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## PL360-EK Quick Start User Guide

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### Overview

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PL360-EK is an evaluation kit for the PL360 modem, a multi-protocol device to implement standard and customized PLC solutions. PL360-EK includes a SAM4CMS16C ARM Cortex-M4 microcontroller, which provides a full-featured platform to develop a complete communication system over PLC technology.

### Getting Started

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**Attention:** Before starting, it is necessary to register the kit and obtain access to online resources from Microchip. Please follow the instructions in the welcome letter attached to this kit.

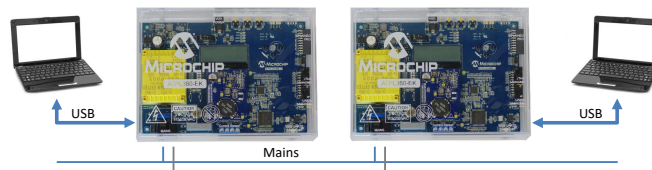
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### Power-Up

By default, the boards are configured to be supplied with 230Vac. Please verify that the mains voltage level is also 230Vac, otherwise, check the *PL360 EK User Guide* to know how to change the voltage configuration to 115Vac. Afterward, plug the power cord cable to an AC power socket.

The kit is delivered with a preprogrammed application in SAM4CMS16C Flash memory (G3-PLC PHY Tester for CENELEC-A band) which allows sending and receiving PLC messages using PHY layer. When the board is powered-up, the LCD will display some text and LEDs will show activity.

### Running PHY Tester Demo



1. Download *Microchip PLC PHY Tester* from the online resources site and install it
2. Power-up PL360-EK board 1 and connect it to a PC using a micro USB cable
3. Launch the PHY Tester PC Tool, select serial port of board 1 and baud rate (230400 bps)
4. Follow on-screen instructions and configure a Tx test
5. Power-up PL360-EK board 2 and connect it to a PC using a micro USB cable
6. Launch the PHY Tester PC Tool, select serial port of board 2 and baud rate (230400 bps)
7. Follow on-screen instructions and configure an Rx test
8. Start Rx test in PL360-EK board 1
9. Start Tx test in PL360-EK board 2
10. Transmitted frames from board 2 are received in board 1

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For more information about usage and configuration of the PLC PHY tester tool, please check the user manual embedded in the tool: **Help** tab > **User Manual**.

## Navigating the Kit

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**Important:** In order to explore all the features of this kit, please check the firmware user guides provided with the online contents of the EK.

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### Online Resources

PL360-EK is complemented with a set of online resources. To access these resources, it is necessary to register the kit as it is described in the welcome letter. These online resources include:

- Board schematics, layout and BOM of all boards included in the kit
- Last version of supported firmware stacks for power line communications
- Set of PC tools to evaluate the performance of Microchip PLC solutions

### Firmware Projects

PL360-EK currently supports G3-PLC and PRIME protocols. Each firmware stack includes several projects and examples of use. For more information about the firmware projects and how to build and debug the different examples, please read the appropriate documentation provided with the online contents of the kit:

- *G3-PLC Firmware Stack*
- *PRIME 1.3 FW Stack for Service Nodes* and *PRIME 1.3 FW Stack for Base Nodes*
- *PRIME 1.4 FW Stack for Service Nodes* and *PRIME 1.4 FW Stack for Base Nodes*

### Tools

Some of the projects included in the firmware release require a PC application:

- G3-PLC/PRIME Manager PC tool: enables users to easily interface with the highest layer of the provided PLC stacks
- PHY Tester tool: provides users with complete access to PHY layer configuration. Excellent tool for point-to-point tests
- PHY Sniffer: captures, analyzes and displays PLC traffic. Excellent tool for network supervision and debugging

For more information about the tools read the documentation of the firmware stack.

### Coupling Boards

Coupling boards are a set of easily interchangeable boards, each one designed to achieve optimal performance in a specific band of transmission. PL360-EK includes two coupling boards:

- PLCOUP006, designed to communicate in the frequency band between 151 and 471 kHz
- PLCOUP007, designed to communicate in the band between 35 and 91 kHz (CENELEC-A)

To communicate in a frequency band, PL360-EK requires the appropriate coupling board and firmware configuration. For more information about the coupling boards, read the *PL360-EK User Guide*.

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**Revision History**

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Revision	Date	Description
50002752A	04/2018	Initial Release

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- Local Sales Office
- Field Application Engineer (FAE)
- Technical Support

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Technical support is available through the web site at: <http://www.microchip.com/support>

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