

Range of 984 Performance

Modicon 984 Family of Programmable Controllers

Controller	Type	User Memory	Data Memory	Discrete I/O Points (Max.)	Register I/O (Max.)	Local Drops	Local Housings	Remote Drops	Scan Time	Modbus Ports	Modbus-Plus Ports
PC-A984-120	Compact	1.5k	2k	256	32/32	1	4	0	5ms/k	1	0
PC-A984-130	Compact	4k	2k	256	32/32	1	4	0	5ms/k	1	0
PC-A984-131	Compact	4k	2k	256	32/32	1	4	0	5ms/k	2	0
PC-A984-141	Compact	8k	2k	256	32/32	1	4	0	5ms/k	2	0
PC-A984-145	Compact	8k	2k	256	32/32	1	4	0	5ms/k	1	1
PC-E984-241	Compact	8k	2k	256	32/32	1	4	0	2.5ms/k	2†	—
PC-E984-245	Compact	8k	2k	256	32/32	1	4	0	2.5ms/k	1†	1
PC-E984-251	Compact	16k	24k	256	32/32	1	4	0	2.5ms/k	2†	—
PC-E984-255	Compact	16k	24k	256	32/32	1	4	0	2.5ms/k	1†	1
PC-E984-381	Slot Mount	16k	2k	512	32/32	1	2	0	3ms/k	2	0
PC-E984-385	Slot Mount	16k	2k	512	32/32	1	2	0	3ms/k	1	1
PC-D984-385	Slot Mount	16k	2k	512	32/32	1	2	0	3ms/k	1	1
PC-E984-480	Slot Mount	16k	2k	2048	224/224	1	2	6	3ms/k	2	0
PC-K984-485	Slot Mount	16k	2k	2048	224/224	1	2	6	3ms/k	1	1
PC-E984-485	Slot Mount	16k	2k	2048	224/224	1	2	6	3ms/k	1	1
PC-E984-685	Slot Mount	16k	10k	8192/8192	1088/1088	1	5	16/31	1ms/k	2	1
PC-D984-785	Slot Mount	32/48k	64/32k	16384/16384	1088/1088	1	5	16/31	1ms/k	2	1
PC-K984-785	Slot Mount	32/48k	64/32k	16384/16384	1088/1088	1	5	16/31	1ms/k	2	1
PC-E984-785	Slot Mount	32/48k	64/32k	16384/16384	1088/1088	1	5	16/31	1ms/k	2	1
P1-984X-008	Chassis Mount	8k	2k	2048	224/224	1	5	6	.75ms/k	2	Optional
Px-984A-xxx	Chassis Mount	16/32k	2k	2048	2032	0	—	32	.75ms/k	3	Optional
Px-984B-xxx	Chassis Mount	32/64/128k	10k	8192/8192	2048/2048	0	—	32	.75ms/k	3	Optional
AM-0984-AT2	PC/AT bus	16k	2k	2048	224/224	0	—	7	1.5ms/k	0	*2
AM-0984-AT4	PC/AT & EISA	32k	32k	2048	1024/1024	0	—	16	1.5ms/k	0	*2
AM-0984-MC0	Micro Channel	16k	2k	3584/3584	224/224	0	—	7	1.5ms/k	0	1
AM-0984-VM0	VME bus	12k	10k	3584/3584	224/224	0	—	7	1.5ms/k	0	1
AM-0984-VM4	VME bus	32k	32k	16384/16384	1024/1024	0	—	16	1.5ms/k	0	*2

* Two redundant ports on one controller – one network.

† Supports XMIT block, Modbus Master

Optional Processors Increase Performance

Many 984 PLCs support option modules that further extend the flexibility and performance of your control system. The options available include networking with Modbus and Modbus Plus; support for distributed control and hot-standby configurations; and coprocessing.

The following chart identifies the options and the PLCs that support them.

Options

Model	Modbus	Modbus Plus	CoPro	Modbus Modem	Hot Standby	Modbus Plus Redundancy
PC-A984-120	X					
PC-A984-130	X					
PC-A984-131	X					
PC-A984-141	X					
PC-A984-145	X	X				
PC-E984-241	X					
PC-E984-245	X	X				
PC-E984-251	X					
PC-E984-255	X	X				
PC-E984-381	X			X		
PC-E984-385	X	X		X		
PC-D984-385	X	X		X		
PC-E984-480	X			X		
PC-K984-485	X	X		X		
PC-E984-485	X	X		X		
PC-E984-685	X	X	X	X	X	X
PC-D984-785	X	X	X	X	X	X
PC-K984-785	X	X	X	X	X	X
PC-E984-785	X	X	X	X	X	X
P1-984X-008	X	X	X	X	X	
Px-984A-xxx	X	X	X	X	X	
Px-984B-xxx	X	X	X	X	X	
AM-0984-AT2		X				X
AM-0984-AT4		X				X
AM-0984-MC0		X				
AM-0984-VM0		X				
AM-0984-VM4		X				X

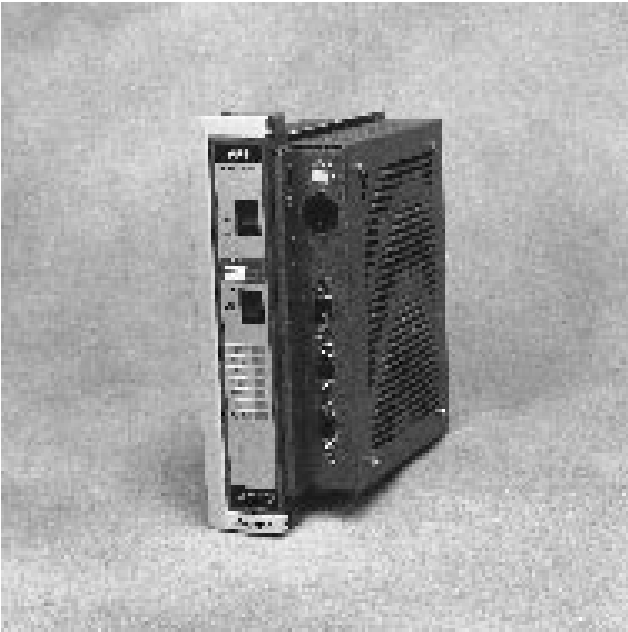
Note: For information on the communication options, see the Communication Section. For information on remote input/output processing, see the section on Configuring A Remote I/O System in the 800 Series I/O section. For other options, see the appropriate PLC description.

984-685

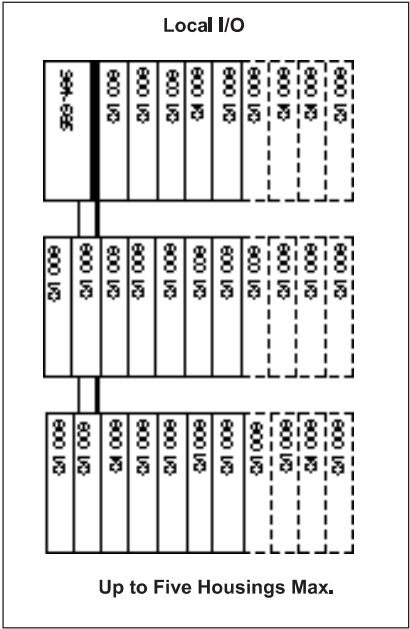
The 984-685 PLC handles mid-range to large applications. It supports five racks of local 800 series I/O and up to 31 drops of remote I/O. For remote I/O, an optional S908 processor is required. The S908 processor supports either single or redundant cable configurations. If you are configuring a remote I/O system, you must also add an S908 Remote I/O Processor (Part No. AS-S908-110 or AS-S908-120 for single/dual cable configurations) and a remote I/O Executive Cartridge (Part # AS-E908-016 or AS-E908-031).

The 984-685 supports the S911-800 Hot Standby optional processor that increases the performance and functionality of your system.

The 984-685 includes onboard executive and user memory.



984-685 Differentiating Features				
Model No	1 Modbus Port	2 Modbus Ports	1 Modbus Plus Port	Logic Solve Speed (ms/k)
PC-E984-685		√	√	1



984-685 Technical Specifications
PC-E984-685

Architecture

Memory	
User logic	16k
Registers	9999
Total	26k
I/O Capacity	
Max. Discrete I/O	8192 In/8192 Out
Max. Analog I/O	1088 In/1088 Out
Local I/O Capacity	
Total I/O Bits	1024 In/1024 Out
Total I/O Racks	5
Remote I/O Capacity	
Max. I/O Bits per Drop	512 In/512 Out or 1024 In/1024 Out
Max. # Drops	31 16
Total I/O Bits	16,384
Max. # ASCII Ports	32
Internal Coils	
(Includes Disc. I/O)	8192
Performance	1 ms/k
Communication Ports	2 Modbus
	1 Modbus Plus

Electrical

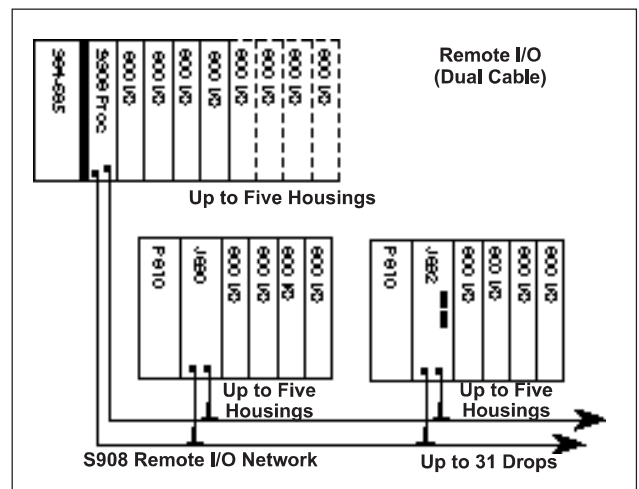
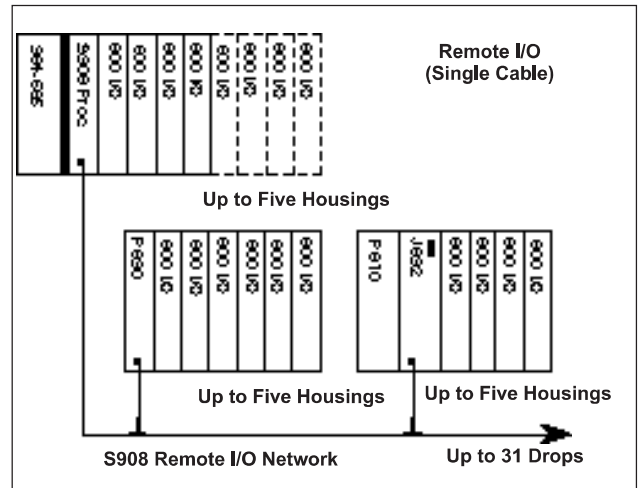
Power Supply	
Input Voltage	115 Vac
	230 Vac
	24 Vdc
I/O Power Capacity	8 amps

Environmental

Temperature	0 ... 60°C
Humidity	0 ... 95%
Shock Resistance	10 G (11 ms)

Physical

Dimensions	
W x H x D	2.54 x 10.5 x 8 in
(39.4 x 266 x 203 mm)	
Space Requirements	Slots 1 and 2 in H8xx-209 housing
Weight	8.6 lbs (3.6 kg)



Configuring A Local I/O System

Local I/O configurations are where the PLC and I/O modules communicate directly via the backplane and through cables that extend the I/O bus (OURBUS).

The 984 PLCs that support local configurations include all models except the 984A and 984B. A local I/O system consists of the PLC, I/O and associated housings, power and signal cables, and, where required, auxiliary power supplies.

Local I/O must be addressed as Drop #1 in the 984 Traffic Cop.

An auxiliary power supply is required when total power consumption by all modules in the local drop exceeds the capacity of the primary supply. Auxiliary power supplies provide all I/O power to modules beyond its location and provide no power to modules located before it.

The table below provides you with maximum local drop size figures for the PLCs that support local I/O. Local drops cannot exceed the figures shown.

The following tools are designed to assist you in the configuration of 984 local I/O systems. Refer to the configuration pages that follow associated with the controller CPU you have chosen.

1. Local 984-381/385 and 984-480/485 systems in H810, H819 and H827-209 housings.
2. Local 984-381/385 and 984-480/485 in H810-208 four-slot housing.
3. Local 984-685 and 984-785 systems.
4. Local 984X system.

Maximum for Local I/O					
Model	Discrete I/O (Any Mix)	Total I/O Bits	Cable Distance	Housings	Modules
PC-E984-381	512	512/512	12 ft	2	21
PC-x984-385	512	512/512	12 ft	2	21
PC-x984-48x	2048	512/512	12 ft	2	21
PC-E984-685	16384	512/1024*	20 ft	5	32
PC-X984-785	65535	512/512	20 ft	5	32
P1-984X-108	2048	512/512	20 ft	5	32
Px-984A-xxx	2048	N/A	N/A	N/A	N/A
Px-984B-xxx	8192/8192	N/A	N/A	N/A	N/A
Note: Each discrete I/O point requires 1 bit of addressing. Each analog point or register word requires 16 bits of addressing.					
* Depends on S908 Executive software					