Hot Insertion/Removal of Modules

Bus Interface Units IC670GBI002(F) and IC670GBI102A or later support Hot Insertion/Removal of modules in the I/O Station.

Hot Insertion/Removal means that modules can be removed and replaced while I/O Station power is applied without affecting the BIU or other modules in the I/O Station. Separate I/O module power must be switched off to the module being inserted or removed.

Hot Insertion/Removal requires the use of specific modules and I/O terminal blocks:

I/O modules having catalog number suffix J or above. These modules have a projecting alignment tab that fits into a corresponding alignment tab on I/O Terminal Blocks listed below. Note that modules with this tab can also be installed on older I/O Terminal Blocks that do not have mating alignment tabs. However, Hot Insertion/Removal are not supported in such an installation.

I/O Terminal Blocks IC670CHS101, 102, or 103. These I/O Terminal Blocks have projecting alignment tabs designed to facilitate Hot Insertion/Removal of modules. Modules that are earlier than revision J cannot be mounted on these terminal blocks.

I/O Terminal Blocks IC670CHS001, 002, and 003, which lack alignment tabs, do not support Hot Insertion/Removal of modules. With these terminal blocks, I/O Station power should be off when installing or removing modules.

Mixing IC670CHS10x terminal blocks with IC670CHS00x terminal blocks in the same I/O station is not recommended.

Faults Reported During Hot Insertion/Removal

When using the recommended equipment listed above, Hot Insertion/Removal will cause the expected fault reports related to the loss of or addition of the module and its I/O circuits. These faults should be cleared in the normal manner. However, Hot Insertion/Removal of a rev. J or later module will NOT cause Configuration Mismatch errors that in some types of systems can shut down the controller.

I/O Module Data During Hot Insertion/Removal

As mentioned, separate I/O module power must be turned off for Hot Insertion/Removal. When the module is installed and power is reapplied, module data will quickly return to normal. For intelligent I/O modules, there may be a delay of a few seconds while the module goes through its powerup sequence.

Hot Insertion/Removal for a Micro Field Processor

A Micro Field Processor that is revision J or later may be removed/inserted as described above. Note, however, that although the Micro Field Processor will start functioning upon reinstallation, the MFP's application program must be reloaded. I/O data controlled by the Micro Field Processor will be incorrect until that has been done. (The BIU configuration of the Micro Field Processor is not affected by Hot Insertion/Removal).

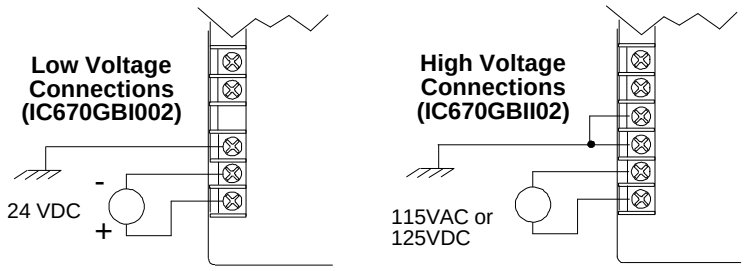
Hot Insertion/Removal Not Permitted in Hazardous Locations

In hazardous locations, I/O Station power must be turned off before inserting/removing module. Failure to observe this precaution may result in personal injury, system malfunction and/or damage to the equipment.

Power Wiring to the Bus Interface Unit

Note: Do not apply power until the BIU module is installed on the Terminal Block.

1. Connect an appropriate power source as shown below.



   For BIU version IC670GBI102, if a DC supply is used the polarity is not important.

   BIU version IC670GBI102 provides internal overvoltage protection. Terminal 4 is normally connected to frame ground (terminal 3) by a factory-installed jumper. If overvoltage protection is not required *or* is supplied upstream this feature can be disabled by removing the jumper, leaving pin 4 unconnected.

2. Use one AWG #14 (2.1mm^2) or two AWG #16 (1.3mm^2) wires per terminal. The wires into a terminal should be the same type and size. Wires must be copper conductors rated for 75 degrees C (167 degrees F) only. Suggested torque for the terminal screws is 9 in/lbs.
3. Connect the ground terminal to the conductive mounting panel with a 4-inch maximum length of AWG #14 (avg 2.1mm^2) or larger wire. Use hardware such as star washers to ensure ground integrity.