RXi2 – UP Industrial PC

QUICK START GUIDE

EMERSON™

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.

Contents

Unpack and Inspect

⚠ WARNING

Before installing or removing any board or module, ensure that the system power and external supplies have been turned off.

⚠ WARNING

Do not apply power to the board if it has visible damage. Doing so may cause further, possibly irreparable damage, as well as introduce a fire or shock hazard.

ATTENTION

Retain all packing material in case of future need.

Before unpacking the board or module or fitting the device into your system, carefully read the manual (GFK-3047, *RXi2-UP Hardware Reference Manual*). Also adhere to the following guidelines:

- Observe all precautions for electrostatic sensitive modules.

- If the product contains batteries, do not place it on conductive surfaces, anti-static plastic, or a sponge as they can cause shocks and lead to battery or board trace damage.

- Do not exceed the specified operational temperatures outlined in the hardware reference manual. Batteries and storage devices might also have temperature restrictions.

- Keep all original packaging material for future storage or warranty shipments of the board.

After unpacking the component, inspect it for visible damage that may have occurred during shipping or unpacking. Although the product is carefully packaged to protect it against the rigors of shipping, it is still possible that shipping damages may occur. Careful inspection of the shipping carton should reveal some information about how the package was handled by the shipping service.

If evidence of damage or rough handling is found (usually in the form of bent component leads or loose socketed components), notify the shipping service as soon as possible and contact Emerson for additional instructions. Depending on the severity of the damage, it may be necessary to return the product to the factory for repair.

Figure 1:RXi2-UP IPC Packaging

Handling

> ## ⚠ WARNING
>
> If the RXi2-UP IPC operates at an enhanced ambient temperature up to 70° C (158° F), the surface of the enclosure, especially the heatsink, can reach a temperature of 85°C (185 °F) and above and presents a burn hazard. Be careful to not touch the RXi2-UP IPC with bare fingers.
>
> Install the RXi2-UP IPC only in rooms with restricted access.

Physical Connection Overview and Startup

Depending on the model of your RXi2-UP IPC, the arrangement or quantity of the hardware connectors may differ from the images in this Quick Start Guide. The following information is for reference only.

Figure 2: Rear Panel Arrangements
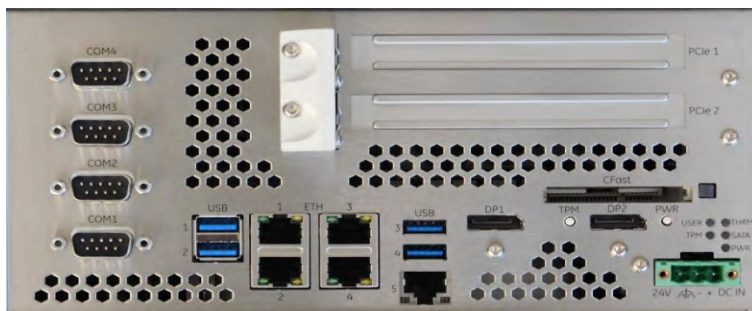
Status LEDs

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

Figure 3: Status LEDs

Table 1: Status LEDs

LED Name	Color	LED Status Indication
PWR (Power)	Red	Standby power available, but no power good signal active (error condition).
	Yellow	Standby power valid (S3, S4, S5).
	Green	All power available and valid (S0).
SATA	Green	SATA access in progress (SATA, CFAST, M.2).
THRM (Port Expander: P0: Green; P1: Red)	Green	Thermal OK.
	Yellow	THot reached (available also in S5 after Shutdown).
	Red	TCrit reached (available also in S5 after Shutdown).
USER (GPO0)	Green	Switchable from User.
TPM (Port Expander: P2: Green and Red)	Yellow	Flashes when TPM button is pressed for a defined amount of time.

Power Button

The Power button powers on the RXi2-UP IPC. It is located on the front panel. A small tool may be needed to use the button.
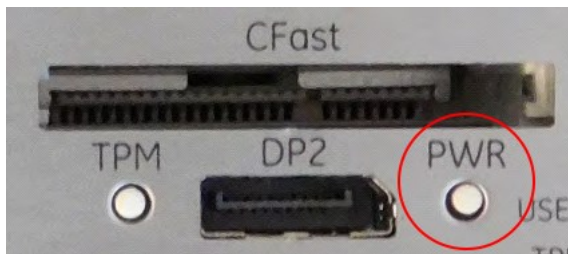
Pressing (short push) the power button triggers the operating system to shut down (Power State S5). If the operating system does not immediately shut down, press and hold the Power button for more than 5 seconds to force the RXi2-UP IPC to shut down immediately without support from the operating system.

State S5 (Soft-off mode) switches off the CPU core power and resets the RXi2-UP IPC. State S5 is indicated with an amber Power LED. At this state, it is possible to reactivate the RXi2-UP IPC by pressing (short push) the Power button. This action switches on the CPU core voltage and the boards restart.

Ethernet Ports (Eth1, Eth2, Eth3, Eth4, Eth5)

Five Ethernet interface ports are available on the RXi2-UP IPC. They are located on the front panel. The ethernet interface requires the use of a CAT 5 cable for proper operation with 100/1000Base-T.

Figure 5: Ethernet Interface
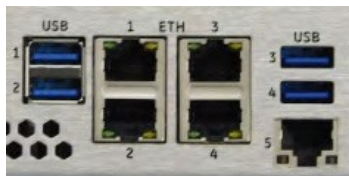
DisplayPort

DisplayPort connectors (DP1 and DP2) provide signals for connecting either a suitable monitor or an adaptor to several other display standards.
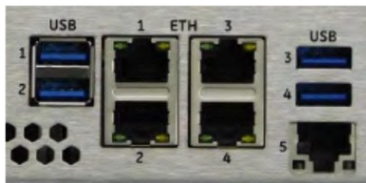
Figure 6: DisplayPort Connectors
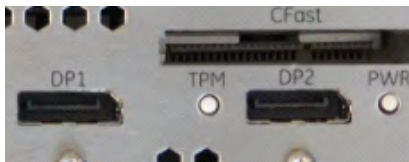
USB 3.0 Connectors

Four USB channels are available as standard USB Type-A connectors. Each pair of them has a 2 A fuse, but for normal operation do not exceed 0.9 A per connector.

Figure 7: USB 3.0 Connectors

Power Connectors

The power inlet into the RXi2-UP IPC is a Phoenix contact Base strip - MSTB 2.5/ 3-GF - 1776702 connector. The corresponding plug is a type FKCN 2.5/ 3-STF - 1732975 from a Phoenix contact.

Figure 8: Power Connector
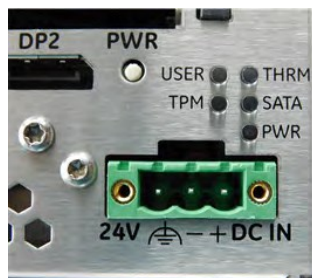
Table 2: Power Connectors

Signal Name	Pin (Left to Right)
Frame GND	1
Power -	2
Power +	3

The power input is filtered internally on the RXi2-UP IPC. Directly after the power connector Frame GND and Power – are hard connected. When using a power supply with a supply reference to PE ground, connect the +24 V to power plus and the GND to power minus.

⚠ CAUTION

- Do not connect a -24VDC supply where the +24VDC is grounded as this will cause a short when connecting external devices and will damage the equipment.

- The power input is secured with one 10 A blow fuse. If the input power exceeds the limits, the fuse will be blown to protect all circuitry within the RXi2-UP IPC. Contact Emerson for a suitable replacement.

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.

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

For more information on UEFI Setup, see GFK-3047, *RXi2-UP Hardware Reference Manual*.

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

Note: *If the RXi2-UP 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. (contact information is provided at the end of this document.)*

RXi2-UP Pre-Installed Software Options

Software Options	Descriptions
RXI2-UP (No Pre-Installed Operating System or Software)	The user is responsible for installing an operating system and application software. Connect the power cable, monitor, USB keyboard, and mouse before powering-up the system. Consult GFK-3187, *RXi2-UP Hardware Reference User Manual* for details on how to change the UEFI boot order and to install the operating system.
RXi2-UP Windows 10	The unit comes with a Windows 10 IoT operating system pre-installed. Connect the power cable, monitor, USB keyboard, and mouse before powering-up the system. Follow the on-screen instructions for configuring the Windows OS. Consult the *Movicon.NExT License File Recovery in Windows 10* section.
RXi2-UP Movicon.NExT	The unit comes with Movicon.NExT software pre-installed. Connect the power cable, monitor, USB keyboard, and mouse before powering up the system. Please consult *Movicon.NExT Startup* section.

Movicon.NExT Startup

RXi2-UP comes with Movicon.NExT runtime software pre-installed. When first powered up, it 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 IPC. 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: https://www.movicon.info/HelpNExT4.2/355/en/PlatformNext.htm#t=WebServer%2FDeploy_WebServer.htm&rhsearch=deploy&rhhlterm=deploy&rhsyns=%20*

- *IPC only comes with a pre-installed 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, 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 project's runtime.

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 IPC, 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-UP with pre-installed Movicon.NExT software also has a pre-installed and ready-to-go software license. To check which features are licensed open the editor tool by going to: **Start-> Movicon.NExT->Movicon.NExT 4.2->Options->License->Check License.**

Note: This path opens the editor tool which is not licensed on this product. Expect to see "Demo Mode" pop up as detailed in the Movicon.NExT Demo Mode section above.

Movicon.NExT License File Recovery in Windows 10

An IPC 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. Refer to GFK-3187, *RXi2-BP User Manual* for detailed instructions on obtaining and reinstalling the license files.

Additional Reference Topics

For additional information on the following topics, consult GFK-3047, *RXi2-UP IPC Hardware Reference Manual*:

- Hardware and Firmware Programmable Devices

- Technical Specifications

- Environmental Specifications

- Battery Replacement Instructions

- Minimum Requirements

- Additional Installation/Mounting Procedures

General Contact Information

Website

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

Technical Support

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