

# PACSystems\* RX3i

GFK-2900D  
August 2016

## RX3i Genius Communications Gateway IC695GCG001-BD

### Important Product Information

General Description	Removed the unused Genius B connector and the Bus B LED. There are no changes to module operation.	
	Hardware ID:	IC695GCG001
	Primary Firmware:	Revision 2.0.1.0
Product Documentation	<i>PACSystems RX3i Systems Manual</i>	GFK-2314M
	<i>PACSystems RX3i Genius Communications Gateway Quick Start Guide</i>	GFK-2891C
	<i>PACSystems RX3i Genius Communications Gateway User Manual</i>	GFK-2892B
	<i>PACSystems IC695GCG001 Genius Communications Gateway IPI</i>	GFK-2900D

### Release History

<b>Catalog No.</b>	<b>Firmware Version</b>	<b>Date</b>	<b>Description</b>
IC695GCG001-BD	2.0.1.0	Aug 2016	Removed the unused Genius B connector and the Bus B LED.
IC695GCG001-AD	2.0.1.0	Aug 2016	Adds support for the VersaMax Genius Network Interface, the IC660BBS101 isolated I/O block, and additional Genius baud rates. Fixes a problem with input data mapping for the IC660BBD120 High-speed Counter.
IC695GCG001-AC	1.1.1.0	Feb 2016	Changed behavior of Genius Block circuit fault
IC695GCG001-AB	1.1.0.4	Feb 2015	Fixes output glitch issues and adds enhancement to Clear All Circuit Faults COMMREQ
IC695GCG001-AA	1.0.4.14	June 2014	Initial Release

### Firmware Updates/Upgrades

Upgrade Strategy	Units in the field are not upgradable to the B hardware revision. However, all previous versions of IC695GCG001 are field-upgradable to IC695GCG001-AD, using the firmware upgrade kit listed in this table. It is recommended that all devices be upgraded to -AD.
Upgrade Kit	41G2015-MS10-000-A3.zip Firmware version 2.0.1.0

### New Features in this Release

None

### Issues Resolved in this Release

None

**Functional Compatibility**

PLC CPU Firmware Version Requirements	CPE305/CPE310 Primary Firmware Release 8.15 or later CPU315/CPU320 Primary Firmware Release 8.15 or later CRU320 Primary Firmware Release 8.95 or later CPE330 Primary Firmware Release 8.90 or later (Other CPU models are not supported)																																																				
Programmer Version Requirements	PME 8.00 up to 8.50 (must import GSDML file) PME 8.50 SIM 3 or later (GSDML file is included in PME install)																																																				
GSDML Version Requirements	GSDML-V2.3-GE-GENIUSGateway-20160818.xml																																																				
RX3i PROFINET Controller	IC695PNC001 with firmware version 2.05 or later. Version 2.11 or later is required to use the new Clear All Circuit Faults feature introduced in Gateway version 1.1.0.4.																																																				
Genius I/O Devices	<p>The following Genius I/O devices are supported by the Genius Communications Gateway. Do not connect other types of Genius devices to networks controlled by a Genius Communications Gateway.</p> <table border="0"> <tr> <td>IC200GBI001</td> <td>VersaMax Genius Network Interface Unit</td> </tr> <tr> <td>IC660BBA020</td> <td>24/48 VDC 4 Input/2 Output Analog Block</td> </tr> <tr> <td>IC660BBA021</td> <td>24/48 VDC RTD Input Block</td> </tr> <tr> <td>IC660BBA023</td> <td>24/48 VDC Thermocouple Input Block</td> </tr> <tr> <td>IC660BBA024</td> <td>24/48 VDC Current-Source Analog Block</td> </tr> <tr> <td>IC660BBA025</td> <td>24/48 VDC Current-Source Output Block</td> </tr> <tr> <td>IC660BBA026</td> <td>24/48 VDC Current-Source Input Block</td> </tr> <tr> <td>IC660BBA100</td> <td>115 VAC 4 Input/2 Output Analog Block</td> </tr> <tr> <td>IC660BBA101</td> <td>115 VAC RTD Input Block</td> </tr> <tr> <td>IC660BBA103</td> <td>115 VAC/125 VDC Thermocouple Input Block</td> </tr> <tr> <td>IC660BBA104</td> <td>115 VAC/125 VDC Current-Source Analog Block</td> </tr> <tr> <td>IC660BBA105</td> <td>115 VAC/125 VDC Current-Source Output Block</td> </tr> <tr> <td>IC660BBA106</td> <td>115 VAC/125 VDC Current-Source Input Block</td> </tr> <tr> <td>IC660BBD020/022</td> <td>24/48 VDC 16 Circuit Source I/O Blocks</td> </tr> <tr> <td>IC660BBD021/023</td> <td>24/48 VDC 16 Circuit Sink I/O Blocks</td> </tr> <tr> <td>IC660BBD024</td> <td>12/24 VDC 32 Circuit Source I/O Block</td> </tr> <tr> <td>IC660BBD025</td> <td>5/12/24 VDC 32 Circuit Sink I/O Block</td> </tr> <tr> <td>IC660BBD101</td> <td>115 VAC Low-leakage 8 Circuit I/O Block</td> </tr> <tr> <td>IC660BBD110</td> <td>115 VAC 16 Circuit Input Block</td> </tr> <tr> <td>IC660BBD120</td> <td>High-speed Counter</td> </tr> <tr> <td>IC660BBR100</td> <td>16 Circuit Normally-Closed Relay Block</td> </tr> <tr> <td>IC660BBR101</td> <td>16 Circuit Normally-Open Relay Block</td> </tr> <tr> <td>IC660BBS100/102</td> <td>115 VAC/125 VDC Isolated I/O Blocks, with Failed Switch Diagnostics</td> </tr> <tr> <td>IC660BBS101/103</td> <td>115 VAC/125 VDC Isolated I/O Block, without Failed Switch Diagnostics</td> </tr> <tr> <td>IC660HHM501/502</td> <td>Hand-Held Monitor</td> </tr> <tr> <td>IC697BEM733</td> <td>Series 90-70 Remote I/O Scanner</td> </tr> </table>	IC200GBI001	VersaMax Genius Network Interface Unit	IC660BBA020	24/48 VDC 4 Input/2 Output Analog Block	IC660BBA021	24/48 VDC RTD Input Block	IC660BBA023	24/48 VDC Thermocouple Input Block	IC660BBA024	24/48 VDC Current-Source Analog Block	IC660BBA025	24/48 VDC Current-Source Output Block	IC660BBA026	24/48 VDC Current-Source Input Block	IC660BBA100	115 VAC 4 Input/2 Output Analog Block	IC660BBA101	115 VAC RTD Input Block	IC660BBA103	115 VAC/125 VDC Thermocouple Input Block	IC660BBA104	115 VAC/125 VDC Current-Source Analog Block	IC660BBA105	115 VAC/125 VDC Current-Source Output Block	IC660BBA106	115 VAC/125 VDC Current-Source Input Block	IC660BBD020/022	24/48 VDC 16 Circuit Source I/O Blocks	IC660BBD021/023	24/48 VDC 16 Circuit Sink I/O Blocks	IC660BBD024	12/24 VDC 32 Circuit Source I/O Block	IC660BBD025	5/12/24 VDC 32 Circuit Sink I/O Block	IC660BBD101	115 VAC Low-leakage 8 Circuit I/O Block	IC660BBD110	115 VAC 16 Circuit Input Block	IC660BBD120	High-speed Counter	IC660BBR100	16 Circuit Normally-Closed Relay Block	IC660BBR101	16 Circuit Normally-Open Relay Block	IC660BBS100/102	115 VAC/125 VDC Isolated I/O Blocks, with Failed Switch Diagnostics	IC660BBS101/103	115 VAC/125 VDC Isolated I/O Block, without Failed Switch Diagnostics	IC660HHM501/502	Hand-Held Monitor	IC697BEM733	Series 90-70 Remote I/O Scanner
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Hot-standby Redundancy	When using the Gateway in a Hot Standby redundancy system, with older versions of the CRU320 or CPE330 controllers, Genius I/O may not be scanned after a power cycle. This occurs if the primary controller is off and both the secondary Gateway and secondary controller are powered on at the same time. This problem is resolved in IC695CRU320 version 8.95 and later. It is also resolved in IC695CPE330 version 8.90 and later.																																																				
VersaMax Sub-Module Configuration	For firmware version 2.0.1.0 the full IO capacity must be configured for VersaMax modules Vmax_8_Channel_AI and Vmax_4_Channel_AO modules. With the GBC, you could configure a subset of IO (for example for the Vmax_8_Channel_AI) you could configure (for example) 5 AI. For the GCG, this is not currently possible and you must configure 8 AI.																																																				

**Restrictions and Open Issues**

Subject	Description
Late Genius device power-up	The Genius Gateway will not recognize any Genius device that is placed on the Genius bus after the Gateway's Connect LED transitions to the OFF state. All other Genius devices will perform I/O normally. If the power is cycled on the Gateway, it begins exchanging I/O with the Genius device.
Discrete I/O Fault	If a discrete Genius block is configured so that all of its points are inputs or all of its points are outputs, the PROFINET Controller Module (PNC) may report a <i>Valid Module Substitution</i> fault in the I/O Fault Table. The block will operate as expected. The fault can be safely ignored.
90-70 output flicker	In approximately 5% of cases, when the 90-70 Remote Scanner is power-cycled while the PLC is in RUN mode, the 90-70 outputs will flicker briefly (less than 1 second duration) when the Gateway restarts communications with the 90-70. In the other 95% of cases, the Gateway will send output data set to zero, for less than 1 second when the Gateway restarts communications with the 90-70.
Use of unsupported Genius devices	When an IC695GCG001 is used to control a Genius I/O network, the presence of unsupported Genius devices on the network can cause bus congestion, loss of fault messages, and other undesirable operation.
Configuration of 8- and 32-point discrete blocks	When configuring 8-point and 32-point discrete Genius blocks in Machine Edition, you must configure the block for both inputs and outputs. The Gateway does not support input-only or output-only configurations for these devices.
Recurrence of a circuit fault not shown in I/O Fault Table	If the Hand-Held Monitor is used to clear a circuit fault, and that fault reappears at a later time, no corresponding fault indication will appear in the I/O Fault Table. This situation is resolved by using the Clear Circuit Fault or Clear All Circuit Faults COMMREQs rather than using the HHM.
Hand-Held Monitor does not show the Gateway during a bus scan	When scanning the Genius bus with the Hand-Held Monitor, the scan will skip over the Gateway and not show it, even though the Gateway is operating properly.
Dual-Bus Redundancy not supported	The Gateway does not support Genius Dual-bus Redundancy. The Gateway can be used in Hot-standby Redundancy and Duplex Redundancy.

**Operational Notes**

Subject	Description
IC660BBD120 High-Speed Counter	In Proficy Machine Edition (PME), when a Gateway is upgraded from an older GSDML file (prior to 2016) to the 20160818 version or later, if there are any Genius High-speed Counter blocks in the configuration, PME displays a Conflicts List window indicating that the input references have been given new values. When this occurs, take note of the existing reference addresses and press the <b>Proceed</b> button. Then open the High-speed Counter's hardware configuration. If either of the %I or %AI reference addresses were changed, change them back to their original values. This is a one-time operation per High-speed Counter.
Fault Contract Operation	<p>Firmware version 1.1.1.0 changes the behavior of the GCG when a Genius Block circuit fault occurs. In firmware versions 1.1.04 and earlier, a circuit fault would result in all I/O points on the Genius Block to becoming faulted. With firmware version 1.1.1.0 and later, when a circuit fault occurs on a Genius Block only the I/O point where the circuit fault occurred will be faulted.</p> <p><b><u>Fault Contact Operation with FW 1.1.1.0 and Later:</u></b></p> <p>When a circuit fault occurs on a discrete block or a channel fault occurs on an analog block, none of the block's <u>fault contacts</u> will energize. The only indicators of the presence of a circuit fault are an entry in the I/O Fault Table the Fault LED on the Gateway, and the Fault LED on the faulted Genius block.</p> <p>Prior to FW version 1.1.1.0 all of the block's fault contacts would energize</p>
Bus Address 0	Genius bus address 0 is not available for configuration of Genius devices in Proficy Machine Edition (PME). The only Genius device that can be used at bus address 0 is the Hand-Held Monitor.
Bus Addresses 30 and 31	The Gateway can be assigned to bus addresses 30 and 31 only. Do not configure the Gateway to both addresses 30 and 31 simultaneously. Doing so will cause the Genius bus to operate in an unexpected manner.
SNMP	The Genius Communications Gateway supports Simple Network Management Protocol (SNMP). However, requests directed to the device must use the community name "ge".



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