

ControlNet PLC-5 Programmable Controllers



User Manual

(Catalog Numbers
1785-L20C15, 1785-L40C15,
1785-L46C15, 1785-L80C15)

Appendix A

Processor Specifications

Backplane Current	1785-L20C15: 2.7A @ 5Vdc 1785-L40C15, -L46C15, -L80C15: 3.3A @ 5Vdc
Heat Dissipation	1785-L20C15: 54 BTU/hour 1785-L40C15, -L46C15, -L80C15: 59 BTU/hour
Operating Temperature	IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock): 0-60°C (32-140°F)
Storage Temperature	IEC 60068-2-1 (Test Ab, Un-packaged Non-operating Cold), IEC 60068-2-2 (Test Bc, Un-packaged Non-operating Dry Heat), IEC 60068-2-14 (Test Na, Un-packaged Non-operating Thermal Shock): -40 to 85°C (-40 to 185°F)
Relative Humidity	IEC 60068-2-30 (Test Db, Un-packaged Non-operating Damp Heat): 5-95% non condensing
Vibration	IEC60068-2-6 (Test Fc, Operating): 2g @10-500Hz
Shock	IEC60068-2-27:1987, Test Ea (Unpackaged shock, ES#002) Operating - 30g Non-operating - 50g
Emissions	CISPR 11: Group 1, Class A
ESD Immunity	IEC 61000-4-2: 4kV contact discharges
Radiated RF Immunity	IEC 61000-4-3: 10V/m, 3V/m Broadcast Bands, with 1kHz sine-wave 80% AM from 30MHz to 1000Mhz
EFT/B Immunity	IEC 61000-4-4: ±2kV at 5kHz on communications ports
Surge Transient Immunity	IEC 61000-4-5: ±2kV line-earth(CM) on signal ports
Conducted RF Immunity	IEC 61000-4-6: 10Vrms with 1kHz sine-wave 80%AM from 150kHz to 30MHz
Enclosure Type Rating	None (open style)
Time-of-Day Clock/Calendar¹	Maximum Variations at 60° C: ±5 min per month Typical Variations at 20° C: ±20 s per month Timing Accuracy: 1 program scan
Available Cartridges	1785-CHBM ControlNet Hot Backup Cartridge ² (required for each processor used in a hot backup system) 1785-RC Relay Cartridge
Battery	Allen-Bradley 1770-XYC
Memory Modules³	• 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

¹ The clock/calendar will update appropriately each year.

² The 1785-CHBM cannot be used with the 1785-5/60C processor.

³ The 1785-ME16 cannot be used with ControlNet PLC-5 processors.

⁴ For more information, refer to publication 1770-4.1, *Industrial Automation Wiring and Grounding Guidelines*.

⁵ See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

A-2

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	<table border="1"> <tr> <td> - Serial - DH+ - DH using 1785-KA - Remote I/O - ControlNet </td><td>Wire Category 2⁴</td></tr> <tr> <td> - Relay Cartridge </td><td>Wire Category 1⁴</td></tr> </table>	- Serial - DH+ - DH using 1785-KA - Remote I/O - ControlNet	Wire Category 2 ⁴	Relay Cartridge	Wire Category 1 ⁴						
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Relay Cartridge	Wire Category 1 ⁴										
Location	1771-A1B, -A2B, A3B, -A3B1, -A4B chassis; left-most slot										
Weight	<table> <tr><td>PLC-5/20C15:</td><td>3 lbs, 3 oz (1.45 kg)</td></tr> <tr><td>PLC-5/40C15:</td><td>3 lbs, 2 oz (1.42 kg)</td></tr> <tr><td>PLC-5/46C15:</td><td>3 lbs, 2 oz (1.42 kg)</td></tr> <tr><td>PLC-5/80C15:</td><td>3 lbs, 2 oz (1.42 kg)</td></tr> </table>	PLC-5/20C15:	3 lbs, 3 oz (1.45 kg)	PLC-5/40C15:	3 lbs, 2 oz (1.42 kg)	PLC-5/46C15:	3 lbs, 2 oz (1.42 kg)	PLC-5/80C15:	3 lbs, 2 oz (1.42 kg)		
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Keying	- Between 40 and 42 - Between 54 and 56										
Certifications (when product is marked)	<table> <tr><td>UL</td><td>UL Listed Industrial Control Equipment</td></tr> <tr><td>CSA</td><td>CSA Certified Process Control Equipment</td></tr> <tr><td>CSA</td><td>CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations</td></tr> <tr><td>CE⁵</td><td>European Union 89/336/EEC EMC Directive, compliant with: EN 50081-2; Industrial Emissions EN 50082-2; Industrial Immunity European Union 73/23/EEC LVD Directive, compliant with: EN 61131-2; Programmable Controllers</td></tr> <tr><td>C-Tick⁵</td><td>Australian Radiocommunications Act, compliant with: AS/NZS 2064; Industrial Emissions</td></tr> </table>	UL	UL Listed Industrial Control Equipment	CSA	CSA Certified Process Control Equipment	CSA	CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations	CE ⁵	European Union 89/336/EEC EMC Directive, compliant with: EN 50081-2; Industrial Emissions EN 50082-2; Industrial Immunity European Union 73/23/EEC LVD Directive, compliant with: EN 61131-2; Programmable Controllers	C-Tick ⁵	Australian Radiocommunications Act, compliant with: AS/NZS 2064; Industrial Emissions
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