MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ALLEN-BRADLEY

1756-L61

CONTROLLOGIX PROGRAMMABLE CONTROLLER

Used with the applicable Allen-Bradley ControlLogix configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Rockwell Automation manufacturer documentation

Table 2 - Environmental Specifications - 1756-L7*x* ControlLogix Controllers

Attribute	1756-L71, 1756-L72, 1756-L73, 1756-L74, 1756-L75
Temperature, operating 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)
Temperature, nonoperating IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40…85 °C (-40…185 °F)
Temperature, surrounding air, max	60 °C (140 °F)
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5…95% noncondensing
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10…500 Hz
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	50 g (45 g with SD card installed)
Emissions CISPR 11 IEC 61000-6-4	Class A
ESD immunity IEC 61000-4-2	6 kV contact discharges 8 kV air discharges
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80…2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000…2700 MHz

Table 3 - Certifications - 1756-L7*x* ControlLogix Controllers

Certification(1)	1756-L71, 1756-L72, 1756-L73, 1756-L74, 1756-L75
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E194810.
CE	European Union 2004/108/EC EMC Directive, compliant with: • EN 61326-1; Meas./Control/Lab., Industrial Requirements • EN 61000-6-2; Industrial Immunity • EN 61000-6-4; Industrial Emissions • EN 61131-2; Programmable Controllers (Clause 8, Zone A & B)
C-Tick	Australian Radio communications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions
Ex	European Union 94/9/EC ATEX Directive, compliant with: • EN 60079-15; Potentially Explosive Atmospheres, Protection 'n' • EN 60079-0; General Requirements • II 3 G Ex nA IIC T4 X
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3

(1) When marked. See the Product Certification link at http://www.ab.com for Declarations of Conformity, Certificates, and other certification details.

1756-L6*x* ControlLogix Controllers Features and Specifications

Table 4 - Features - Standard ControlLogix 1756-L6*x* Controllers

Feature	1756-L61, 1756-L62, 1756-L63, L63XT, 1756-L64, 1756-L65
Controller tasks	• 32 tasks • 100 programs/task • Event tasks: all event triggers
Built-in communication ports	1 port RS-232 serial
Communication options	• EtherNet/IP • ControlNet • DeviceNet • Data Highway Plus • Remote I/O • SynchLink • Third-party process and device networks
Serial port communication	• ASCII • DF1 full/half-duplex • DF1 radio modem • DH-485 • Modbus via logic
Controller connections supported, max	250
Network connections, per network module	• 100 ControlNet (1756-CN2/A) • 40 ControlNet (1756-CNB/D, 1756-CNB/E) • 128 ControlNet (1756-CN2/B) • 256 EtherNet/IP; 128 TCP (1756-EN2*x*) • 128 EtherNet/IP; 64 TCP (1756-ENBT)
Controller redundancy	Full support
Integrated motion	• SERCOS interface • Analog options (encoder input, LDT input, SSI input) • EtherNet/IP (CIP Motion)
Programming languages	• Relay ladder • Structured text • Function block • SFC

IMPORTANT Scan time for a project loaded in a 1756-L64 or 1756-L65 controller may be slower than for the same project loaded in one of the other 1756-L6x controllers. See the Logix5000™ Controllers Instruction Execution Time and Memory Use Reference Manual, publication 1756-RM087, for instruction execution times.

Table 5 - Technical Specifications - 1756-L6*x* ControlLogix Controllers

Attribute	1756-L61	1756-L62	1756-L63	1756-L64	1756-L65
User memory	2 MB	4 MB	8 MB	16 MB	32 MB
I/O memory	478 KB				
Optional nonvolatile memory storage	128 MB (1784-CF128)				
Digital I/O, max	128,000				
Analog I/O, max	4000				
Total I/O, max	128,000				
Replacement battery(1)	Series A: 1756-BA1, 1756-BATM, 1756-BATA Series B: 1756-BA2			1756-BA2 (0.50 g Lithium)	
Current draw @ 5.1V DC	1200 mA				
Current draw @ 24V DC	14 mA				
Power dissipation	3.5 W				
Thermal dissipation	11.9 BTU/hr				
Isolation voltage	30V (continuous), basic insulation type, RS-232 to system Type tested at 720V DC for 60 s				
Serial cables	1756-CP3 or 1747-CP3, right angle connector to controller, straight to serial port, 3 m (9.84 ft)				
Weight, approx	Series A: 0.32 kg, (0.71 lb) Series B: 0.35 kg, (0.78 lb)				
Slot width	1				
Module location	Chassis-based, any slot				
Chassis	1756-A4, 1756-A7, 1756-A10, 1756-A13, 1756-A17				
Power supply, standard	1756-PA72, 1756-PA75, 1756-PB72, 1756-PB75				
Power supply, redundant	1756-PA75R, 1756-PB75R, 1756-PSCA2				
Wire category(2)	2 - on RS-232 port				
North American temperature code	T4A				
Enclosure type rating	None (open-style)				

(1) For Australian Mining certification applications, only a series A controller and a 1756-BA1 battery can be used. For more information, contact your local distributor or sales office.

(2) Use this conductor category information for planning conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Table 6 - Environmental Specifications - 1756-L6*x* ControlLogix Controllers

Attribute	1756-L61, 1756-L62, 1756-L63, 1756-L64, 1756-L65
Temperature, operating 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)
Temperature, storage IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40…85 °C (-40…185 °F)
Temperature, surrounding air, max	60 °C (140 °F)
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5…95% noncondensing
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10…500 Hz
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g
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Emissions CISPR 11 IEC 61000-6-4	Class A
ESD immunity IEC 61000-4-2	6 kV contact discharges 8 kV air discharges
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80…2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000…2700 MHz
EFT/B immunity IEC 61000-4-4	±4 kV at 5 kHz on RS-232 port
Surge transient immunity IEC 61000-4-5	±2 kV line-earth (CM) on RS-232 port
Conducted RF immunity IEC 61000-4-6	10V rms with 1 kHz sine-wave 80% AM from 150 kHz…80 MHz