Ethernet of Everything

Quick and Easy Networking of “Things” via Power over Ethernet (PoE)

Summary

Whether called Internet of Things (IoT), Industrial IoT or Industrial Ethernet—any “thing” can now be connected, controlled or monitored—garage openers, home appliances, HVAC systems, lighting and an endless array of other common products. This places increased importance on products that are easily connected and provide intelligent control within a simplified development environment.



We Enable Power

The PDS-408G Digital Ceiling Power over Ethernet (PoE) Switch is an optimal and cost-effective solution for PoE lighting and other connected “things”. With PoE, lighting fixtures and Ethernet terminals receive power and data over standard Ethernet cables. The PDS-408G is a 480W fanless PoE switch, designed to be deployed in a ceiling or communications rooms supporting full power mode for up to 60W on all 8 ports simultaneously with any specific port upwards of 90W. The 480W high-speed switch can be managed over Web, SSH, Telnet, CLI. It has 8 ports of 10/100/1000 Mbps (Gigabit Ethernet) with PoE BT ports, 2 Gigabit ports and one 1000M/100M SFP port.

- PoE switch for lighting 480W fanless PoE switch, designed to be deployed in the ceiling or in communications rooms
- PoE PD IC's with and without integrated PWM controllers, compact way to convert PoE input power to one or more output voltages in a powered device
- PoE PSE IC's featuring 1 to 12 ports, and modules, delivering up to 95W over a single Category 5 cable

Ordering information

PDS-408G/F/M/AC: 8+3 ports PoE Switch for lighting, AC input

We Enable Things

Networked things range in complexity from the simplest environmental sensor to processing intensive nodes. Microchip’s 8-bit and 32-bit microcontrollers enable these applications with lightweight communications stacks and an extensive mix of smart peripherals that operate independently of the core—requiring little to no CPU intervention. Paired with Microchip’s industry-leading eXtreme Low Power (XLP) and picoPower® technologies, PIC® and AVR® MCUs enable innovation in the Ethernet of Everything.

Microchip’s Ethernet solutions build upon an established networking foundation, providing improved system performance, reduced latency, ease of installation and scaling, as well as Power over Ethernet (PoE) for single-line power and communications.

Scaling Solutions

- Extensive 8-/32-bit PIC and AVR MCU product portfolio
- Autonomous analog and digital peripheral operation
- Flexible MAC/PHY options

Communications and Control

- Easy Ethernet enablement (UDP, UDP + CoAP, TCPIP)
- Customizable response and control
- Human and sensor interface

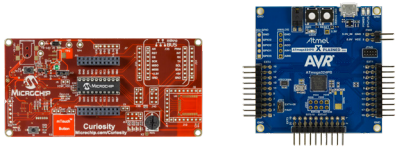
Firmware

Getting started is easy with free lightweight TCPIP stacks to create customized applications that are easily implemented via MPLAB® Code Configurator and START. Microchip has collaborated with CISCO to enable the Digital Building Ecosystem by developing a standards-based CoAP communication layer with application specific data models —minimizing the challenges in creating interoperable products from various vendors.

Quick Start Development Environment

Quickly start designing with Microchip's comprehensive array of easy-to-use hardware and software tools. Reduce development time with Microchip's Curiosity, Xplained or PoE development platforms and add functions with click boards™ from MikroElektronika. Rapidly generate peripheral configuration and communications code with MPLAB Code Configurator or START.

Curiosity and Xplained Development Platforms



- Curiosity for PIC MCUs
  www.microchip.com/curiosity
- Xplained for AVR MCUs
  www.microchip.com/xplained
- Supports 8- to 40-pin MCUs
- Integrated programmer/debugger
- mikroBUS™ click board header

mikroBUS click boards



- www.microchip.com/purchase
- Over 140 click boards and growing
- Vast array of quick plug-in options
  - Variety of sensors
  - Communications
  - Wireless
  - LCD and more…

MPLAB Code Configurator and Atmel START

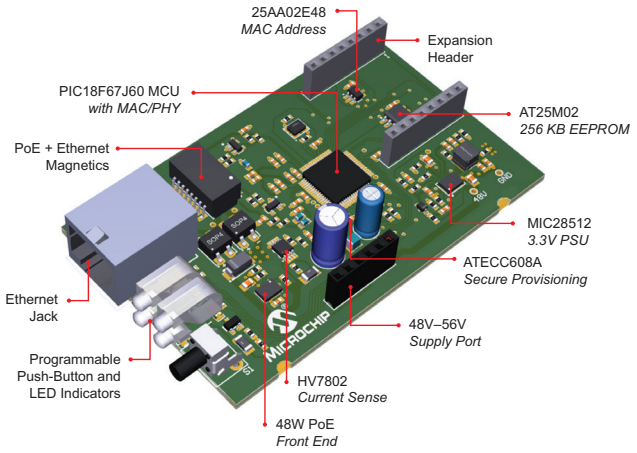
- MCC for PIC MCUs
  www.microchip.com/MCC
- START for AVR MCUs
  www.microchip.com/START
- Free graphical programming environment
- Simplified configuration of:
  - Peripherals and functions
  - Communication stacks
- Reduces overall design time

Power over Ethernet (PoE) Development Platform

Microchip has developed the next generation development hardware that takes advantage of PoE for single-line communications and power. This ultimately simplifies design, reduces form factors and eases in the installation of "things".

Highlights

- Universal reference design and development platform
- Industry-standard infrastructure for communications and power
- Up to 48W device power delivery
- Base board with expansion header
  - LED driver
  - Gesture controller
  - Sensor interface
  - mikroBUS click boards
  - Custom expansion
- Development support for Cisco Digital Building Ecosystem



Ordering Information

- PoE Base Board (DM160230)
- PoE Development Kit (DV161001)
  - Includes PoE Base Board, PoE programmer and I/O starter click

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