POWERPRO INDUSTRIAL CONTROLLER (PPIC)



Advanced Energy's PowerPro Industrial Controller (PPIC) is a universal shelf controller. It can replace the existing PowerPro Connect Module (PPCM) functions. It adds advanced monitoring, control, automation, and connectivity capabilities to AE power supplies, and provides a platform to develop value-added applications for industrial opportunities.

Built-in Node-RED allows users to easily automate workflows, define logic, and connect multiple devices without knowing complex communication protocols. Operators can build personalized, real-time screens with custom charts, gauges, and buttons for instant monitoring and precise control.

CONTENTS

Mechanical Drawings

Connectors and Pin Definitions

User Interfaces

Key Applicatiions

Environmental Specifications

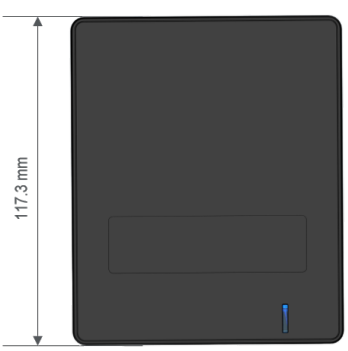
Ordering Information

SPECIAL FEATURES

- Monitor up to 36 devices simultaneously
- Support industrial communication protocols:
  - Modbus-RTU/TCP
  - CANOpen
  - PMBus
- Includes a pre-built Web UI for Remote Access
- Enables automation using Node-Red flows
- Supports MQTT for integration with cloud services and remote systems
- Logging, alerts and diagnostics
- Optional LCD touchscreen support for local user interaction

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MECHANICAL DRAWINGS











CONNECTORS AND PIN DEFINITIONS



Pin 1 – CAN_L
Pin 2 – CAN_H
Pin 3 – GND
Pin 4 – No Connect
Pin 5 – RS485_A+
Pin 6 – RS485_B-

Pin 1 – CAN_L
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Pin 1 – GND
Pin 2 – RS232_TXD
Pin 3 – RS232_RXD
Pin 4 – DAC OUT

Pin 1 – IO0
Pin 2 – IO1
Pin 3 – IO2
Pin 4 – IO3
Pin 5 – ADC
Pin 6 – IO7
Pin 7 – IO6
Pin 8 – IO5
Pin 9 – IO4
Pin 10 – GND

Pin 1 – GND
Pin 2 – GND
Pin 3 – No Connect
Pin 4 – ALRT
Pin 5 – SCL
Pin 6 – SDA

CONNECTORS AND PIN DEFINITIONS (CON'T)

Note: The PPIC can be offered in either a stand-alone, plastic molded enclosure or be mounted within another product such as a system rack as a shelf controller or as value-added project.

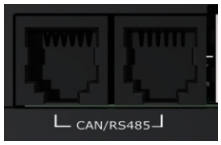
Input Power

Device is powered by an isolated 5VDC via USB-C port.



CAN/RS485

The PPIC has a master CANBUS and RS485 ports, both are RJ11 connector.



Ethernet Port

The PPIC ethernet port, RJ45 type. Support TCP/IP, HTTP, FTP, UDP and SSH.



LAN Reset

This is to reset the PPIC to default IP address.



USB Interface

The USB device interface. Used for software updates, firmware updates for PPIC. The USB interface can also be used for touch interface, and other I/O expansions such as Wifi, Bluetooth, Serial and USB hub.



RS232

The PPIC debug console.



GPIO

The PPIC analog and digital I/O.
Analog to digital input supports up to 10V input. Digital I/O logic level is 3.3V.



I^2C

The PPIC has an I^2C port and support communication with PMBus devices



USER INTERFACES

Webtool

The PPIC has a locally hosted webtool. It can config and to launch custom applications tailored to the application. Examples include dedicated product dashboards, customer specific applications, third party applications, debug tools, etc.

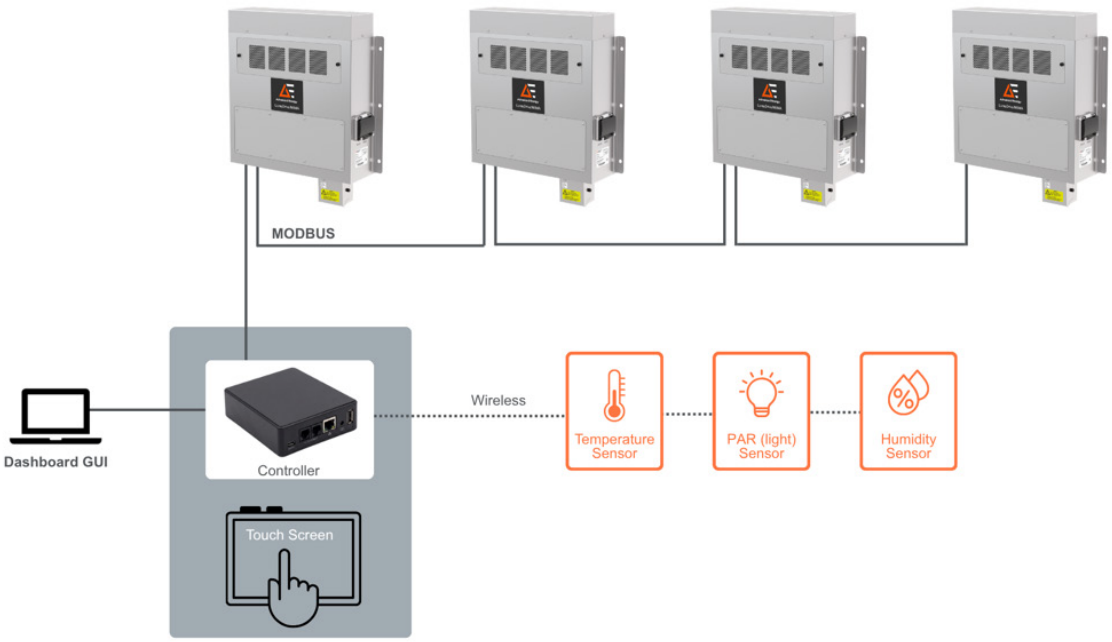
External Display

The PPIC supports connection to an external touch display, providing a local user interface for system configuration, monitoring, and control of connected power supplies. For a list of supported external displays, please contact the Advanced Energy technical support team.

KEY APPLICATIONS

Horticultural Lighting Control

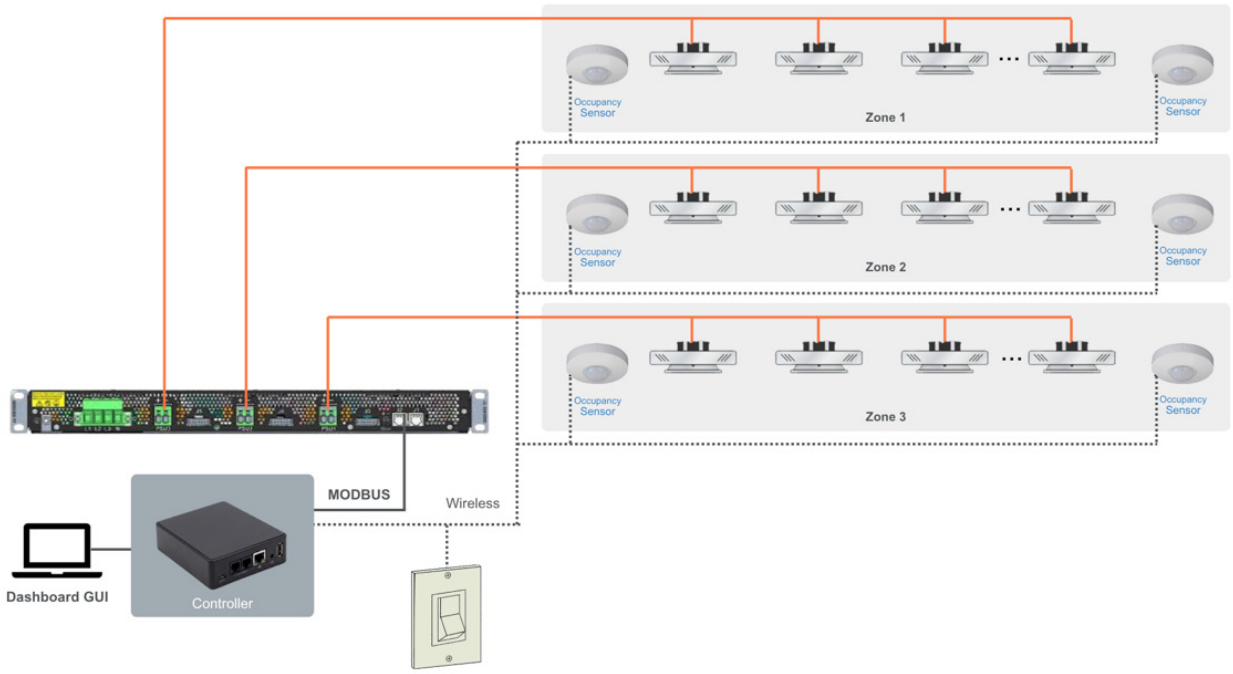
The PPIC support iHLC or similar for horticultural lighting control. The controller can control a minimum of 36 LCM4000HV modules. Each module is able to be scheduled independently to create 36 zones of schedules.



KEY APPLICATIONS

Industrial Lighting Control

The PPIC supports lighting devices such as proximity sensors, daylight sensors and wall switches. The PPIC is capable of mapping the sensors and switches to pre-defined actions such as turning on a LCM4000HV to a desired current level.



Firmware Update Utilities

The PPIC can load firmware onto connected power supplies. The firmware update can run on the local PPIC web server and be capable of receiving firmware updates from the cloud or USB thumb drive and installing the firmware updates to specified connected power supplies.

ENVIRONMENT SPECIFICATIONS

Environment Specifications	
Operational Temperature	-20°C to 50°C
Storage Temperature	-40°C to 85°C
Operational Humidity	Non-condensing 20% to 90% RH
Storage Humidity	Non-condensing 10% to 95% RH
Operational Altitude	Up to 9,842 feet (3,000 meters) above sea level
Storage Altitude	Up to 30,000 Feet (9,144 meters) above sea level
Operational Vibration	Operating Sinusoidal Vibration: MIL-STD-810G Method 528 Procedure I (Type 1); NEBS Office Vibration Environment, Alternate Procedure. Operating Random Vibration: IPC-9592B Class I
Non-Operational Vibration (Packaged)	IPC 9592B Class I; MIL-STD-810G, Method 514.6, Procedure I, Category 7, Table 514.6C-VII, General Exposure
Shock	MIL-STD-810G Method 516.6 Procedures I, II, IV, VI
Shipping and Handling	NSTA for <100 lbs.
Ingress Protection	IP20
Pollution Degree	2
RoHS and REACH Compliance	Yes

ORDERING INFORMATION

Part Number	Description
83-200-004	PowerPro Industrial Controller

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than four decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

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