
PLC-AC-Coupler User Guide

Introduction

PLC-AC-Coupler is an accessory for the PL485-EK, allowing it to be safely connected to an AC line.

Contents

- Welcome letter
- One PLC-AC-Coupler board mounted inside a plastic enclosure
- One power cord cable IEC320-C8
- One RJ11 straight cable

Features

- Fine tuned for operation in the 100..148 kHz band
- ABS plastic enclosure for safe use
- PLC isolation transformer
- Zero crossing detection circuit
- Protection against disturbances from power lines
- Direct connection to the PL485-EK, providing differential PLC, ground and zero crossing signals

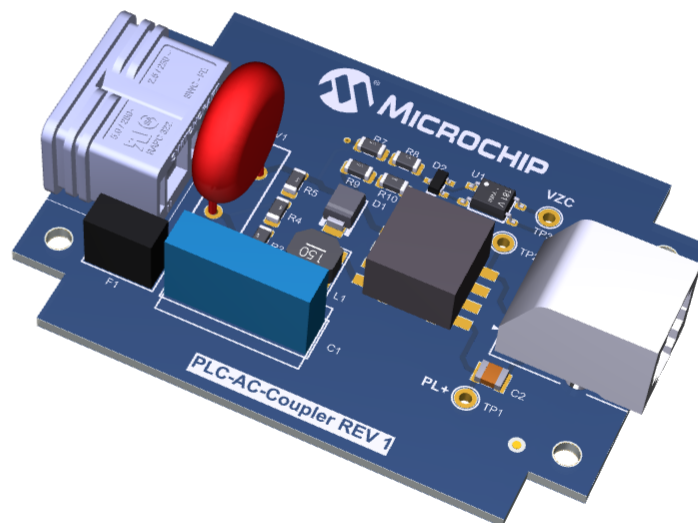


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1. Evaluation Kit Specifications

1.1 Safety Recommendations

These development boards must be used only by expert technicians. PLC-AC-Coupler is connected to the mains grid, so a hazardous voltage (100/115/230VAC) is present on the board. To avoid user access to dangerous areas, the PLC-AC-Coupler must always be used within its enclosure. The PLC signals connector is easily accessible without electrical shock risk due to the provided galvanic isolation.



Please do not remove plastic enclosure; otherwise, the PLC-AC-Coupler will not comply with the EN60950-1 safety standard. If this action is necessary, it must be performed by qualified staff after making sure that the mains connection has been completely removed.

The PLC-AC-Coupler does not have a switch on the mains connection to switch it on or off.

The evaluation board is intended for further engineering, development, demonstration, or evaluation purposes only. It is not a finished product, unless otherwise noted on the board/kit.



Important: Microchip does not assume any responsibility for the consequences arising from any improper use of this board.

2. Getting Started

The PLC-AC-Coupler is an accessory to connect the PL485-EK to an AC line.

Note that the PL485-EK is originally designed to be coupled by default to a DC line, and this accessory is required for AC applications. It does not require any software installation. The PLC-AC-Coupler is provided with a power cord and an RJ11 cable. Plug the power cord to the AC line and the RJ11 cable to the connector enabled in the PL485-EK for this purpose.

Figure 2-1. PLC-AC-Coupler accessory connected to PL485-EK



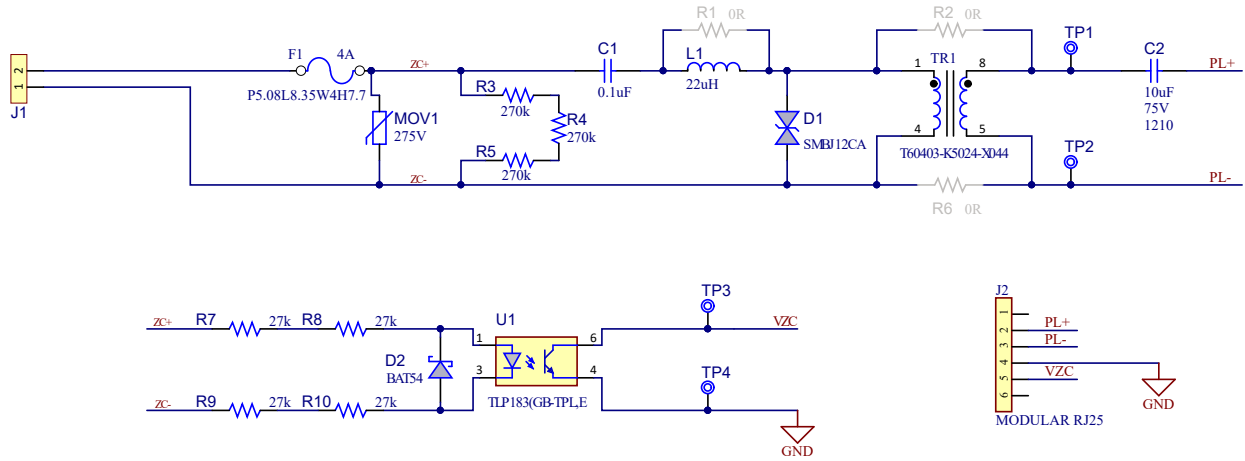
2.1 Code and Technical Support

Please note that the latest documentation and support materials are available online. Follow the instructions described in the welcome letter for more information.

For any technical support requests, please visit <http://support.microchip.com>.

3. PLC-AC-Coupler Schematic

Figure 3-1. PLC-AC-Coupler Schematic



4. Standards Compliance

This accessory is designed to be used for research and development in a laboratory environment. This accessory is neither intended to be a finished appliance, nor is it intended for incorporation into finished appliances that are made commercially available as single functional units to end users.

The PLC-AC-Coupler board complies with the Pb-Free and ROHS directives.

5. References

- PL485-EK User Guide, 2020

6. Revision History

6.1 Rev A - 05/2020

Document	Initial release.
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6.2 Rev B - 05/2020

Features	Minor editorial changes.
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- Embedded Solutions Engineer (ESE)
- Technical Support

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