GFK-2940A

May 2015

IC695ACC402-AB RX3i Energy Pack
IC695ACC412-AA RX3i Replacement Cap Pack
IC695CBL002A RX3i Energy Pack Cable

Overview

The *Product Enhancement* described below is included in the updated firmware.

Current Release Information

Catalog Number	*Bundled w/CPE330*	*Date*	*Firmware Version Primary*	*Comments*
IC695ACC402-AB	IC695CPK330	May 2015	2.20	Firmware update delivered by attached CPU.
IC695ACC412-AA		Mar 2015		Spare Part item
IC695CBL002A		Mar 2015		Spare Part item

Upgrade Strategy: The PACSystems* IC695ACC402 is field upgradeable using the most recent IC695CPE330 upgrade kit. At time of publication, the upgrade kit listed below is available. The ACC402 does not have its own upgrade kit. Firmware used by the ACC402 is bundled into the IC695CPE330 upgrade kit.

The firmware upgrade process may take up to four minutes to complete depending on the contents of the update. During the update, the CPE330's RUN and OUTPUTS ENABLED LEDs blink GREEN and the CPE330 may automatically reset one or more times. All LEDs will be off during the automatic resets. The IC695ACC402 Energy Pack (if present) may also be updated. The energy pack blinks all LEDs GREEN and performs an automatic reset following its update.

Do not manually power cycle the CPE330 or remove the CAP Pack from the base of the Energy Pack during the update, as this may place the CPE330 and Energy Pack in an unrecoverable and unusable state.

The upgrade is available via download from the GEIP support website http://support.ge-ip.com.

Upgrade Kit: 41G2016-FW01-000-A1
This is a CPE330 upgrade kit. It includes firmware version 2.20 for the ACC402, which is automatically downloaded from the CPE330.

Future CPE330 upgrade kits will likewise be capable of upgrading the attached ACC402.

Release History

Catalog Number	Bundled w/CPE330	Date	Firmware Version Primary	Comments
IC695ACC402-AA	IC695CPK330	Mar 2015	2.19	Initial production release
IC695ACC412-AA		Mar 2015		Spare Part item
IC695CBL002A		Mar 2015		Spare Part item

Functional Compatibility

Subject	Feature	Minimum Version Required
Programmer Version Requirements	ACC402 Energy Pack Support	N/A - Proficy™ Machine Edition Logic Developer PLC is not required to configure the ACC402 Energy Pack
Energy Pack & CPE330 / CPU320 Compatibility Mode	**Description**	
	The IC695CPE330 offers a CPU320 compatibility mode which allows the CPE330 to accept an IC695CPU320 configuration to facilitate application migration. The Energy Pack may be used whether the CPE330 is configured natively (as a CPE330) or as a CPU320.	
PACSystems Energy Pack Compatibility	**The only energy pack compatible with the IC695CPE330 is the IC695ACC402.** The CPE330 is not compatible with the ICRXIACCEPK01 RXi Controller Energy Pack or the IC695ACC400 CPE305/310 Energy Pack. • It is not physically possible to connect the ACC402 to the IC695CPE305/CPE310 controllers. • However, it is possible to connect the CPE330 and the ICRXIACCEPK01 RXi Controller Energy Pack. Connecting the CPE330 to the RXi Energy Pack is not harmful. However, if power is applied, the CPE330 will continuously reset and not power up. Should this occur, turn the CPE330 off and disconnect the RXi Energy Pack. • It is possible to connect the ICRXIACCCPK01A RXi Capacitor Pack to the IC695ACC402 Energy Pack Base. If this occurs, the capacitor pack may take longer to charge and a battery fault may be logged. Do not use the CPK01A RXi Capacitor Pack with the ACC402 Energy Pack Base. • It is also physically possible to connect the IC695ACC402 CPE330 Energy Pack and IC695ACC412 Capacitor Pack to an ICRXICTL000 controller. If this occurs no errors are logged. However the capacitors will reach their end-of-life threshold faster than the RXi Capacitor Pack ICRXIACCCPK01. Do not use the CPE330 Energy Pack or Capacitor Pack with the RXi Controller.	

Product Enhancement

Subject	Description
Longer than Normal Energy Pack Charge Time During Power-Up	The ACC402 Energy Pack firmware includes an improvement for the following scenario. Whenever the energy pack cable was previously connected to a CPE330 while it was on, and the CPE330 was subsequently powered off for less than 15 minutes before power was reapplied, the power-up time may have exceeded the expected 60 seconds. With the enhancement added in this firmware revision, the power-up will actually complete well within the expected timeframe.

Problems Resolved by this Revision

Subject	ID code	Description
N/A	N/A	None.

Restrictions and Open Issues

Subject	ID code	Description
Clear All clears PLC_BAT and masks Energy Pack failures	DE715	A Clear All operation clears the values of all %S bits. After this operation the PLC_BAT status bit value may not reflect the actual status of the Energy Pack. For example, an Energy Pack in a failed state prior to the Clear All operation will remain in the failed state after the Clear All. Nonetheless, the PLC_BAT bit will indicate a good state as a result of the Clear All operation. Remove the Cap Pack and reinstall it in order to reassert the PLC_BAT status bit.

Operational Notes

Subject	Description
Hot Swap of Cap Pack during Firmware Update results in 2-8-2-5 Blink Code	Insertion or removal of the ACC412 Energy Pack Cap Pack during an Energy Pack firmware update will cause the CPE330 controller to become non-responsive. In order to recover from this condition, the user must cycle power to the controller.
Insertion of Cap Pack During Controller Power-Up may log Failed Battery Fault	If the Energy Pack is powered on without a Cap Pack and then a Cap Pack is inserted during power-up of the controller, a failed battery fault may be logged by the controller. The controller expects the Energy Pack to report fully charged within a certain amount of time. This time limit may be exceeded if the Cap Pack is absent at power-up. The failed battery fault is logged, but once charging completes all fault bits are cleared, as applicable.
Cap Pack Charge Time	The ACC402 Energy Pack automatically adjusts the ACC412 Capacitor Pack charge rate to minimize its impact on the available RX3i backplane power: • When the CPE330 is turned on, the Energy Pack is designed to charge the capacitor pack as quickly as possible. The CPE330 completes its power on and begins to execute the user application after the capacitor pack is fully charged. This ensures non-volatile memory backup is available as soon as power on completes. Charging of the capacitor pack may require up to 60 seconds depending on its initial charge. The STAT LED on the Energy Pack blinks green while it is charging and turns solid green once charging is complete. • When a capacitor pack is hot inserted into a running system, the Energy Pack is designed to minimize system power impact and charge the capacitor pack at a slower rate. It may take up to ten minutes to charge a fully depleted capacitor pack after a hot insertion. This is normal operation. Non-volatile memory backup is available once the capacitor pack is fully charged.

Product Documentation

PACSystems RX3i Energy Pack IC695ACC402 Quick Start Guide	GFK-2939
PACSystems RX3i 1GHz 64MB CPU w/Ethernet IC695CPE330 Quick Start Guide	GFK-2941A
PACSystems Controllers Battery & Energy Pack Manual	GFK-2741C
PACSystems RX7i & RX3i CPU Reference Manual	GFK-2222V[1]
PACSystems RX7i & RX3i CPU Programmer's Reference Manual	GFK-2950[1]
PACSystems RX3i System Manual	GFK-2314G[1]
PACSystems RXi, RX3i, and RX7i Controller Secure Deployment Guide	GFK-2830B
PACSystems RX7i & RX3i TCP/IP Ethernet Communications User Manual	GFK-2224P[1]
PACSystems TCP/IP Ethernet Communications Station Manager User Manual	GFK-2225M[1]

User manuals, product updates and other information sources are available on the GE Intelligent Platforms Support website, http://www.ge-ip.com/support, under *Controllers and IO, RX3i Controllers*.

[1] Will be updated to include CPE330 after initial product launch.