



## Description

The AC-EDP6 Powerline Transceiver is a multi-interface reference platform ideal for testing the Ariane Controls technology and start developing with the PLM-1 modem.

## Hardware

The platform includes three hardware components.

A motherboard holds the main microcontroller and provides multiple user interfaces, e.g. USB, RS232, RS485, SPI, etc. It also includes a power line coupling circuit and extra DC input that allow communicating on AC, DC or un-powered lines.

A small daughterboard accommodates the PLM-1 modem and Analog Front End. Hardware configurable active filters in transmission and reception allow the user to test different PLC frequencies and data rates. This board can also be easily integrated in new designs for rapidly adding PLC capability to any application.

The kit also contain an external power supply unit that provides the required DC power and couples the PLC signals to the AC power lines.

## Evaluation Software

The ACES software is an easy-to-use tool that helps evaluating the reliability of the powerline communication with PLM-1-based transceivers.

The user can set the transmission parameters, i.e. transmit packet payload size, packet type (Acknowledged or Unacknowledged), number of transmitted packets, and time delay between packets. During the test, real-time information regarding the communication performance is displayed, e.g. number of received packets, corrupted packets, collisions, confirmation of received packets or no response (in Ack mode).

The software also features a PLC chat option that displays all transmitted and received packets and allows the users to exchange text messages between the PLC units.

## Applications

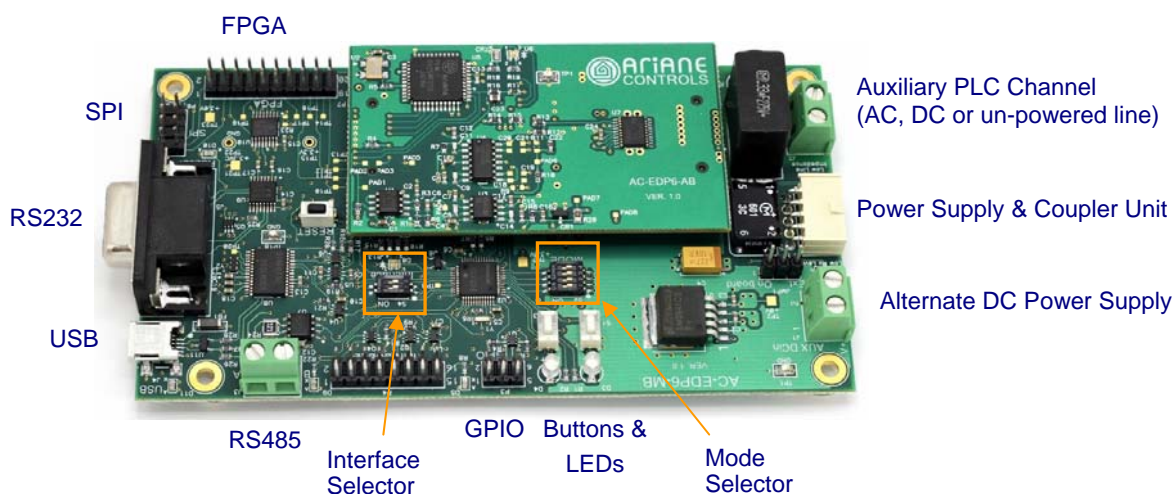
- Evaluation of Ariane's narrowband powerline communication (PLC) technology
- Quick demonstration of PLC potential
- Development of a reference PLC transceiver using the PLM-1 modem
- Fast integration of PLM-1 in new product

## Features

- Powered by the Ariane PLC patented technology
- Provides highly reliable powerline communication
- Includes operation modes for quick demonstration, detailed evaluation, and efficient development of new applications
- Features multifunctional interfaces: USB, RS232, RS485, SPI, Digital I/O
- Communicates on AC, DC or un-powered lines
- Allows for testing different PLC frequencies and data rates
- Enables compliance with international powerline signalling regulations
- Includes LED indicators for Low Line Impedance and Low Received Signal
- Power supply & coupling unit provided
- Easy-to-use evaluation software included
- Powered by NEC Electronics MCU



# AC-EDP6 Evaluation and Development Platform



## Operation Modes

The AC-EDP6 provides multiple operation modes that allow for quick demonstration, detailed evaluation, and efficient development of new applications. The user can easily switch from one mode to another using the Mode Selector.

- Stand-alone (default mode): Simple operation using the on-board buttons and LEDs
- PC interface: Use the Ariane Evaluation Software for comprehensive and advanced testing
- Transparent: Interface with external devices via RS232, RS485 or USB port
- SPI: Interface with external MCU via SPI to develop custom applications with PLM-1

## Specifications

Feature	Description
Power Supply Unit	An external power supply and coupling unit is provided with the evaluation kit. It can operate on 100 - 120VAC or 200 - 240VAC (50/60Hz).
Auxiliary Power Supply	AC-EDP6 can be supplied from an alternate DC power source: 10 - 12VDC, 500mA
PLC Channel	The on-board coupling circuit allows communicating on AC or DC power lines (up to 275V), as well as on un-powered channels.
PLC Frequency	The PLM-1 board includes active filters that can be configured for different PLC frequencies. The default configuration is 144kHz.
PLC Data Rate	The Evaluation Software allows for re-configuring the PLM-1 modem for different PLC data rates. The default configuration is 4535bps.
RS232/RS485	The default serial configuration is 9600 8-N-1.
GPIO	2 General Purpose Digital Inputs, 3.3V 2 General Purpose Digital Outputs, 3.3V, 50mA
Power Consumption	1W in Idle mode.
Dimensions (L x W)	130 x 70 mm