

**ControlNet
PLC-5
Programmable
Controllers**

Cat. No. 1785-L20C, -L40C

product icon

User Manual

Apter Power

Processor Specifications

Heat Dissipation	54 BTU/hr
Environmental Conditions	Operating Temperature: 0 to 60° C (32-140° F) Storage Temperature: -40 to 85° C (-40 to 185° F) Relative Humidity: 5 to 95% (without condensation)
Shock and Vibration	Vibration Testing (operating and non-operating): 1 g @ 10 to 500 Hz 0.012 inches peak-to-peak displacement Shock: Operating 30 g peak acceleration for 11±1 ms duration Non-operating 50 g peak acceleration for 11±1 ms duration
Time-of-Day Clock/Calendar	Maximum Variations at 60° C: ± 5 min per month Typical Variations at 20° C: ± 20 s per month Timing Accuracy: 1 program scan
Battery	1770-XYC
Memory Modules	• 1785-ME16 • 1785-ME32 • 1785-ME64 • 1785-M100
I/O Modules	Bulletin 1771 I/O, 1794 I/O, 1746 I/O, and 1791 I/O including 8-, 16-, 32-pt, and intelligent modules
Hardware Addressing	2-slot • Any mix of 8-pt modules • 16-pt modules must be I/O pairs • No 32-pt modules 1-slot • Any mix of 8- or 16-pt modules • 32-pt modules must be I/O pairs 1/2-slot—Any mix of 8-, 16-, or 32-pt modules
Communication	• Serial • DH+ • DH using 1785-KA • Remote I/O • ControlNet
Location	1771-A1B, -A2B, A3B, -A3B1, -A4B, -AM1, -AM2 chassis; left-most slot
Weight	PLC-5/40C: 3 lbs, 2 oz (1.42 kg) PLC-5/20C: 3 lbs, 3 oz (1.45 kg)
Keying	• Between 40 and 42 • Between 54 and 56
Agency Certification (When product is marked)	• CSA Class I, Division 2, Groups A, B, C, D • UL listed

Appendix A

Processor Specifications

		PLC-5/20C	PLC-5/40C
Maximum User Memory Words		16K	48K ^①
Maximum Total I/O	Any Mix	512	2048
	Complimentary	512 in and 512 out	2048 in and 2048 out
Program Scan Time		0.5 ms per K word (bit logic) 2 ms per K word (typical)	
ControlNet I/O^②	Maximum Non-discrete I/O Data-Transfer Data-Table Size	1000 words in and 1000 words out	
	Transmission Rate	5M bit/s	
	Network Update Time (NUT)	2-100 ms (user selectable)	
	Number of ControlNet Ports	1	
	Number of Redundant Media ControlNet Ports	1	
	Maximum Number of Nodes per Link without a Repeater	48—with 250 m (approx. 820 ft) cable length	
	Maximum Number of Nodes per Link with Repeaters	107	
	Maximum Link Cable Length without a Repeater	1,000 m (approximately 3,280 ft)—with 2 nodes 500 m (approximately 1,640 ft)—with 32 nodes 250 m (approximately 820 ft)—with 48 nodes	
	Maximum Link Cable Length with Repeaters	6,000 m (approximately 19,680 ft)—with 2 nodes 3,000 m (approximately 9,840 ft)—typical	
	Maximum Number of Repeaters in Series per Link	5	
	Maximum Number of Segments in Series per Link	6	
Non-ControlNet Remote I/O	Transmission Rate	57.6K bit/s 115.2K bit/s 230.4K bit/s	
	I/O Scan Time (Typical)	10 ms per rack @ 57.6K bit/s 7 ms per rack @ 115.2K bit/s 3 ms per rack @ 230K bit/s	
	Maximum Number of Remote I/O Racks	4	16
	Maximum Number of Remote I/O Devices	12	60
	Number of Ports Configurable for DH+ or Remote I/O (Adapter or Scanner)	1	2
	Number of Dedicated DH+ Ports	1	0
Number of Serial Ports		1	
Number of Coprocessor Ports		1	
Maximum Number of MCPs		16	
Backplane Current Load	Maximum	3.0 A	
	Typical	2.7 A	

^① The PLC-5/40C processor has a limit of 32K words per data-table file.

^② See the ControlNet Cable System Planning and Installation Manual, publication 1786-6.2.1, for more information.