

## Quick Start Guide

GFK-3196D

Oct 2022

# RXi2 – BP 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.

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### **CAUTION**

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

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

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# Physical Connection Overview and Startup

## Status LEDs

The RXi2-BP provides a set of different status-LEDs on the front panel to indicate various functions.

| LED Name                 | Color  | LED status indication  |
|--------------------------|--------|--|
| Power<br>(also a button) | Green  | All power rails available are good and unit is powered up (S0) |
|                          | Yellow | Unit is in standby mode (S3/S4/S5)                             |
|                          | Red    | Error condition, contact Emerson support for help.             |
| SATA                     | Green  | Disc SATA access in progress (M.2)                             |
| USER                     | Green  | Reserved for future use  |

| LED Name               | Color  | LED status indication   |
|------------------------|--------|---|
| TEMP                   | Green  | Temperatures below $T_{hot}$ and $T_{crit}$   |
|                        | Yellow | Temperatures above $T_{hot}$ and below $T_{crit}$<br>If supported by OS, a graceful shutdown is initiated |
|                        | Red    | Temperatures above $T_{hot}$ and $T_{crit}$<br>An immediate shutdown has occurred to protect the system   |
| TPM<br>(also a button) | Yellow | If physical presence is activated, this LED shows the current status of the physical presence state.      |

## Power Input

The RXi2-BP 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.

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**Figure 1: Power Connector**



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

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# Ethernet Ports

The RXi2-BP provides four Ethernet ports, three RJ45 on the front panel, and one at the bottom of the IPC.

All four Ethernet ports support 10/100/1000 Base-T.

ETH 0 port also supports AMD remote management DASH functionality. For details about DASH functionality please consult RXi2-BP Hardware Reference Manual (GFK-3187).

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

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**Figure 2: Ethernet Ports**



# DisplayPort

The RXi2-BP 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.

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**Figure 3: DisplayPort**



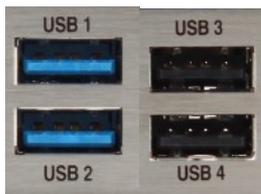
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# USB Ports

The RXi2-BP provides four USB ports. USB1 and USB2 support both USB 3.1 and USB 2.0 specifications, while USB3 and USB4 support only USB 2.0 specifications.

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**Figure 4: USB Ports**



# 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 start up, a directly attached monitor is not required.

After making the power connections, the IPC will power on automatically. A few seconds after powering up, the RXi2-BP 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-BP IPC is running properly and ready to be configured for an application.

For more information on remote management DASH functionality and UEFI Setup, please see the RXi2-BP Hardware Reference Manual (GFK-3187).

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

**Note:** If the RXi2-BP 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-BP Pre-Installed Software Options

| Software Options  | Descriptions  |
|---|---|
| RXi2-BP (No Pre-Installed Operating System or 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-BP Hardware Reference User Manual (GFK-3187) for details on how to change the UEFI boot order and to install the operating system. |
| RXi2-BP 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-BP<br>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-BP<br>PACEdge      | The unit comes with PACEdge software pre-installed. Please consult Section <i>PACEdge Startup</i> for details.   |

## Windows 10 Startup

RXi2-BP 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, keyboard layout, etc.

## Movicon.NExT Startup

RXi2-BP with pre-installed Movicon.NExT runtime 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, keyboard layout, etc.

Once the Windows operating system has been personalized as desired, the user will reach the Windows desktop. At this stage, the user will be able to upload a previously developed project to the Industrial PC. This can either be done via a USB key, or by using the deployment function in the Movicon.NEXt editor tool running on a connected device.

**Note:**

- For more information on how to deploy a project, please visit:  
[http://www.movicon.info/HelpNEXt4.1/326/en/PlatformNExt.htm#t=WebServer%2FDeploy\\_WebServer.htm&rhsearch=deploy&rhhlterm=deploy&rhsyns=%20](http://www.movicon.info/HelpNEXt4.1/326/en/PlatformNExt.htm#t=WebServer%2FDeploy_WebServer.htm&rhsearch=deploy&rhhlterm=deploy&rhsyns=%20)
- Industrial PC is only pre-installed with runtime license. If you require an editor license to develop or edit a project, please contact Emerson sales to make a purchase.

To start the runtime of a deployed Movicon.NEXt project, please go to **Start->Movicon.NEXt->“*project name*”** or double-click on the project icon on the desktop if a desktop icon has been created during deployment. This will start the runtime of the project.

## Movicon.NexT Demo Mode

Movicon.NExT software can be used to design data flows, alarms, and HMI screens (Editor mode) as well as execute already designed projects (Runtime mode). Industrial PCs with pre-installed Movicon.NExT software are licensed for runtime operation only and not for editor / development mode. When launching a project on this Industrial PC, the user is expected to launch the runtime only (i.e., launch project directly instead of opening it from the Movicon editor tool). If the user opens the editor tool, they will see a pop-up stating that it is running in Demo Mode. This message is referencing the editor functionality only and is expected. If you need an editor license, please contact your Emerson sales representative to make your purchase.

## Checking Activated Licenses

The RXi2-BP with pre-installed Movicon.NExT software also has a pre-installed and ready-to-go software license. To check which features are licensed please open the editor tool by going to: **Start->Movicon.NExT->Movicon.NExT 4.1->Options->License->Check License.**

**Note:** This path opens the editor tool which is not licensed on this product. Please expect to see “demo mode” pop up as detailed in section “Movicon.NEXt Demo Mode” above.

## Movicon.NEXt License File Recovery in Windows 10

An Industrial PC pre-installed with Windows 10 and a Movicon.NEXt software package ships with the license files already activated and ready to use. In the case of a major software crash, the IPC will require a re-image of the Windows's license files, which will have to be manually re-installed. Emerson Customer Care should assist with this re-installation. Please refer to GFK-3187, *RXi2-BP User Manual* for detailed instructions on obtaining and reinstalling the license files.

## PACEdge Startup

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

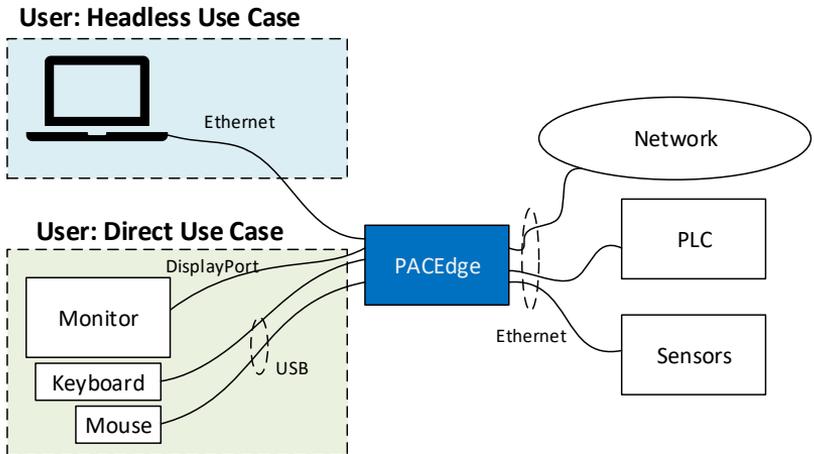
For more details, please reference a PACEdge 2.2.0 User Manual (GFK-3178E\_v1.0 - PACEdge 2.2.0 User Manual)

# 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 5: 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-BP 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 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**.
5. **Note:** The user will be asked to change the default password to a unique password at the first login.
6. Most interactions with PACEdge are done via a browser-based interface. To get started, click on **Activities->Show Applications** and start the Firefox browser.
7. Within the Firefox browser, go to <https://localhost>
8. 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-BP.
2. Setup the User PC Ethernet port IP address to be statically assigned as follows:

**Pv4 Static IP: 192.168.3.10**

(or similar in the same subnet)

**a. Netmask: 255.255.255.0**

1. Power up the PACEdge unit (please consult initial startup section for details) and wait until it boots.
2. Open the browser of your choice and type in **192.168.3.100** in the address bar.

**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.

3. Proceed to the section entitled Initial Login.

# Initial Login

When the user connects to PACEdge for the first time (using the instructions outlined in *PACEdge in a Direct-Use Configuration* 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. Please click on **Advanced** and **Accept** to proceed.

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

Once EULA has been accepted you 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 in two steps: 1) for all PACEdge Applications, 2) for Cockpit/Linux. (Figure 6). When changing the passwords, follow instructions on the screen and consult help information accessible via 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.

**Important:** Please consult the PACEdge Secure Deployment Guide

(GFK-3197) for recommended password changes and other cybersecurity-relevant settings.

**Figure 6: Password Management Screen (top portion: PACEdge Applications, bottom portion: Cockpit/Linux)**

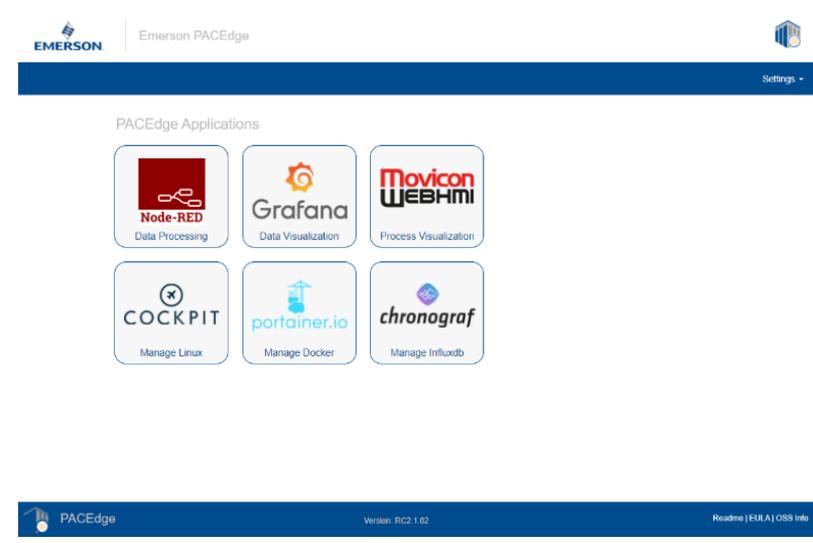
The screenshot displays the 'Password Management' interface. At the top, the Emerson PACEdge logo and 'Services' are visible. The main heading is 'Password Management'. Below this, there are two sections:

- Manage PACEdge Application Passwords:** This section includes a search bar for 'Admin password' and 'Admin Credentials'. It lists several users with their login names and a 'Please change Password' prompt. Each user has a corresponding password input field with a 'Submit' button. The users listed are: admin, developer, service, operators, and admin@edgestack.com (used in Movicon Project Deploy).
- Manage Cockpit/Linux Passwords:** This section is currently collapsed and shows a 'Cockpit/Linux Password Management' button.

The bottom of the screen features the PACEdge logo, version information (Version: V2.2.0), and a 'ReadMe | OSS Info' link.

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, 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 7: 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.

**Important:** 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, panel mounting, DIN rail mounting instructions, or minimum clearances required, please consult GFK-3187, RXi2-BP Hardware Reference Manual.

## WARNING

If the RXi2-BP IPC operates in high ambient temperature up to 70 °C (149 ° F), the surface of the enclosure, especially the heat sink, can reach a temperature of 85 °C (185 °F) and above. Be careful and do not touch the RXi2-BP IPC with bare fingers.

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## CAUTION

Install the RXi2-BP IPC only in rooms with restricted access.

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## CAUTION

Hot surfaces are possible, depending on factors such as CPU load, ambient temperature, and so forth. Be careful and do not touch the RXi2-BP with bare fingers!

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# General Contact Information

## Website

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

## Technical Support

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

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