



# Genius<sup>®</sup> Distributed I/O

**The Advantages of True Genius.** By providing distributed control on the factory floor, Genius<sup>®</sup> I/O systems offer fewer terminations to document, dramatically shorter wiring runs, and simpler, more effective troubleshooting. In a host of industries, from steel to food processing to automotive, more than half a million Genius blocks are helping companies meet the challenge of an increasingly competitive marketplace.



**Genius Advanced Diagnostics Reduce Costs.** Genius I/O blocks automatically provide diagnostic information on field wiring, power conditions, and loads, as well as the state of the communication network, blocks, and circuits. Genius diagnostics sharply reduce the time needed for initial control and debugging.

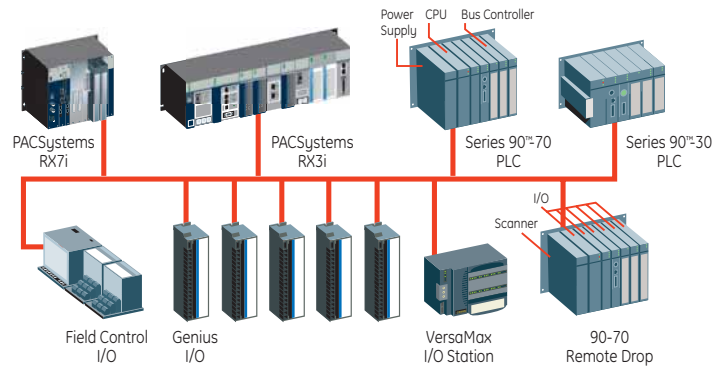
**Genius Technology Provides the Cornerstone for Redundancy.** Genius blocks provide predictable system operation in the event of a CPU, bus interface, or network cable failure. When connected in a redundant configuration with two or more CPUs running simultaneously, the Genius blocks will shift automatically to a backup CPU if the main controller fails to communicate.

**Genius is a Simple and Efficient Communication Network.** As opposed to traditional rack-mounted I/O, Genius blocks communicate with the system CPU over a network – the Genius LAN. The Genius LAN greatly simplifies system installation and with network tools such as the hand-held monitor, troubleshooting is a snap.

**Genius Performs Equally Well with High- or Low-Density I/O.** Many different GE Fanuc I/O products may be integrated into a single Genius LAN including Genius I/O blocks, VersaMax<sup>®</sup> and Field Control<sup>™</sup>. This flexibility allows users to deploy the most efficient combination of high-density and low-density distributed I/O for their application.

## Product Features

Genius Open Architecture Simplifies System Integration. The Genius family includes 20 different I/O blocks, a variety of PLC interface modules, and a growing number of third-party interfaces.



**Maximum Bus Length**  
 7500 feet with 16 devices at 38.4 Kbaud  
 3500 feet with 32 devices at 153.6 Kbaud ext.

## Ordering Information

| Block Type         | Catalog Number<br>IC660 | Input     |               | Input and Output |                   |         |           | Output        |                     |            |  |
|--------------------|-------------------------|-----------|---------------|------------------|-------------------|---------|-----------|---------------|---------------------|------------|--|
|                    |                         | Open Wire | Failed Switch | Over Temp        | Loss of I/O Power | No Load | Over Load | Short Circuit | Load State Feedback | Pulse Test |  |
| AC Discrete Blocks | BBD101                  | x         | x             | x                |                   | x       | x         | x             | x                   | x          |  |
|                    | BBS102                  | x         | x             | x                | x                 | x       | x         | x             | x                   | x          |  |
|                    | BBS103                  | x         | 4             | x                | x                 | x       | x         | x             | x                   | x          |  |
|                    | BBD110                  | x         |               |                  |                   |         |           |               |                     |            |  |
| DC Discrete Blocks | BBD020                  | x         | x             | x                |                   | x       | x         | x             | x                   | x          |  |
|                    | BBD022                  | x         | x             | x                |                   | x       | x         | x             | x                   | x          |  |
|                    | BBD021                  | x         | x             | x                |                   | x       | x         | x             | x                   | x          |  |
|                    | BBD023                  | x         | x             | x                |                   | x       | x         | x             | x                   | x          |  |
|                    | BBD024                  |           | x             |                  |                   |         | x         | x             | x                   | x          |  |
|                    | BBD025                  |           | 1             |                  |                   |         |           | x             | 2                   | 3          |  |
| Relay Blocks       | BBR100                  |           |               |                  |                   |         |           |               |                     |            |  |
|                    | BBR101                  |           |               |                  |                   |         |           |               |                     |            |  |
| High Speed Counter | BBD120                  |           |               |                  |                   |         |           |               |                     |            |  |

(1) Failed switch is output diagnostic only. (2) Over current condition is reported as failed switch. (3) Load state feedback indicates state of output switch only, not the load. (4) Failed switch diagnostics resulting from certain field wiring conditions are intentionally suppressed.

| Block Type           | Catalog Number<br>IC660 | Input Power     | Input Only |           |            |              |             | Input and Output |            | Output Only    |
|----------------------|-------------------------|-----------------|------------|-----------|------------|--------------|-------------|------------------|------------|----------------|
|                      |                         | Open Wire       | High Alarm | Low Alarm | Int. Fault | Wiring Error | Input Short | Under Range      | Over Range | Feedback Error |
| Analog Signal Blocks | BBA020                  | 24/48 VDC       | x          | x         | x          |              |             |                  | x          | x              |
|                      | BBA100                  | 115 VAC         | x          | x         | x          |              |             |                  | x          | x              |
|                      | BBA024                  | 24/48 VDC       | x          | x         | x          |              |             |                  | x          | x              |
|                      | BBA104                  | 115 VAC/125 VDC | x          | x         | x          |              |             |                  | x          | x              |
|                      | BBA025                  | 24/48 VDC       |            |           |            |              |             |                  | x          | x              |
|                      | BBA105                  | 115 VAC/125 VDC |            |           |            |              |             |                  | x          | x              |
|                      | BBA026                  | 24/48 VDC       | x          | x         | x          |              |             |                  | x          | x              |
|                      | BBA126                  | 115 VAC/125 VDC | x          | x         | x          |              |             |                  | x          | x              |
|                      | BBA021                  | 24/48 VDC       | x          | x         | x          | x            | x           | x                | x          | x              |
|                      | BBA101                  | 115 VAC/125 VDC | x          | x         | x          | x            | x           | x                | x          | x              |
|                      | BBA023                  | 24/48 VDC       | x          | x         | x          | x            |             |                  | x          | x              |
|                      | BBA103                  | 115 VAC/125 VDC | x          | x         | x          | x            |             |                  | x          | x              |

### GE Fanuc Automation Information Centers

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 1- 800-GE FANUC  
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 (352) 727979-1

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 86-21-3222-4555

### Additional Resources

For more information, please visit the GE Fanuc web site at:

[www.gefanuc.com](http://www.gefanuc.com)

