Welcome

The Mini FX/PL Evaluation Kit is a hardware and software platform for evaluating LON® power line technology and for developing LON based devices using the Adesto PL 3120 Smart Transceiver.

You can use the Mini kit to do the following:

- Compile, build, and download a Neuron C device application to a development platform or to your own devices.
- Test with prototype I/O hardware with the included PL EVB Evaluation Boards or build and test your own I/O hardware with your own custom device.
- Create a self installed LON network and test how your device interoperates with other LON devices—or use the Mini kit with a separately purchased IzoT® Commissiong Tool to create a managed LON network.
- View standard resource file definitions for standard network variable types (SNVTs), standard configuration property (SCPTs), and standard functional profiles.
- Create your own resource files with user defined network variable types (UNVTs), user defined configuration property (UCPTs), and user defined functional profiles.

Step 1: Install the Mini FX Software

1. Open docs.adestotech.com from your web browser.
2. Select **Mini FX/PL** under **Tools for Developers**.
3. Download the Mini FX software and the *Mini FX User's Guide*, and then start the Mini FX software installer.
4. Click **Install Products**.
5. Click **Microsoft .NET Framework 3.5 SP1** to install Microsoft .NET Framework 3.5 SP1 and then follow the instructions. Microsoft .NET Framework 3.5 SP1 is required to run the Mini FX software.
6. Click the **Echelon Mini FX Evaluation Kit** button in the taskbar to return to the Mini FX software installer, and then click **Mini FX Evaluation Kit** in the Install Products dialog.
7. Follow the prompts to install the Mini FX software. When prompted for a User Name and Organization, enter a user name and organization name to embed within any resource files you create. When prompted for a serial number, enter the following serial number: **0643R83-90030.**

Step 2: Connect the PL EVBs

1. Connect the PL EVBs to the MiniGizmo I/O Boards using the included MiniGizmo ribbon cables.
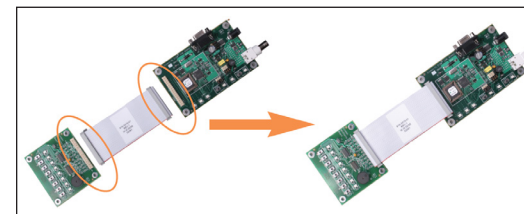
2. Connect the power connectors of two of the included power supplies into the power connectors on the PL EVBs, connect the power supplies to the included power cords that are appropriate for you region (US/Japan or Continental European), and then plug the power cords into a power outlet.

This connects the PL EVBs to the power line channel. The Mini FX/PL power supplies include internal coupling to enable the evaluation boards to communicate through the power supply. You cannot substitute another power supply for the Mini kit power supplies, unless your alternative power supply provides equivalent coupling.
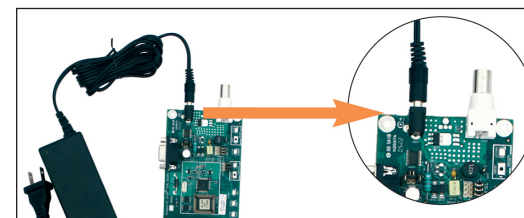
3. After you plug in the power supplies, LED1 will begin flashing, indicating that the PL EVB has entered CENELEC configuration mode. If LED8 is on, then the CENELEC access protocol is enabled. If LED8 is off, CENELEC is disabled. By default, CENELEC is enabled. You can press the SW8 button on the MiniGizmo I/O Board to disable CENELEC. When you have made a selection, press the SW1 button to confirm your selection and exit CENELEC configuration mode. Make sure that LED8 is on before pressing SW1 if you want CENELEC enabled, or off if you want CENELEC disabled. You will not be able to perform any network operations with the PL EVB until you have made a selection and exited CENELEC configuration mode. See the *Mini FX User's Guide* for more information on the CENELEC access protocol.

4. Insert the power connector of the third power supply into the power connector of the included U20 USB PL network interface, connect the power supply to the included power cord that is appropriate for your region (US/Japan or Continental European), plug the power cord into a power outlet, and then plug the U20 into an available USB port on your computer. You can use the included USB extension cable to connect the U20 to your computer. For more information on installing and using the U20, see the *LonWorks USB Network Interface User's Guide*.

Step 3: Create a Simple LON Network

The Mini kit includes four Neuron C example applications that you can use to test the I/O devices on the PL EVBs included with the kit, and create simple self installed LON networks. The PL EVBs come pre loaded with the MGSwitch example application. You can load the MGLight example application into one of your PL EVBs to create a simple self-installed LON network where the pushbuttons on the MGSwitch EVB are connected over the PL channel to the LEDs on the MGLight EVB. To create this network, follow these steps:

1. Load the MGLight application into one of your PL EVBs as desribed in Loading the **Mini FX/PL Example Applications** in the **Mini FX/PL Examples Guide**.
2. Press the SW8 button on the MGSwitch EVB. The SW8 button is called the **Connect button**, and the EVB where you first pressed the Connect button is called the **Connection host**. LED8 on the MGLight EVB (the **Connect light**) begins blinking. This indicates that the PL EVBs can join the connection. This step is called **initiating the connection**.
2. Press the Connect button (SW8) on the MGLight EVB. The Connect light on the PL EVB will illuminate without flashing, indicating it is ready to join the connection. This step is called **joining the connection**.

3. Press the Connect button on the MGSwitch EVB to complete the connection. The Connect lights on both PL EVBs will extinguish, indicating that the devices are connected. This step is called **confirming the connection**.
4. Press one of the SW1–SW7 buttons on the MGSwitch EVB to illuminate the corresponding LED on the MGLight EVB. Press the same button to extinguish the LED on the MGLight EVB.

See the **Mini FX/PL Examples Guide** for more information on these example applications and the others that you can run on your PL EVBs.

Step 4: Get More Information

1. Read the Mini FX documentation, which is installed in the **Echelon Mini FX Documentation** program folder. Two good documents to start with are the **Introduction to the LonWorks Platform** and the **Mini FX User's Guide**.
2. Learn about Adesto's embedded IoT solutions and other products at **adestotech.com**.
3. Download software and get access to Adesto's online documentation at **docs.adestotech.com**.
4. Learn how to expand the market for your product with LonMark certification at **www.lonmark.org**.