INSTALLATION GUIDE

NI-Industrial Communications for EtherCAT®

This document explains how to install the NI-Industrial Communications for EtherCAT software and describes the hardware and software requirements. For more information about configuring and using the software, refer to the *NI-Industrial Communications for EtherCAT Help*.

Hardware Requirements

The NI-Industrial Communications for EtherCAT software supports the following controllers.

Controller Type	Required Controller
NI Real-Time CompactRIO	cRIO-9074 controller
NI Real-Time PXI	PXI embedded real-time controllers. You must install one of the following Ethernet PXI modules for EtherCAT use: • NI PXI-8231 • NI PXI-8232

October 2008
372624A-01

NATIONAL INSTRUMENTS™

Software Requirements

The NI-Industrial Communications for EtherCAT software requires the following software (refer to the readme file included with the software for the latest software version requirements):

- LabVIEW 8.6
- LabVIEW Real-Time Module 8.6
- NI-RIO 3.0.1

Software Installation

Note Before you perform this operation, you must install the prerequisite software. Refer to *Software Requirements*.

Follow these steps to install the software:

1. Insert the software CD into your CD-ROM.
2. The installer launches if your CD-ROM drive plays data CDs automatically. If the installer does not launch automatically, navigate to the CD using Windows Explorer and launch `autorun.exe`.
3. The installation wizard guides you through the necessary steps to install the NI-Industrial Communications for EtherCAT software. You can go back and change values where appropriate by clicking the **Back** button. You can exit the setup where appropriate by clicking **Cancel**. When installation is complete, click **Finish**.

For EtherCAT support on a PXI or cRIO target, refer to *Configure the LabVIEW Real-Time Target in MAX*.

Configure the LabVIEW Real-Time Target in MAX

Note Before you perform this operation, you must install the prerequisite software (refer to *Software Requirements*) and the NI-Industrial Communications for EtherCAT software (refer to *Software Installation*).

Note This operation is required only when you are configuring a new controller or resetting an existing controller.

Follow these steps to configure an NI real-time controller to be the EtherCAT master in MAX:

CompactRIO Target

1. Install the NI-Industrial Communications for EtherCAT software on the CompactRIO real-time controller.
2. Refer to *Configure the Ethernet Port* to configure an Ethernet port for EtherCAT use.

PXI Target

1. Power off the PXI chassis.
2. Remove the Ethernet PXI board from the PXI chassis. Power on the chassis.
3. Install the NI-Industrial Communications for EtherCAT software on the PXI real-time controller. Power off the chassis.
4. Plug the Ethernet PXI board into the PXI chassis.
5. Power on the chassis.
6. Refer to *Configure the Ethernet Port* to configure an Ethernet port for EtherCAT use.

Note Steps 1 and 3 resolve a known issue in some older PXI systems. These systems identify the Ethernet PXI module as the primary Ethernet port after the system is formatted, which affects the system software installation.

Install the Software on the CompactRIO Target

Follow these steps to install the NI-Industrial Communications for EtherCAT software on your CompactRIO real-time controller in MAX:

1. Expand **Remote Systems** in the configuration tree and expand your RT target.
2. Select the **Software** category. Click the **Add/Remove Software** icon on the toolbar to launch the LabVIEW Real-Time Software Wizard.
3. Install the NI-Industrial Communications for EtherCAT software in one of the following ways.
   - (Recommended) Select a recommended software set including NI-Industrial Communications for EtherCAT and click **Next**.
   - Select **Custom software installation** and click **Next**. Select **NI-Industrial Communications for EtherCAT** in the feature list.

Install the Software on the PXI Target

Follow these steps to install the NI-Industrial Communications for EtherCAT software on your PXI real-time controller in MAX:

1. Expand **Remote Systems** in the configuration tree and expand your RT target.
2. Select the **Software** category. Click the **Add/Remove Software** icon on the toolbar to launch the LabVIEW Real-Time Software Wizard.
3. Select **NI-Industrial Communications for EtherCAT** in the feature list and click **Next**.

Configure the Ethernet Port

EtherCAT requires a special Ethernet port on the target to access the EtherCAT network. Follow these steps to configure an Ethernet port for EtherCAT use:

1. Connect your real-time controller to the network.
2. Launch MAX.
3. Double-click **Remote Systems** in the configuration pane tree. MAX discovers all devices in the network; this may take a few seconds. After all devices display, you can find your controller in the tree. (If you cannot find the controller, select **Remote Systems** and press <F5> to refresh the list. If this does not work, return to step 1, make sure the controller is connected to the network, or contact National Instruments.)
4. (Optional) Complete this step only if the target has an empty IP address (0.0.0.0). Select **Controller** in the right pane, change the controller name, and select **Obtain IP address from DHCP server** under **IP Settings**, or manually type in the IP address by selecting **Edit the IP settings** under **IP Settings**. Click **Reboot**.
5. To configure your Ethernet adapter to be EtherCAT compatible, click **Advanced Ethernet Settings** in the right pane.
6. In **Ethernet Devices**, select the Ethernet port you want to use for the EtherCAT network. Select **EtherCAT** under **Mode** and click **OK**.

Note Once you change the device mode to EtherCAT, you cannot use the device in an ordinary Ethernet network. You can change the device mode back to TCP/IP if you want to use it in the ordinary Ethernet network later.

Note Do not select the primary port for the EtherCAT mode, because this port is used for configuration and programming.