



# SERIES SIX

## PROGRAMMABLE CONTROLLERS

GEK-83513C

8 inputs per module

### AC/DC INPUT MODULES

#### GENERAL DESCRIPTION

The AC/DC Input modules detect bipolar AC and DC voltages supplied by, and controlled by, the user. The modules are available in four versions: 12 Vac/dc, 24-48 Vac/dc, 115 Vac/dc, and 230 Vac/dc. The features and benefits of these modules are summarized in Table 1.

A module contains eight inputs, divided into two groups, each group sharing a neutral circuit (either N1 or N2).

An input circuit contains a rectifier, a noise filter to reduce common mode transients, an opto-isolator, and a Schmitt trigger (one-shot), which fires to indicate that a voltage (AC or DC) in a specified range has been detected. An active input circuit is indicated by a Light-Emitting Diode (LED), visible through a lens on the faceplate.

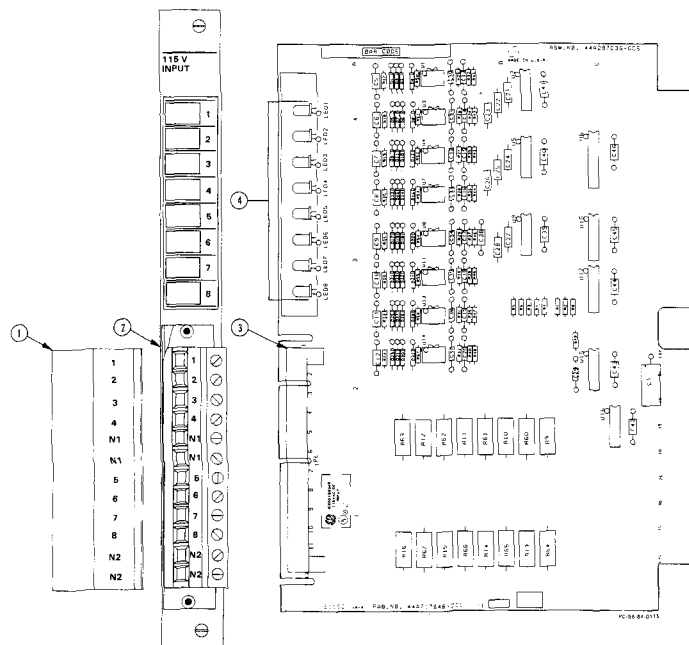
Refer to Figure 1 (next page) for AC/DC Input module specifications.

TABLE 1. FEATURES AND BENEFITS

FEATURES	BENEFITS
Four modules available: 12 Vac/dc 24-48 Vac/dc 115 Vac/dc 230 Vac/dc	Useful in a variety of applications.
LED for each input/Color-coded faceplates.	Allows visual inspection of I/O operations,
Eight inputs per module.	Efficient use of I/O rack spare.
Optically-coupled inputs.	Provides electrical isolation between user power supplies and Series Six Programmable Controller.
<b>APPLICATIONS</b>	
* Monitor:	
* Limit Switches	* Cam Switches
* Toggle Switches	* Relays

<ul style="list-style-type: none"> <li>• Dimensions:                     <ul style="list-style-type: none"> <li>Circuit Board: 8.15 x 11.0 (inches) 208 x 280 (mm)</li> <li>Faceplate: 12.46 x 1.175 (inches) 317 x 30 (mm)</li> </ul> </li> <li>• Power Requirements: 5V DC, 104 ma maximum Supplied by I/O power supply.  The user must supply power for the input devices.</li> <li>• Number of Inputs: Eight (8), in two groups of 4 inputs with a common, neutral connection.</li> <li>• Operating Temperature: 0<sup>0</sup> to 60<sup>0</sup>C (At the outside of rack)</li> <li>• Storage Temperature: -20<sup>0</sup> to +80<sup>0</sup>C</li> </ul>	<ul style="list-style-type: none"> <li>• Humidity: 5 to 95% (non-condensing)</li> </ul> <table border="1"> <thead> <tr> <th>Module</th> <th>ON Range</th> <th>OFF Range</th> <th>Input Loading</th> </tr> </thead> <tbody> <tr> <td>12V Input (AC/DC)</td> <td>10-20V</td> <td>0-4V</td> <td>1 k Ω (7.0 ma @ 12V)</td> </tr> <tr> <td>24-48V Input (AC/DC)</td> <td>20-60V</td> <td>0-8V</td> <td>3 k Ω (6.3 ma @ 24V)</td> </tr> <tr> <td>115V Input (AC/DC)</td> <td>90-130V</td> <td>0-30V</td> <td>20 k Ω (5.5 ma @ 115V)</td> </tr> <tr> <td>230V Input (AC/DC)</td> <td>180-260V</td> <td>0-50V</td> <td>39 k Ω (5.8 ma @ 230V)</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>ON Delay: 10-20 ms</li> <li>OFF Delay: 20-50 ms</li> </ul>	Module	ON Range	OFF Range	Input Loading	12V Input (AC/DC)	10-20V	0-4V	1 k Ω (7.0 ma @ 12V)	24-48V Input (AC/DC)	20-60V	0-8V	3 k Ω (6.3 ma @ 24V)	115V Input (AC/DC)	90-130V	0-30V	20 k Ω (5.5 ma @ 115V)	230V Input (AC/DC)	180-260V	0-50V	39 k Ω (5.8 ma @ 230V)
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FIGURE 1. SPECIFICATIONS



- ① Terminal Cover
- ② User Terminal Block: Accepts connections from user input devices. See the "Installation" section and Figure 3 of this Data Sheet.
- ③ Circuit Board Terminal Block: Mates with the user terminal block.
- ④ Input Lights: 1 through 8  
ON: The associated input is in the ON state.  
OFF: The associated input is in the OFF state.

FIGURE 2. USER ITEMS

## INSTALLATION

The AC/DC Input modules can be installed in an I/O rack or the I/O rack section of the Model 60 Central Processor Unit (CPU). Follow these steps:

1. Set the Dual-In-Line-Package (DIP) switches directly behind the card slot on the rack backplane to establish the correct correspondence between the input terminals on this module and a group of eight consecutive input numbers in the user program. For further information on I/O DIP-switch settings, refer to the Installation Section of the Series Six Installation and Maintenance Manual (GEK-25361).
2. Use the extraction/insertion tool furnished with the Series Six CPU to insert (or remove) this module in the card slot.
3. Guide the faceplate over the circuit board so that the terminals near the bottom of each are mated; secure the faceplate to the rack using the thumb-screws at the top and bottom.
4. Refer to Figure 3. Connect one side of the user circuit to the appropriate input terminal (1 through 8). Circuits connected to inputs 1 through 4 must have their opposite sides connected to either of the N1 terminals. Likewise, circuits connected to inputs 5 through 8 must have their opposite sides connected to either of the N2 terminals.

In reference to Figure 3, note that wires connected to the N1 terminals are at the same potential, as are wires connected to the N2 terminals.

Each input terminal can accommodate one No. 12 AWG wire or two No. 14 AWG wires.

5. Guide the terminal cover onto the top of the terminal block, then slide it downward over the terminals.

A markable area is provided on the plastic lens beside each LED for noting the function or source of each input. The faceplates are color coded:

Green: 12V or 24-48V  
 Orange: 115v  
 White: 230V



**Voltages from user field devices may be present on the faceplate terminals, even if the power supply in the I/O rack is off. Care should be taken when handling the faceplate of this module or any wires connected to it.**

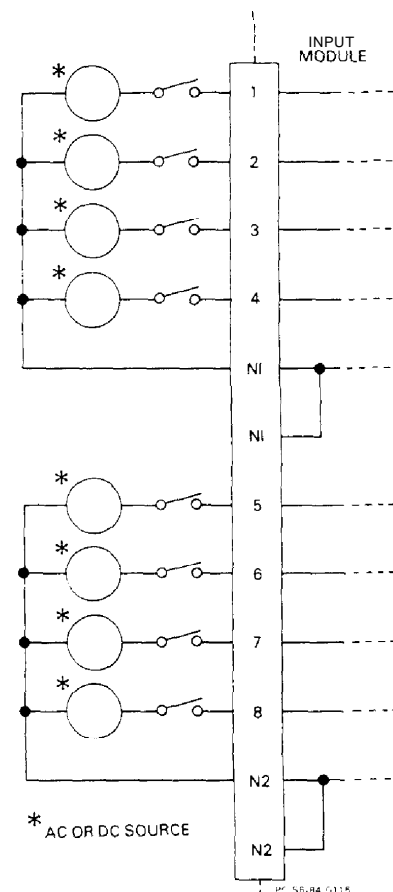


FIGURE 3. TYPICAL USER INPUT CONNECTIONS

## ORDERING INFORMATION

<u>Module</u>	<u>Circuit Board and Faceplate</u>	<u>Circuit Board</u>	<u>Faceplate</u>
12 Vac/dc	IC600BF806B	IC600YB806B	IC600FP806A
24-48 Vac/dc	IC600BF802B	IC600YB802B	IC600FP802A
115 Vac/dc	IC600BF804B	IC600YB804B	IC600FP804A
230 Vac/dc	IC600BF805B	IC600YB805B	IC600FP805A

## CATALOG NUMBER REVISION SUFFIX

The equipment listed above having the catalog numbers shown and the same equipment having a higher alpha suffix is designed for listing by UL for use as auxiliary control devices. The equipment is a direct replacement for equipment having the same catalog number but a lower alpha suffix.

The UL symbol on the nameplate means the product is listed by Underwriters Laboratories Inc. (UL Standard No. 508, Industrial Control Equipment, subsection Electronic Power Conversion Equipment. )

For further information, contact your local GE Fanuc sales office.

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