Series Six Plus
Programmable Controller

GFK-0148A

Input/Output Racks
8 and 11 Slots

June 1989

General Description

The Series Six Input/Output (I/O) rack provides the regulated DC power, backplane and enclosure for the Series Six I/O modules; and is available in two sizes: 8 slots and 11 slots. Two power supply types are also available: Standard Capacity and High Capacity. The Standard rack satisfies most I/O applications of the Series Six Programmable Controller. The High Capacity rack provides adequate current for applications utilizing I/O modules that demand collectively more than 6.1 amps. The I/O rack features and benefits are summarized in Table 1.

The left card slot of each I/O rack *is* intended for an I/O Receiver module (Local I/O Receiver or Remote I/O Receiver). The remaining slots are available for Series Six I/O modules. Refer to the list on page 6. On the backplane adjacent to each of the I/O module card slots (inside the rack enclosure) are Dual-In-line-Package (DIP) switches which allow the user to set the addresses for the corresponding I/O modules.

The Standard Capacity I/O Rack provides +5 Vdc to its backplane and operates from 115 Vac or 230 Vac sources (at 47 to 63 Hz). The input voltage is jumper-selectable by the user.

The High-Capacity I/O rack provides +5, +12, and -12 Vdc to its backplane. Three power supplies are available: 95-260 Vac, 20-32 Vdc and 100-150 Vdc.

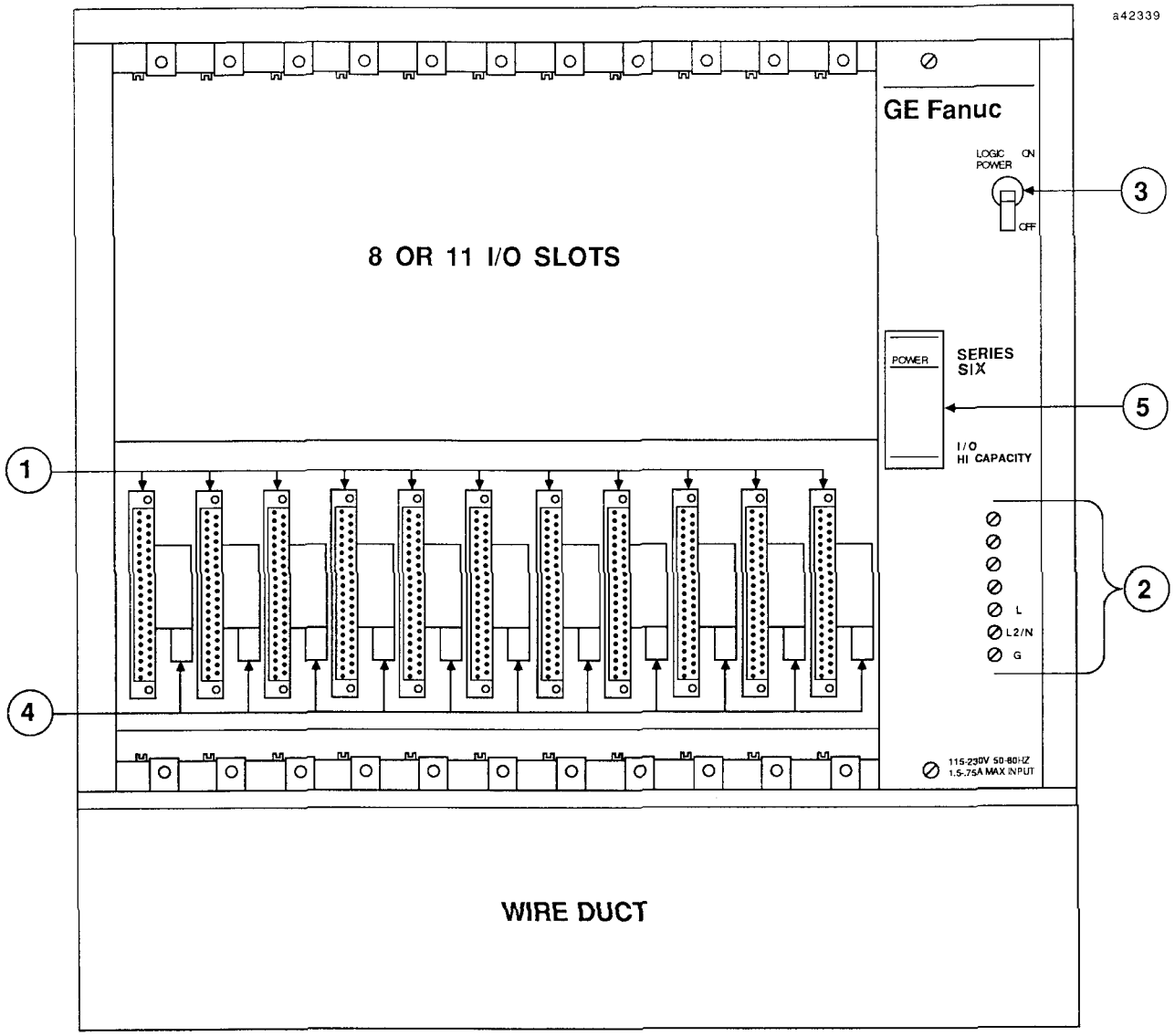
The Standard I/O rack may be upgraded to a High-Capacity I/O rack by replacing the power supply with a High-Capacity power supply.

A Light-Emitting Diode (LED) on the faceplate of the I/O rack power supply indicates that the DC power supplied by the rack **is** wihin tolerance.

Refer to Table 3 for I/O Rack specifications.

Table 1. FEATURES AND BENEFITS

FEATURES	BENEFITS
Available with Interchangeable Standard or High-Capacity Power Supply modules.	Can accommodate numerous types of I/O modules.
Compatible with all Series Six CPUs. Used in all I/O locations.	Reduces spare-parts inventory cost.
Equipped with dual-purpose mounting brackets.	Can be rack-mounted or panel-mounted
Removeable power supply module.	Reduced downtime and inventory cost.
Addressing switches on backplane	Easy installation of I/O modules.



1. 41P-PIN BACKPLANE CONNECTOR MATES WITH CONNECTOR ON A PLUG-IN MODULE.
2. POWER-SUPPLY FRONT-PANEL TERMINAL BLOCK. SEE "INSTALLATION" SECTION AND FIGURE 3 OF THIS DATA SHEET.
3. LOGIC-POWER SWITCH
4. DIP SWITCHES TO SET I/O MODULE ADDRESS
5. POWER LIGHT
   - A. ON: THE DC VOLTAGE OUTPUT OF THE POWER SUPPLY IS WITHIN TOLERANCE
   - B. OFF: DC VOLTAGE IS OUT OF TOLERANCE

Figure 1. USER ITEMS

Installation

The following procedures summarize the proper installation of the I/O rack. Further details on each step can be found in the Series Six Plus Users Manual GEK-96602.

1. The I/O rack can be rack-mounted or panel-mounted. The location and orientation of the mounting brackets depends on the mount. Refer to Figure 3.

WARNING

Extreme care should be taken when making connections to the terminal block - - - High voltage AC or DC may be present.

2. Refer to Figure 3. Connect a power cord capable of carrying the current drawn by the power supply to the terminal block on the front panel. Safety ground and signal ground connections must be made as described in the Series Six Plus Users Manual. Ensure that the input voltage jumper is positioned correctly and secured (Standard I/O rack only). After the connections have been made, mount the protective cover over the terminal block with the screws provided; make sure that the wires are routed through the opening in the cover.

3. Install an I/O Receiver module (or Remote I/O Receiver) in the card slot at the extreme left in the rack if this **is** the first rack in a Remote station.

4. Any combination of Input, Output, I/O Transmitter **and/or** Remote I/O Driver modules can be installed in the other card slots in the rack, after the DIP switches (Figure 4) for each have been set to the appropriate address as indicated in Figure 5. Note that an optional wiring trough is available to facilitate field-wiring to the various modules.

NOTE

If the POWER LED does not light at power-up, or intermittent errors occur in the course of operation, the current-rating of the I/O rack could be exceeded. Refer to Table 2 to determine the total current requirements within a rack.

NOTE

See outline drawings on pages 5-8.

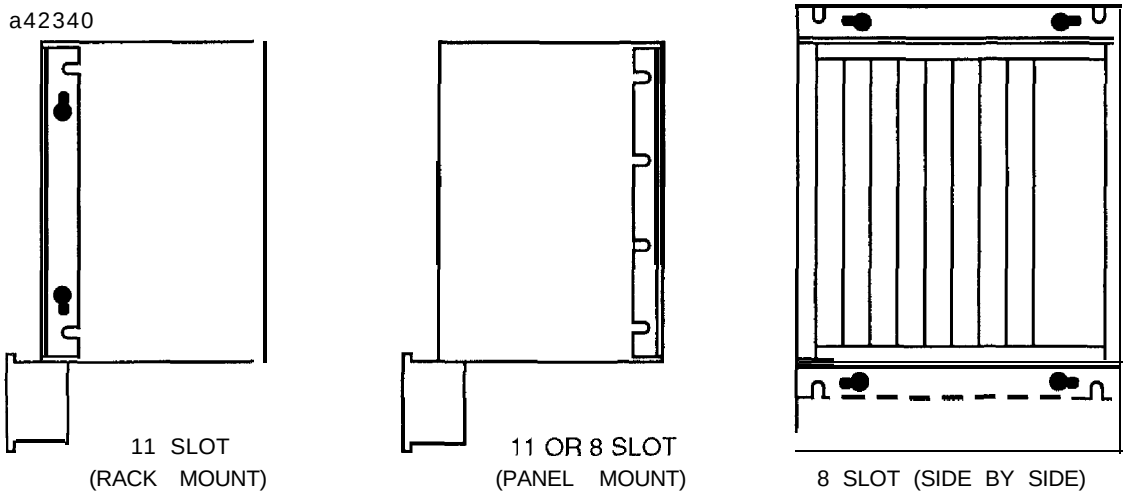


Figure 2. USE OF MOUNTING BRACKETS

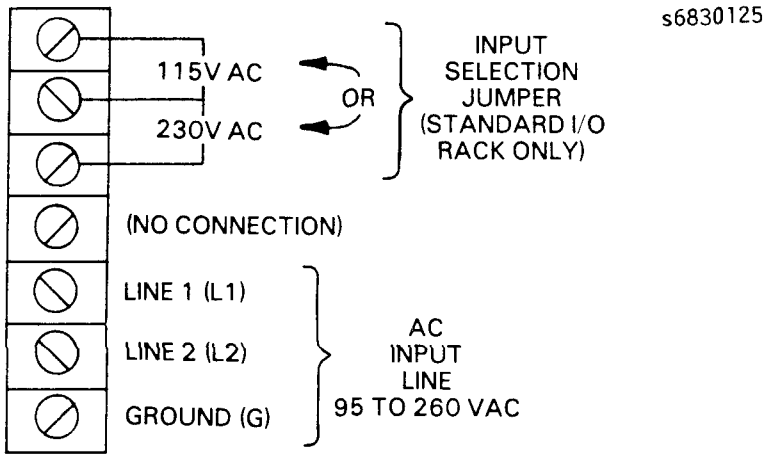


Figure 3. I/O RACK FRONT-PANEL TERMINAL BLOCK

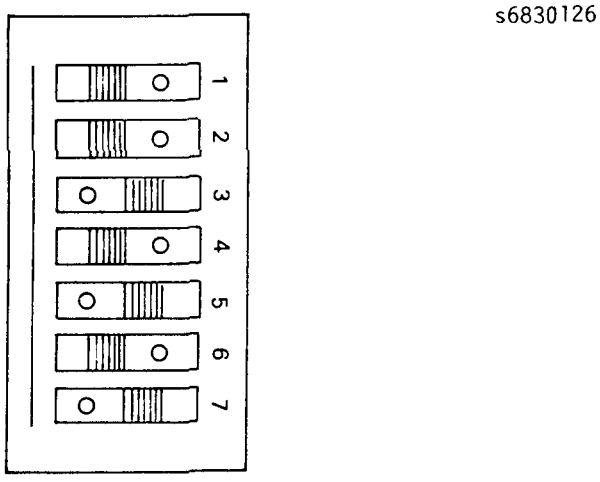


Figure 4. DIP SWITCH

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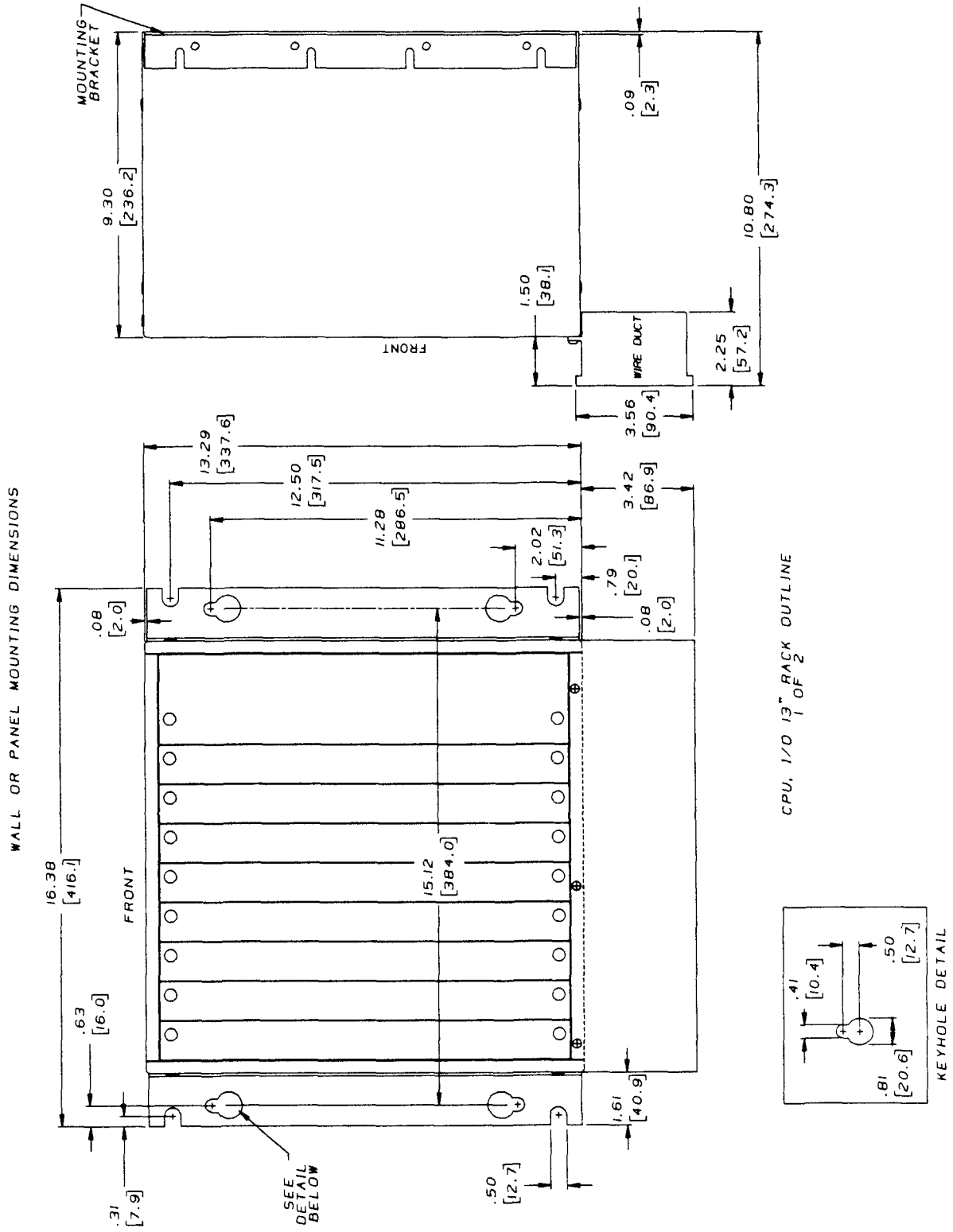
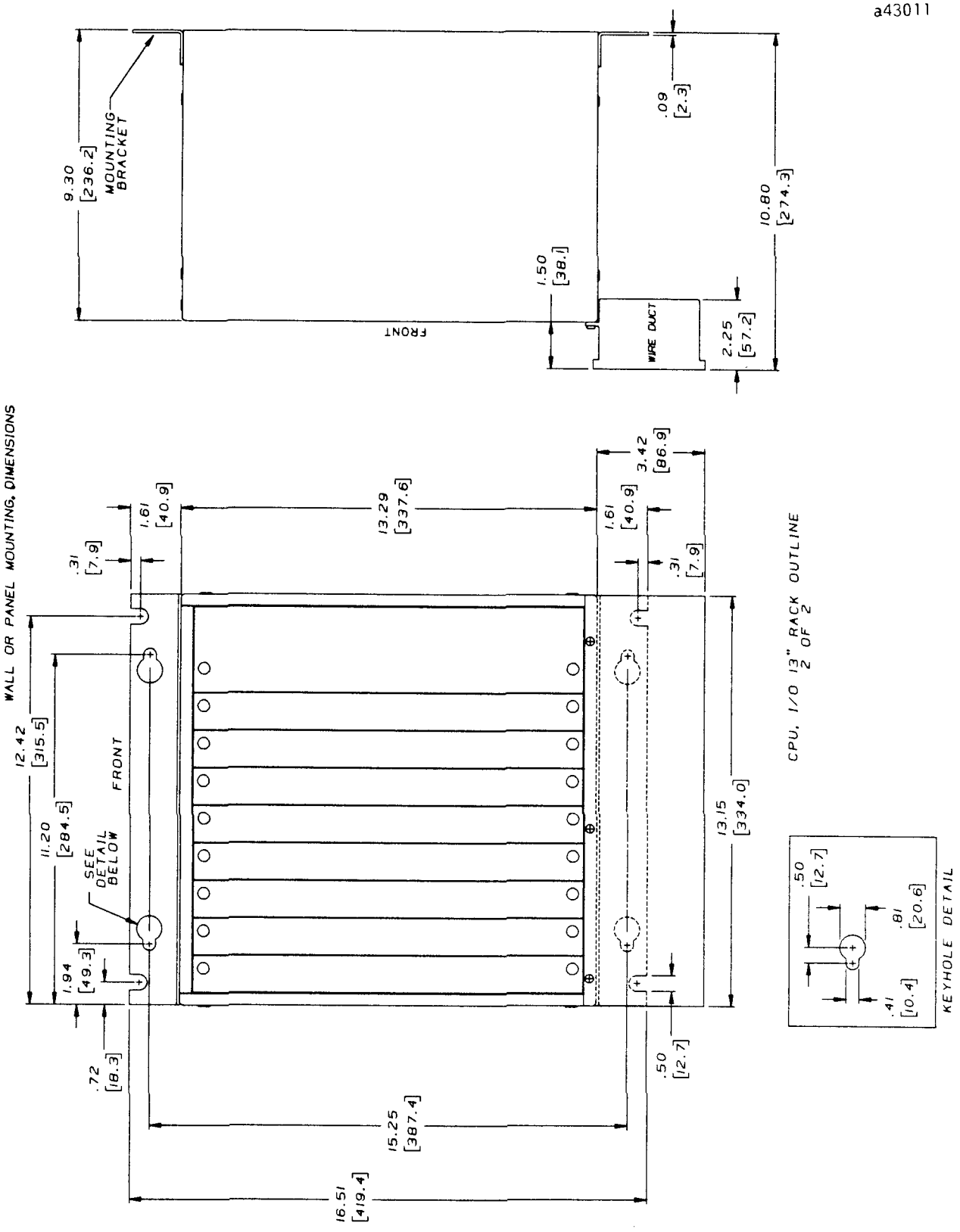
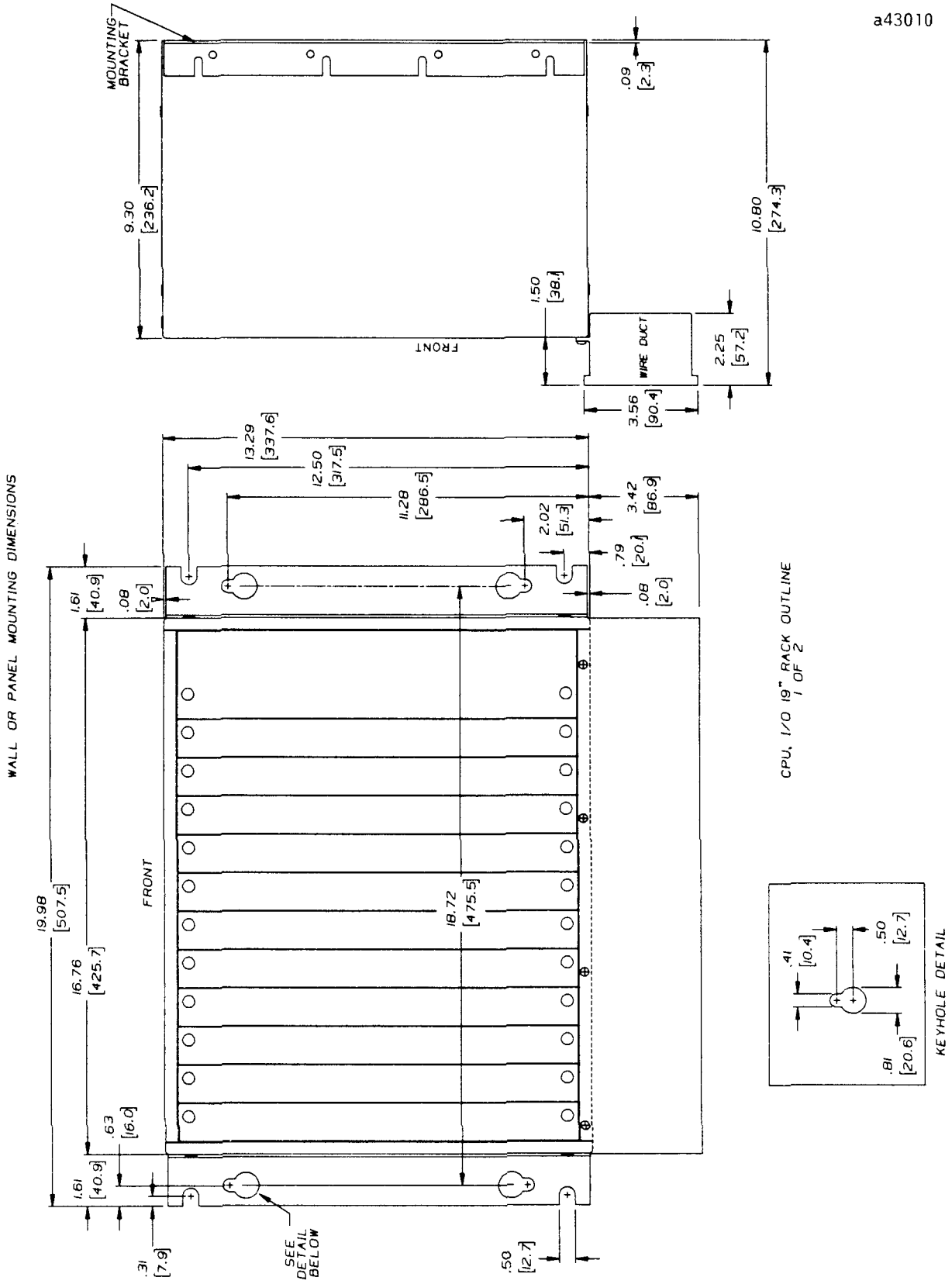
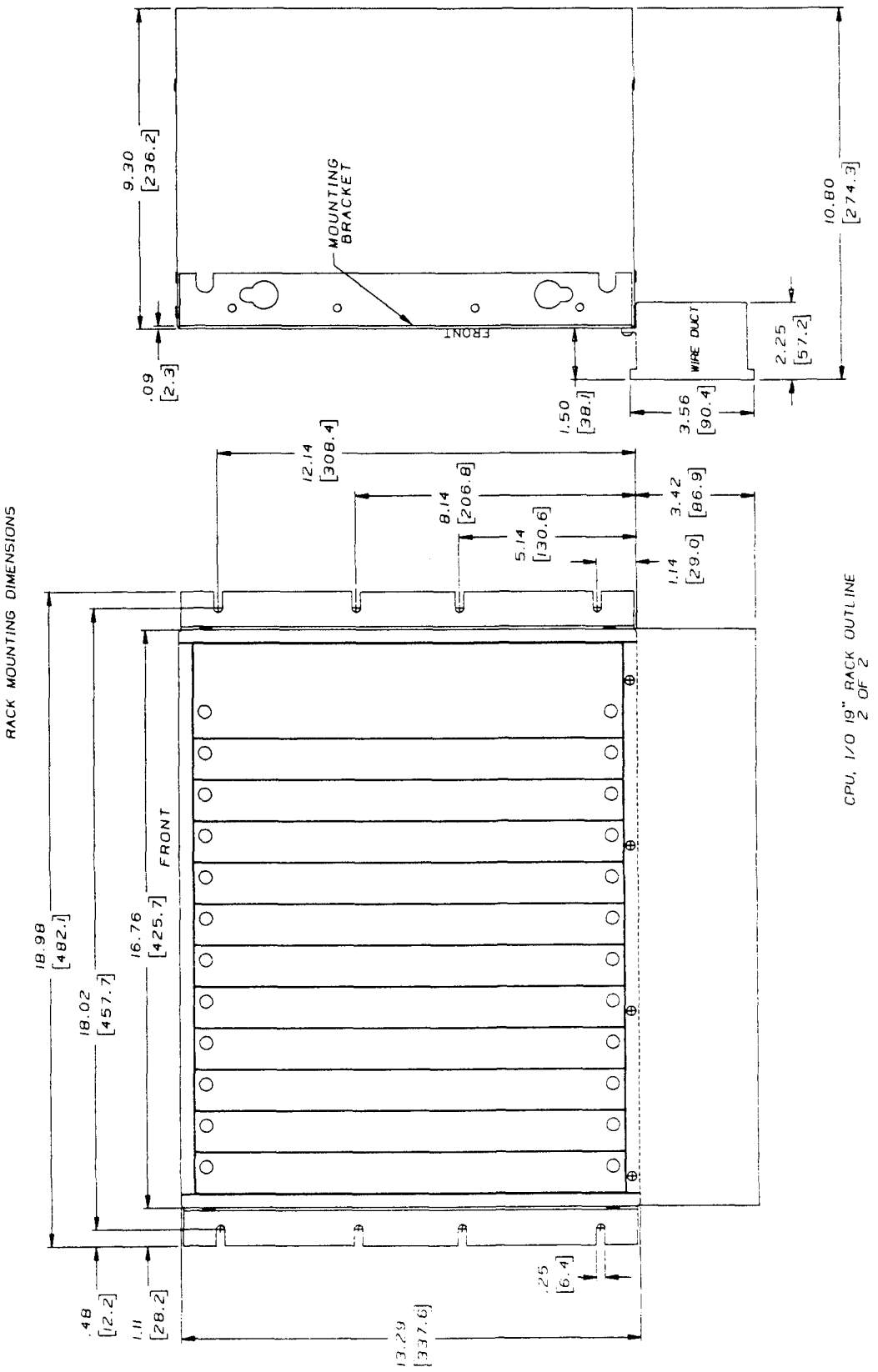

MOUNTING BRACKET
9.30 [236.2]
.09 [2.3]
10.80 [274.3]
1.50 [38.1]
FRONT
WIRE DUCT
2.25 [57.2]
3.56 [90.4]
13.29 [337.6]
12.50 [317.5]
11.28 [286.5]
3.42 [86.9]
2.02 [51.3]
.79 [20.1]
.08 [2.0]
.08 [2.0]
WALL OR PANEL MOUNTING DIMENSIONS
16.38 [416.1]
FRONT
15.12 [384.0]
.63 [16.0]
1.61 [40.9]
SEE DETAIL BELOW
.31 [7.9]
.50 [12.7]
CPU, I/O 13" RACK OUTLINE
1 OF 2
.41 [10.4]
.50 [12.7]
.81 [20.6]
KEYHOLE DETAIL

a43011


WALL OR PANEL MOUNTING, DIMENSIONS
CPU, I/O 13" RACK OUTLINE
2 OF 2
KEYHOLE DETAIL
FRONT
MOUNTING BRACKET
WIRE DUCT
SEE DETAIL BELOW
9.30 [236.2]
.09 [2.3]
10.80 [274.3]
1.50 [38.1]
2.25 [57.2]
12.42 [315.5]
11.20 [284.5]
1.94 [49.3]
.72 [18.3]
.31 [7.9]
1.61 [40.9]
13.29 [337.6]
3.42 [86.9]
13.15 [334.0]
.50 [12.7]
15.25 [387.4]
16.51 [419.4]
.81 [20.6]
.41 [10.4]


a43010
MOUNTING BRACKET
.09 [2.3]
9.30 [236.2]
10.80 [274.3]
1.50 [38.1]
FRONT
WIRE DUCT
2.25 [57.2]
3.56 [90.4]
13.29 [337.6]
12.50 [317.5]
11.28 [286.5]
2.02 [51.3]
3.42 [86.9]
.79 [20.1]
.08 [2.0]
1.61 [40.9]
.08 [2.0]
WALL OR PANEL MOUNTING DIMENSIONS
19.98 [507.5]
16.76 [425.7]
FRONT
18.72 [475.5]
.63 [16.0]
1.61 [40.9]
.31 [7.9]
SEE DETAIL BELOW
.50 [12.7]
CPU, I/O 19" RACK OUTLINE
1 OF 2
.41 [10.4]
.50 [12.7]
.81 [20.6]
KEYHOLE DETAIL

a43009


RACK MOUNTING DIMENSIONS
CPU, I/O 19" RACK OUTLINE
2 OF 2
MOUNTING BRACKET
FRONT
WIRE DUCT
9.30 [236.2]
.09 [2.3]
10.80 [274.3]
2.25 [57.2]
1.50 [38.1]
3.56 [90.4]
12.14 [308.4]
8.14 [206.8]
5.14 [130.6]
3.42 [86.9]
1.14 [29.0]
18.98 [482.1]
18.02 [457.7]
16.76 [425.7]
.48 [12.2]
1.11 [28.2]
.25 [6.4]
13.29 [337.6]

I/O POINT	DIP SWITCH POSITION							I/O POINT	DIP SWITCH POSITION							I/O POINT	DIP SWITCH POSITION					
	7	6	5	4	3	2	1		7	6	5	4	3	2	1		7	6	5	4	3	2	1
1- 8								337-344		X		X		X		673-680	X		X		X		
9- 16							X	345-352		X		X		X	X	681-688	X		X		X		X
17- 24						X		353-360		X		X	X			689-696	X		X		X	X	
25- 32						X	X	361-368		X		X	X		X	697-704	X		X		X	X	X
33- 40					X			369-376		X		X	X	X		705-712	X		X	X			
41- 48					X		X	377-384		X		X	X	X	X	713-720	X		X	X			X
49- 56					X	X		385-392		X	X					721-728	X		X	X		X	
57- 64					X	X	X	393-400		X	X				X	729-736	X		X	X		X	X
65- 72				X				401-408		X	X			X		737-744	X		X	X	X		
73- 80				X			X	409-416		X	X			X	X	745-752	X		X	X	X		X
81- 88				X		X		417-424		X	X		X			753-760	X		X	X	X	X	
89- 96				X		X	X	425-432		X	X		X		X	761-768	X		X	X	X	X	X
97-104				X	X			433-440		X	X			X	X	769-776	X	X					
105-106				X	X		X	441-448		X	X		X	X	X	777-784	X	X					X
113-120				X	X	X		449-456		X	X	X				785-792	X	X				X	
121-128				X	X	X	X	457-464		X	X	X			X	793-800	X	X				X	X
129-136			X					465-472		X	X	X		X		801-808	X	X			X		
137-144			X				X	473-480		X	X	X		X	X	809-816	X	X			X		X
145-152			X			X		481-488		X	X	X	X			817-824	X	X			X	X	
153-160			X			X	X	489-496		X	X	X	X		X	825-832	X	X			X	X	X
161-168			X		X			497-504		X	X	X	X	X		833-840	X	X		X			
169-176			X		X		X	505-512		X	X	X	X	X	X	841-848	X	X		X			X
177-184			X		X	X		513-520	X							849-856	X	X		X		X	
185-192			X		X	X	X	521-528	X						X	857-864	X	X		X		X	X
193-200			X	X				529-536	X					X		865-872	X	X		X	X		
201-208			X	X			X	537-544	X					X	X	873-880	X	X		X	X		X
209-216			X	X				545-552	X				X			881-888	X	X		X	X	X	
217-224			X	X		X	X	553-560	X				X		X	889-896	X	X		X	X	X	X
225-232			X	X	X			561-568	X					X	X	897-904	X	X	X				
233-240			X	X	X		X	569-576	X					X	X	905-912	X	X	X				X
241-248			X	X	X	X		577-584	X				X			913-920	X	X	X			X	
249-256			X	X	X	X	X	585-592	X				X		X	921-928	X	X	X			X	X
257-264		X						593-600	X				X		X	929-936	X	X	X		X		
265-272		X					X	601-608	X				X		X	937-944	X	X	X		X		X
273-280		X				X		609-616	X				X	X		945-952	X	X	X		X	X	
281-288		X				X	X	617-624	X				X	X		953-960	X	X	X		X	X	X
289-296		X			X			625-632	X				X	X	X	961-968	X	X	X	X			
297-304		X			X		X	633-640	X				X	X	X	969-976	X	X	X	X			X
305-312		X			X	X		641-648	X		X					977-984	X	X	X	X		X	
313-320		X			X	X	X	649-656	X		X				X	985-992	X	X	X	X		X	X
321-328		X		X				657-664	X		X			X		993-1000	X	X	X	X	X		
329-336		X		X			X	665-672	X		X			X	X								

PC-S6-83-0127

X = Switch in OPEN Position (Depressed to the Left).

Figure 5. DIP SWITCH SETTINGS FOR I/O POINT SELECTION FOR EIGHT-CIRCUIT MODULES

Table 2. SUMMARY OF UNITS OF LOAD FOR I/O MODULES

CATALOG NUMBER	MODULE DESCRIPTION	UNITS OF LOAD (1)		
		+5 v	+12 v	-12 v
LC600BF800	I/O Receiver	9		
[C600BF801	Remote I/O Receiver	42	10	1O(2)
IC600BF802	24 to 48 V dc Input	2		
1C6OOBF804	115 V ac/dc Input	2		
[C6OOBF805	230 V ac/dc Input	2	c	
IC600BF806	12 V ac/dc Input	2	I	
1CBOOBF808	Interrupt Input	3		e
IC600BF810	115 V ac/dc Isolated Input	2		
IC6OOBF813	Type 3 Thermocouple Input	29		
IC6OOBFS 14	Type K+ thermocouple Input	29		
tC600BF8 15	Type S Thermocouple Input	29	B	
IC600BF8 16	Type T Thermocouple Input	29	-	
1C600BF8 17	Type B Thermocouple Input	29		
tC600BF818	Type E Thermocouple Input	29		
IC600BF8 19	Type R Thermocouple Input	29		
IC600BF827	High Speed Counter	19	m	c
IC6OOBF830	Advanced I/O Receiver	12		s
IC6OOBF83 1	High Density Input	4		
IC600BF841	0 to 10 V dc Analog Input	29		
IC600BF842	+-l0 V dc Analog Input	29		
IC600BF843	4 to 20 mA analog Input	29		
IC6OOBF900	I/O Transmitter	34		I
IC600BF90 1	Remote I/O Driver	38	10	1O(2)
IC600BF902	24 V dc Sink Output	7		
IC600BF903	48 V dc Sink Output	7		
IC600BF.904	115 V ac Output	9		
IC600BF905	230 V ac Output	9		c
IC6OOBF906	12 V dc Sink Output	7		s
IC600BF907	12 V dc Source Output	7		l
IC6OOBF908	24 V dc Source Output	7		
IC6OOBF909	48 V dc Source Output	7		
IC600BF910	115 V ac Isolated Output	8		
IC600BF912	230 V ac Isolated Output	8		
IC600BF914	Reed Relay Output	13		
IC6OOBF915	Axis Positioning Module, Type 1	42	7	3
IC600BF9 17	Axis Positioning Module, Type 2	42	11	6
IC600BF921	5 v TTL output	3		
IC6OOBF923	10 to 50 V dc Sink Output	3		
IC600BF924	120 V dc Output	5	I	
IC6OOBF929	10 to 50 V dc Source Output	3		
IC60OBF930	115 V ac Protected Output	8		
IC600BF941	0 to 10 V dc Analog Output	29		
IC600BF942	+-10 V dc Analog Output	29		
IC600BF943	4 to 20 mA Analog Output	29		
IC600BF944	ASCII Basic Module (12 K)	20	12	c
IC600BF949	ASCII Basic Module (28 K)	20	12	*

Table 2. SUMMARY OF UNITS OF LOAD FOR I/O MODULES - Continued

CATALOG NUMBER	MODULE DESCRIPTION	UNITS OF LOAD (1)		
		+5 v	+12 v	-12 v
IC600BF946	Loop Management Module	20	12	
IC600BF947	I/O Link Local	20	12	
IC600BF948	I/O CCM	20	12	
IC600BF950	I/O CCM4	20	12	
IC600AEL000	LAN Interface Controller Board	20	2	1
IC600AEMO 10	LAN Interface Modem Board	17	16	2
IC600CBB902	Genius Bus Controller (with Diagnostics)	20	2	-
IC600CBB 903	Genius Bus Controller (without Diagnostics)	20	2	W

Table 3. SPECIFICATIONS

Dimensions (19", I1 slots):	
Rack-Mount	19.0(W) x 13.4(H) x 9.3(D) inches (483 x 340 x 236 millimeters)
Panel Mount	20.0(W) x 13.4(H) x 9.3(D) inches (508 x 340 x 236 millimeters)
Dimensions (13", 8 slots):	
Rack-Mount	16.0(W) x 13.4(H) x 9.3(D) inches 406 x 340 x 236 millimeters)
Panel Mount (Brackets on sides)	16.0(W) x.4(H) x 9.3(D) inches (406 x 340 x 236 millimeters)
Panel Mount (Brackets On Top and bottom, Side by Side Mount)	13.25(W) x 16.15(H) x 9.3(D) **inches (340 x** 410 x 236 millimeters)
Weight (Empty)	30 pow-ids (15kg)
Power Supply Input	High Capacity: 90-260 **Vac** Standard: 95-130 Vac 190-240 Vac 80 **VA** (maximum)
Noise Immunity	Meets requirements of NEMA ICS2-230 and ANSI C37.90A.
Power Requirements	Three power supplies are available: 1. 95-260 V ac 47-63 Hz 250VA Max. 2, 20-32 V **dc** 180 **watts** Max. 3. l00-150 V dc 200 watts Max.
Allowable Power Interruptions	33 ms minimum at 115 Vac line. (AC supply) 10 ms minimum at 20 **Vdc** (24 Vdc supply) 4 ms minimum at 100 Vdc (125 **Vdc** supply)
Power-Supply Output	High Capacity: +5 Vdc, 16.5 A max. +12Vdc, 1.5 A max. -12 Vdc, 1.0 A max. Standard: +5 Vdc, 6.1 A max.
Module Capacity	Seven or ten addressable card slots, plus one non-addressable slot for an I/O Receiver or Advanced I/O Receiver module.
Operating Temperature	0° to 60°C (32° to 140°F) (outside of the rack)
Storage Temperature	-20°C to +80°C (-4° to 158°F)
Humidity	5% to 95% (non-condensing)

Table 4. ORDERING INFORMATION

DESCRIPTION	CATALOG NUMBER
8-slot, 90-260 Vac High Capacity	IC6OOYR55OL
8-slot, 24 Vdc	IC6OOYR554K
8-slot, 125 Vdc	IC600YR555K
8-slot, 115/230 Vac, Standard	IC6OOYR55 1K
1 l-slot, 90-260 Vac, High Capacity	IC6OOYR560K
11 -slot, 24 Vdc	IC600YR564K
N-slot, 125 Vdc	IC600YR565K
11-slot, 115/230 Vac, Standard	IC6OOYR56l.K

This symbol on the namplate means the product is Listed by Underwriters Laboratories Inc. (UL Standard No. 508, Industrial Control Equipment, subsection electronic power Conversion Equipment.)

For ordering information regarding all Series Six Plus PLC products, contact your local GE Fanuc sales office.