

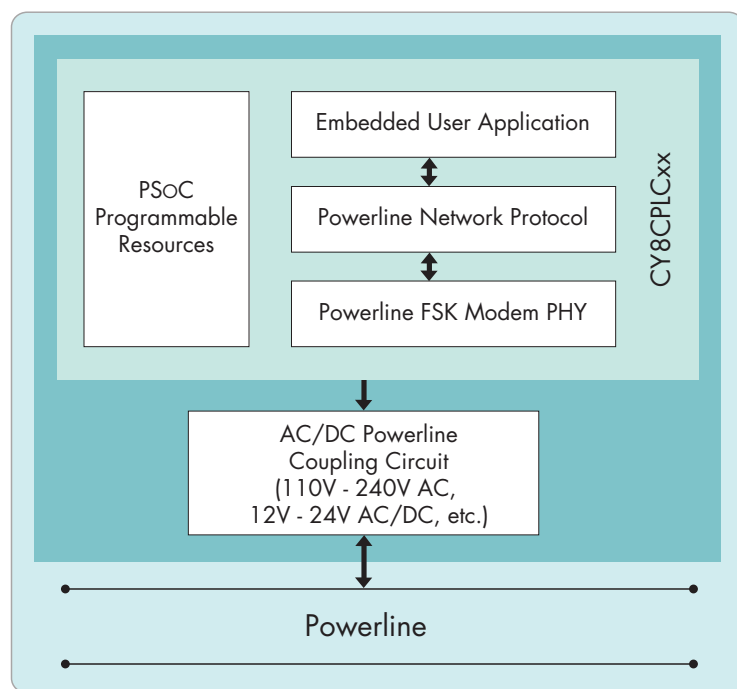
CYPRESS

# POWERLINE COMMUNICATION SOLUTIONS

## PRODUCT OVERVIEW

### ROBUST POWERLINE COMMUNICATION, HIGHER SYSTEM INTEGRATION, FASTER TIME-TO-MARKET

Cypress's Powerline Communication (PLC) solution enables the implementation of robust and reliable communication over AC and DC Powerlines. With Cypress's PLC solution, you do not need new wires to transmit command and control data — you can reuse the existing infrastructure. Cypress's PLC family of devices (CY8CPLC10 and CY8CPLC20) combines revolutionary PSoC® technology with reliable Powerline Communication to allow integration of multiple system functions in a single device, thereby reducing BOM costs and providing a smarter way to implement command and control. FCC- and CENELEC-compliant boards and complete network protocol implementation from Cypress accelerate time-to-market.



Powerline Communication Solution

### APPLICATIONS

- Lighting and industrial control
- Home automation
- Automatic meter reading
- Smart energy management

### FEATURES

#### COMPLETE POWERLINE COMMUNICATION SOLUTION

- Integrated Powerline FSK PHY modem, network protocol, and complete coupling circuitry
- Supports bidirectional half-duplex communication
- Variable baud rates up to 2400 bps
- Onboard power supply derives power from the Powerline bus

#### PSoC PROGRAMMABILITY

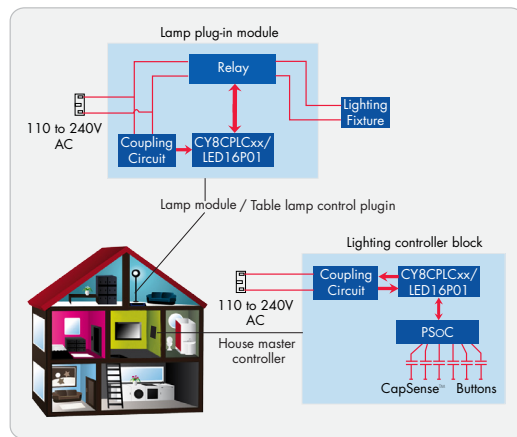
- Industry's first programmable Powerline Communication solution with integrated LED drive support
- Additional PSoC resources to integrate LED driving, analog, and digital functions
- Enables multiple system functions on a single chip

#### FLEXIBILITY

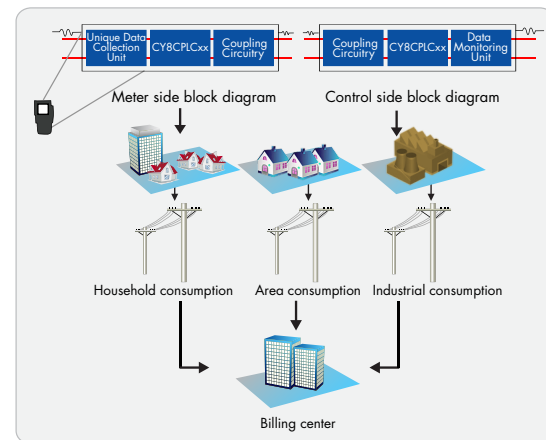
- Ability to communicate over high voltage and low voltage Powerlines
- Reference designs available for both high-voltage (110V – 240V AC) and low-voltage (12V – 24V AC/DC) coupling circuits

#### COMPLIANT STANDARDS

- FCC (North America), CENELEC (Europe), and UL certified evaluation board designs



Powerline Communication for Home Lighting



Powerline Communication for Automatic Meter Reading

## POWERLINE COMMUNICATION PORTFOLIO

Part Number	Features	Baud Rate	Category	Flash	RAM	GPIO Count	Voltage (V)	Package
CY8CPLC10-28PVXI	Integrated PLC solution with I <sup>2</sup> C interface	Up to 2400 (bps)	Fixed function	—	—	—	4.75 to 5.25	28 SSOP
CY8CPLC20-28PVXI	Programmable PSoC PLC solution	Up to 2400 (bps)	PSoC	32K	2K	24	4.75 to 5.25	28 SSOP
CY8CPLC20-48ITXI	Programmable PSoC PLC solution	Up to 2400 (bps)	PSoC	32K	2K	44	4.75 to 5.25	48 QFN
CY8CPLC20-OCD	Programmable PLC solution (for debug only)	Up to 2400 (bps)	PSoC	32K	2K	64	4.75 to 5.25	100 TQFP

## POWERLINE COMMUNICATION RESOURCES

Datasheets	CY8CPLC10 and CY8CPLC20
Evaluation kits	CY3272 - High voltage 110 to 240V AC non-programmable PLC evaluation kit featuring CY8CPLC10 CY3273 - Low voltage 12 to 24V DC/AC non-programmable PLC evaluation kit featuring CY8CPLC10
Development kits	CY3274 - High voltage 110 to 240V AC programmable PLC development kit featuring CY8CPLC20 CY3275 - Low voltage 12 to 24V DC/AC programmable PLC development kit featuring CY8CPLC20
Debugging kits	In-Circuit Emulator (ICE) debugging solutions for CY8CPLC20 and CYLED16P01
User's guides	CY3272, CY3273, CY3274, and CY3275 kit user's guide
Application Notes	Designing an external host application for Cypress's Powerline Communication IC CY8CPLC10 - AN52478 Using CY8CPLC20 in Powerline Communication (PLC) applications - AN54416 Estimating CY8CPLC20 power consumption - AN55403 Cypress Powerline Communication board design analysis - AN55427 LED lighting control using Powerline Communication - AN58717 Cypress Powerline Communication debugging tools - AN58825 Cypress Powerline Communication performance analysis - AN59464
Software	Control panel GUI for Powerline Communication – available with all evaluation and development kits RGB GUI for LED Lighting applications – available with all evaluation and development kits PSoC Designer™ 5.0 user module support for CY8CPLC20
IBIS Models	IBIS models for CY8CPLC10 and CY8CPLC20

Cypress Semiconductor Corporation  
198 Champion Court, San Jose CA 95134  
phone +1 408.943.2600  
toll free +1 800.858.1810 (U.S. only)

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