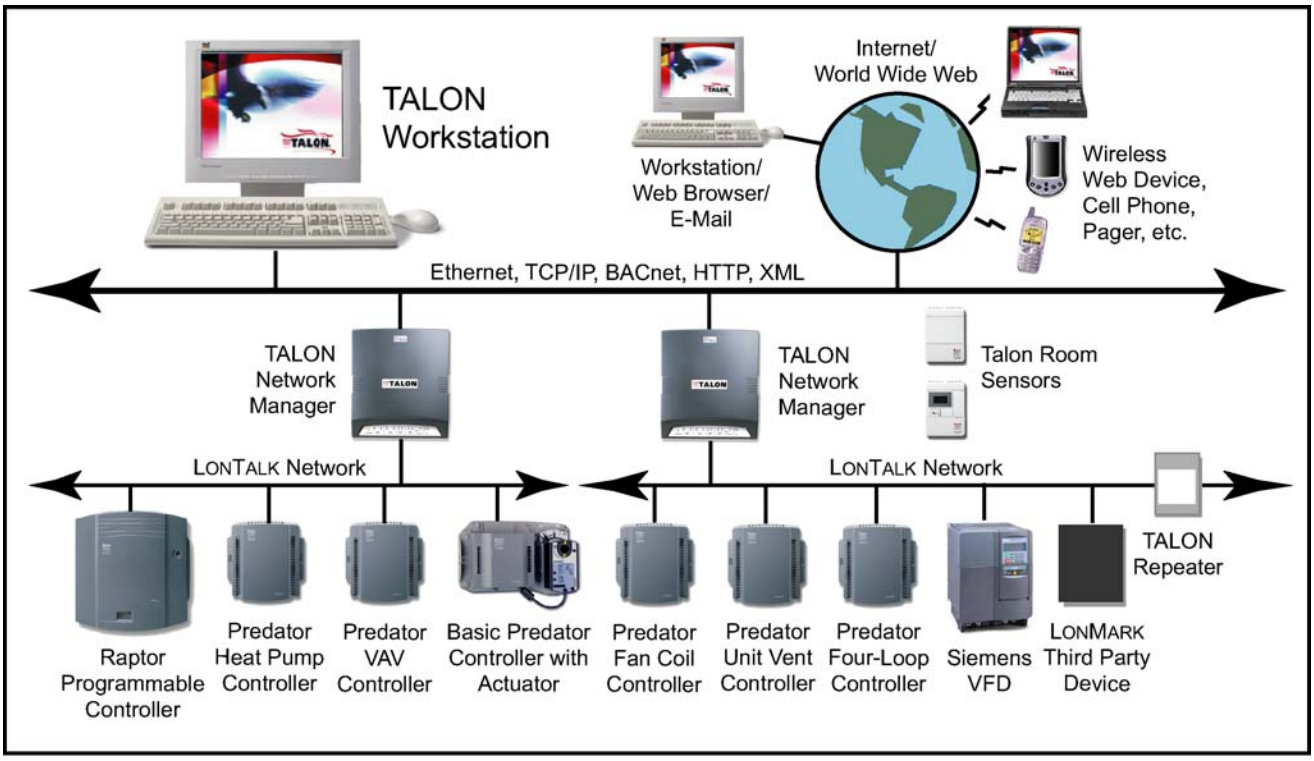
Description	Product Number
Predator Room Sensors	
Sensing Only	587-180
Bypass	587-181
Setpoint	587-182
Temperature Display	587-183[1]
Setpoint and Bypass	587-184
Bypass and Temperature Display	587-185[1]
Setpoint and Temperature Display	587-186[1]
Setpoint, Bypass and Temperature Display	587-187[1]
Optional Room Sensor	
100K No logo room sensor	
Predator Termination Connector Kit	587-171

Documentation

Description	Product Number
TALON Information Library CD	587-980

1. Sensor will display Fahrenheit or Celsius temperature.

TALON Architecture



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