

Quick Start Guide

GFK-3074H

Oct 2023

RXi2 – LP Industrial PC

QUICK START GUIDE



Caution Notes as Used in this Publication

WARNING

Warning notices are used in this publication to emphasize that hazardous voltages, currents, temperatures, or other conditions that could cause personal injury exist in this equipment or may be associated with its use.

In situations where inattention could cause either personal injury or damage to equipment, a Warning notice is used.

CAUTION

Caution notices are used where equipment might be damaged if care is not taken.

Note: *Notes merely call attention to information that is especially significant to understanding and operating the equipment.*

These instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met during installation, operation, and maintenance. The information is supplied for informational purposes only, and Emerson makes no warranty as to the accuracy of the information included herein. Changes, modifications, and/or improvements to equipment and specifications are made periodically and these changes may or may not be reflected herein. It is understood that Emerson may make changes, modifications, or improvements to the equipment referenced herein or to the document itself at any time. This document is intended for trained personnel familiar with the Emerson products referenced herein.

Emerson may have patents or pending patent applications covering the subject matter in this document. The furnishing of this document does not provide any license whatsoever to any of these patents.

Emerson provides the following document and the information included therein as-is and without warranty of any kind, expressed or implied, including but not limited to any implied statutory warranty of merchantability or fitness for a particular purpose.

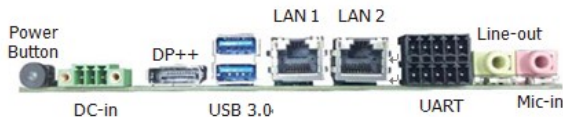
Contents

Physical Connection Overview and Startup	1
Power Input	2
Connecting Input Power (24V DC-in)	3
DisplayPort	4
Ethernet Ports	4
USB Ports	6
Serial Ports (UART)	7
Audio	8
Initial Startup	9
RXi2-LP Pre-Installed Software Options	10
Windows 10 Startup	11
Movicon.NExT Startup	11
PACEdge Startup	13
PACEdge Usage Model	13
Initial Login	17
Mounting Information	21
General Contact Information	22

Physical Connection Overview and Startup

The rear panel I/O port arrangement consists of the following:

Figure 1: Rear Panel Arrangements



Power Input

The RXi2-LP can be powered with a DC power supply of 24 V (+/- 25%) and at least delivering 1.8 A.

The corresponding plug is a Phoenix Contact, part number 1748367. The user must use the same connector type or equivalent.

Figure 2: Power Connector



Signal Name	Pin (left to right)
Power + (24V DC)	1
Power - (24V DC)	2
FGND	3

Connecting Input Power (24V DC-in)

To connect to power, follow these steps:

1. Verify that the power cable is not energized.
2. Loosen the screw clamps on the mating power connector.
3. Strip the insulation from the power cables.
4. Secure the power cable to the mating connector, noting polarity, and tighten the screw clamps. The torque for the attaching screws is 0.3 Nm (2.26 in-lb).
5. Apply dc power to the unit. During normal startup and operation, the LED status indicator will be solid green during normal operation.
6. Once power is applied, the unit will begin initializing.

Note: Be sure to connect a DC power cord to this 3-pin power connector. Using a voltage out of the range may fail to boot the system or cause damage to the system board.

DisplayPort

The RXi2-LP provides one DisplayPort (DP) output. It can be used to directly connect monitors with a DP input or to use standard off-the-shelf adapters to convert DP signals to HDMI or VGA.

Figure 3: DisplayPort



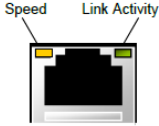
Ethernet Ports

The RXi2-LP provides two 2 Intel® I210IT PCI Express Gigabit Ethernet controllers (4 on larger box module). The LAN ports allow the system board to connect to a local area network through a network hub or router.

For a proper 100/1000 Mbps connection, Emerson recommends a CAT5 cable or better.

Figure 4: Ethernet Ports



 <p>Speed Link Activity</p>	LED	LED State	Operating State
	Speed	Yellow, ON	10/100/1000
	Link Activity	Green, ON	Link Status


USB Ports

The RXi2-LP provides four USB ports. USB1 and USB2 support both USB 3.1 and USB 2.0 specifications.

Figure 5: USB Ports

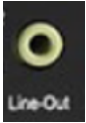
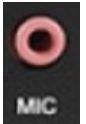


Serial Ports (UART)

Serial Connection	Pin	Function	
RS232	1	TXD	
	2	RXD	
	3	RTS	
	4	CTS	
	5	GND	
RS485	6	TX+	
	7	TX-	
	8	RX+	
	9	RX-	
	10	GND	

Audio

The system board is equipped with 2 audio jacks (Line-out and Mic-in). A jack is a one-hole connecting interface for inserting a plug.

Audio Jack	Description
 A green circular audio jack with a black center. The text "Line-Out" is printed in white at the bottom of the jack.	Line-out This jack is used to connect a headphone or external speakers.
 A red circular audio jack with a black center. The text "MIC" is printed in white at the bottom of the jack.	This jack is used to connect an external microphone.

Initial Startup

For the first startup, it is advisable to connect a monitor, keyboard, and mouse so that boot progress can be observed. For headless operation after the first startup, a directly attached monitor is not required.

Note: Please note that if RXi2- LP is being used without the monitor (in a headless configuration), it will beep three times after powering up. This is a normal condition, informing the user that a monitor is not present.

After making the connections, power on the IPC. A few seconds after powering up, the RXi2-LP IPC system UEFI Firmware banner and Emerson logo will display on the screen. If the user does not see any error messages up to this point, the RXi2-LP IPC is running properly and ready to be configured for an application.

For more information on UEFI Setup, please see the RXi2-LP Hardware Reference Manual (GFK-3187).

If the RXi2-LP came with pre-installed software, the boot process will continue to load the operating system and application software.

Note: *If the RXi2-LP IPC does not perform as described above, some damage may have occurred during shipment, or the IPC is not*

configured properly. Please contact Emerson for technical support.
(Please see the contact information provided at the end of this document.)

RXi2-LP Pre-Installed Software Options

Software Options	Descriptions
RXi2-LP (No Pre-Installed Software)	The user is responsible for installing an operating system and application software. Please connect the power cable, monitor, USB keyboard, and mouse before powering up the system. Please consult the RXi2-LP Hardware Reference User Manual (GFK-3187) for details on how to change the UEFI boot order and install the operating system.
RXi2-LP Windows 10	The unit comes with a Windows 10 IoT operating system pre-installed. Please connect the power cable, monitor, USB keyboard, and mouse before powering up the system. Follow the on-screen instructions for configuring Windows OS. Please consult Section <i>Windows 10 Startup</i> for more details.
RXi2-LP Movicon.NExT	The unit comes with Movicon.NExT software pre-installed. Please connect the power cable, monitor, USB keyboard, and mouse before powering up the system. Please consult Section <i>Movicon.NExT Startup</i> for details.
RXi2-LP PACEdge	The unit comes with PACEdge software pre-installed. Please consult Section <i>PACEdge Startup</i> for details.

Windows 10 Startup

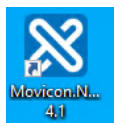
RXi2-LP with pre-installed Windows 10 Operating System, when powered up for the first time, will start with standard self-guiding Windows screens and dialogues, allowing the user to configure username, password, geographical location, and keyboard layout.

Movicon.NExT Startup

The RXi2-LP with pre-installed Movicon.NExT software, when first powered up will start with Windows 10 self-guiding dialogues and configuration options, allowing the user to configure username, password, geographical location, and keyboard layout.

Once Windows operating system has been personalized as desired a Windows desktop will automatically open up. To start Movicon.NExT please double-click on Movicon.NExT icon or go to Start->Movicon.NExT->Movicon.NExT

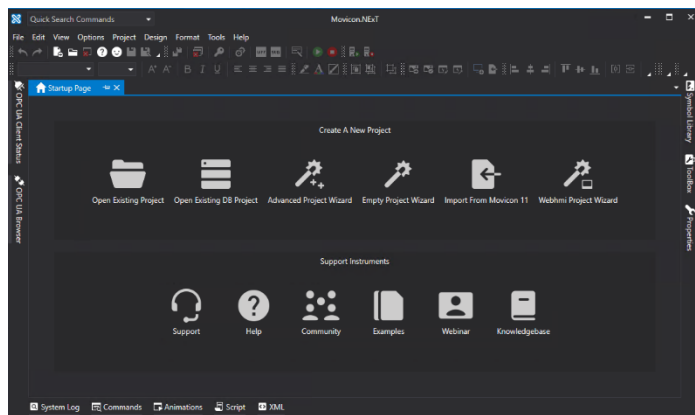
Figure 6: Movicon NExT Icon



Once started a default window will open up allowing the user to open an existing project or to start new projects. A starting Movicon.NExT window will also have links to Support, Help, Community, Examples, Webinars, and Knowledgebase (Figure 7).

Note: The RXi2-LP with pre-installed Movicon.NExT software also has a pre-installed and ready-to-go software license. To check which features are licensed please go to: **Options->License->Check License**. To enable additional licenses, please contact your Emerson sales representative for the necessary activation key.

Figure 7: Movicon.NExT Help



PACEdge Startup

This section applies to the units pre-installed with the PACEdge software.

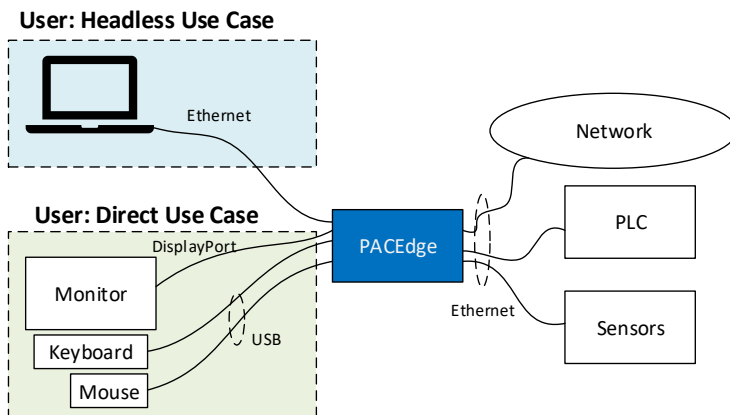
For more details, please reference the PACEdge User Manual (GFK-3178).

PACEdge Usage Model

PACEdge software has two usage models:

- 1) Direct Use Model: Running on the Industrial PC. which has a directly attached Monitor, keyboard, and mouse.
- 2) Headless Use Model: Running on the Industrial PC, which is operating in a headless mode, with the user accessing it remotely via Ethernet using a web interface.

Figure 8: Use Case Models



PACEdge in a Direct-Use Configuration

In a Direct-Use case, the user interfaces with the PACEdge system via the monitor, keyboard, and mouse.

Getting Started

1. Connect the monitor to the RXi2-LP device by using a DP cable.
Note: If the monitor of choice has an HDMI or VGA input, use a standard off-the-shelf DP-HDMI or DP-VGA adapter.
2. Connect a keyboard and mouse to any of the four USB ports
3. Power up the PACEdge unit (please consult the initial startup section for details) and wait until it boots.

4. The boot process will pause and ask for login details. Login as **admin** with password **edgestack**.

Note: The user will be asked to change the default password to a unique password at the first login.

5. Most interactions with PACEdge are done via a browser-based interface. To get started, click on **Activities->Show Applications** and start the Firefox browser.
6. Within the Firefox browser, go to **<https://localhost>**
7. Proceed to the section entitled *Initial Login*.

PACEdge in Headless Configuration

In a Remote Headless configuration, the user interfaces with PACEdge via Ethernet using a separate device's web browser.

Getting Started

1. Connect the Ethernet cable to the Ethernet port labeled ETH0 next to the 24 V power connector on the RXi2-LP.
2. Setup the User PC Ethernet port IP address to be statically assigned as follows:
 - a. IPv4 Static IP: **192.168.3.10**
(or similar in the same subnet)
 - b. Netmask: **255.255.255.0**
3. Power up the PACEdge unit (please consult the initial startup section for details) and wait until it boots.
4. Open the browser of your choice and type in **192.168.3.100** or, if known, **hostname.local**, in the address bar. In case of the RXi2-LP hardware, the **hostname** is **pacedge-xxxxxx**, where xxxxxx are the last 6-digits of the Ethernet MAC address. For instance, if the last six digit of the MAC address are **e3c2d9**, then unit can be accessed by entering: **pacedge-e3c2d9.local**.

Note: All Ethernet ports are also configured to get IP addresses assigned by the DHCP server. This dynamically assigned IP address can also be used to access PACEdge.
5. Proceed to the section entitled *Initial Login*.

Initial Login

When the user connects to PACEdge for the first time (using the instructions outlined in **Error! Reference source not found.** or PACEdge in Headless Configuration), a warning message will display due to the self-signed certificate on the unit. The message will state that the identity of the device could not be confirmed. Click on Advanced and Accept to proceed.

Note: Please consult the PACEdge User Manual, Security Certificate Management section for details on how to setup the PKI and access PACEdge using the hostname instead of the IP address

Please read and accept the Emerson End User License Agreement (EULA).

Once the EULA has been accepted, the user will be redirected to the Password Management screen. PACEdge software consists of multiple software tools and applications, each having its user management and password settings. To simplify this task, PACEdge comes with pre-configured users: *admin*, *developer*, *service*, and *operators*, each having its own password. Use the Password Management screen to change passwords for all PACEdge Applications and for Cockpit/Linux (Figure 9). **Error! Reference source not found.**

Figure 9: Password Management Screen (top portion: PACEdge Applications, bottom portion: Cockpit/Linux)

The screenshot displays the PACEdge Password Management interface. At the top, the Emerson PACEdge logo and a question mark icon are visible. The main heading is "Password Management". Below this, the "Manage PACEdge Application Passwords" section contains a table with columns for "Login Name", "Action", and "Password". The table lists five users: "admin", "developer", "service", "operators", and "admin@edgestack.com (used in Moxicon Project Deploy)". Each user has a "Please change Password" link and a password field with a toggle icon. A "Submit" button is located below the table. The "User Rights Overview" section is collapsed. The "Manage Cockpit/Linux Passwords" section is expanded, showing a "Cockpit" button. The footer includes the Emerson PACEdge logo, version information "Version: V2.2.0", and a "Help" button.

Login Name	Action	Password
admin	Please change Password	*****
developer	Please change Password	*****
service	Please change Password	*****
operators	Please change Password	*****
admin@edgestack.com (used in Moxicon Project Deploy)	Please change Password	*****

When changing the passwords, follow the instructions on the screen and consult the Help button accessible via the question mark button in the upper right corner.

Note: For both, cybersecurity reasons, and for proper user account setup, the user must change the default passwords at the first login.

NOTICE

Please consult the PACEdge Secure Deployment Guide (GFK-3197) for recommended password changes and other cybersecurity-relevant settings.

Once the passwords have been changed, click on the Emerson logo in the upper-left corner. The logo is a shortcut to the PACEdge Landing Page (Figure 10), which has further shortcuts to Node-RED, Grafana, Cockpit, Portainer, and other applications. The user can return to the Password Management screen from the PACEdge landing page by clicking **Password Management** in the Settings drop-down list on the right side.

Figure 10: PACEdge Landing Page



To explore PACEdge, click on Node-RED and log in with:

- **user:** admin
- **password:** edgestack (or the password that was set on the Password Services page)

Start exploring example flows or create your own flows. Consult the PACEdge User Manual (GFK-3178) for example details.

NOTICE

Please consult the PACEdge Secure Deployment Guide (GFK-3197) for recommended password changes and other cybersecurity relevant settings.

Mounting Information

For instructions on wall mounting instructions, DIN rail mounting instructions, or minimum clearances required, please consult GFK-3068, RXi2-LP Hardware Reference Manual.

General Contact Information

Website

<http://www.emerson.com/industrial-automation-controls/>

Technical Support

<http://www.emerson.com/industrial-automation-controls/support>

All Rights Reserved.

We reserve the right to modify or improve the designs or specifications of the products mentioned in this manual at any time without notice. Emerson does not assume responsibility for the selection, use, or maintenance of any product. Responsibility for proper selection, use and maintenance of any Emerson product remains solely with the purchaser.

©2023 Emerson Electric Co.

