



Installation Instructions

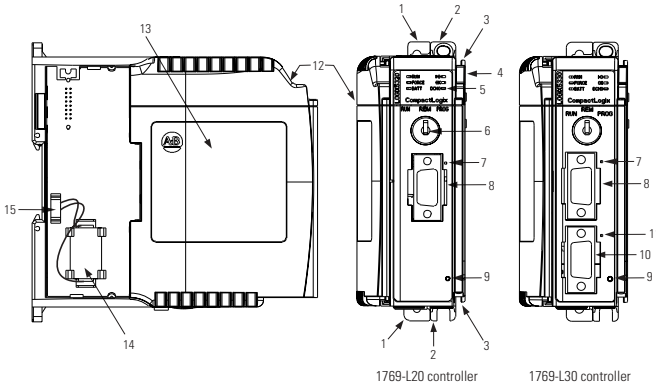
1769-L20, 1769-L30 CompactLogix™ Controllers

(Cat. No. 1769-L20, 1769-L30)

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CompactLogix Controller Description



1	DIN rail latch	8	Channel 0 RS-232 Port
2	panel mounting tab	9	Channel 0 default communication push button
3	tongue and groove slots	10	Channel 1 RS-232 Port
4	stationary bus connector	11	Channel 1 RS-232 Port Status LED
5	status LEDs	12	battery door
6	key switch	13	battery door label
7	Channel 0 RS-232 Port Status LED	14	battery ⁽¹⁾
		15	battery connector

(1) See Connect the Battery on page 8 for the actual position of the battery.

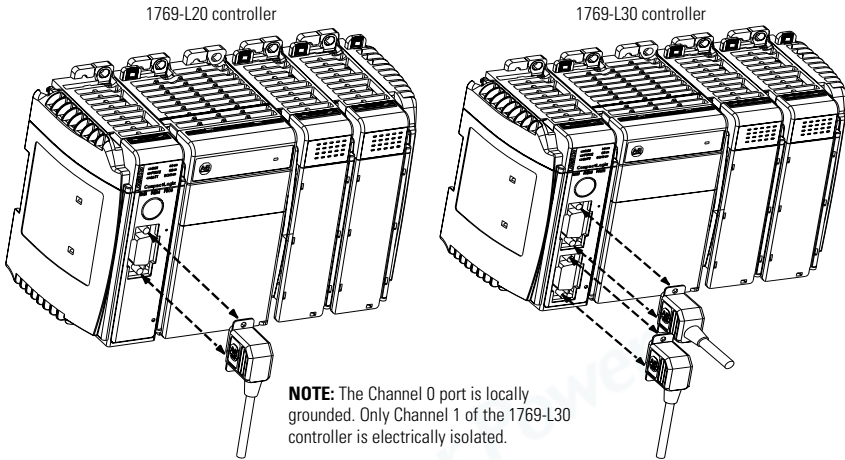
System Planning

Consider the following when planning your CompactLogix system:

- The CompactLogix controller is always the left-most module in the system.
- The controller must be located within four modules of the system power supply. Some I/O module's may be located up to 8 modules away from the power supply. See the documentation for your 1769 I/O modules for details.
- The 1769-L20 controller supports up to 8 I/O modules in a maximum of 2 I/O banks (1 expansion cable allowed).
- The 1769-L30 controller supports up to 16 I/O modules in a maximum of 3 I/O banks (2 expansion cables allowed).
- Each I/O bank requires its own power supply.
- Only one controller can be used in a CompactLogix system.
- A 1769-ECR (right end cap) or 1769-ECL (left end cap) is required to terminate the end of the communication bus.

RS-232 Connections to the Controller

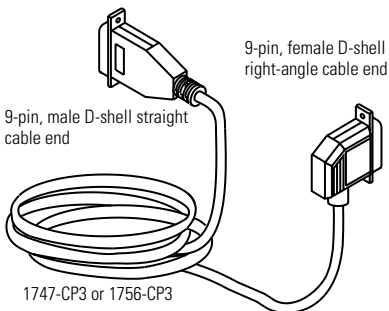
The following illustrations show which cables can be used to connect to the controller. To connect two cables to the 1769-L30 controller, you must connect the straight cable end to Channel 0.



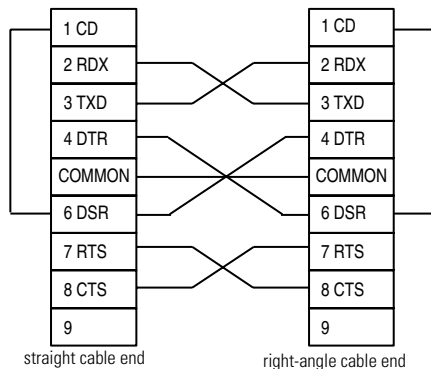
ATTENTION



When you connect or disconnect the serial cable while backplane power is on, an electrical arc can occur. In hazardous locations, this could cause an explosion.



This cable must be shielded and tied to the connector housing.



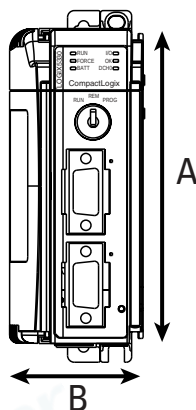
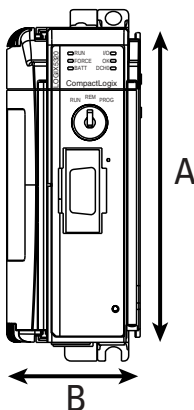
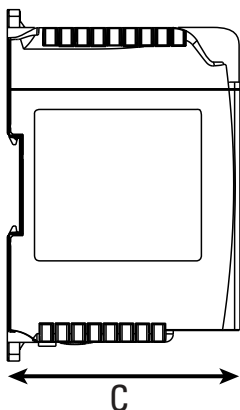
Specifications

Description	1769-L20 controller	1769-L30 controller
Communication Ports	(1) RS-232	(2) RS-232
User Memory	64K bytes	256K bytes
Maximum number of I/O modules supported	8 I/O modules	16 I/O modules
Maximum number of I/O banks supported	2 banks	3 banks
Backplane Current	600 mA at +5V dc 0 mA at +24V dc	800 mA at +5V dc 0 mA at +24V dc
Operating Temperature	0° to +60°C (+32° to +140°F)	
Storage Temperature	-40° to +85°C (-40° to +185°F)	
Relative Humidity	5% to 95% non-condensing	
Power Supply Distance Rating	4 (The controller must be within four slot positions of the power supply.)	
Vibration	Operating: 10 to 500 Hz, 5G, 0.030 in. peak-to-peak	
Shock	Operating: 30G, 11 ms, panel mounted (20G, 11 ms, DIN rail mounted) Non-operating: 40G, panel mounted (30G, DIN rail mounted)	
Shipping Weight	325g (0.715 lbs)	360g (0.792 lbs)
Battery	1747-BA; containing Sanyo CR14250SE battery cell	
Programming Cable	1747-CP3 or 1756-CP3	
Agency Certification	• C-UL certified (under CSA C22.2 No.142) • UL 508 listed • CE compliant for all applicable directives	
Hazardous Environment Class	Class I, Division 2, Hazardous Location, Groups A, B, C, D (UL 1604, C-UL under CSA C22.2 No. 213)	
Radiated and Conducted Emissions	EN50081-2 Class A	
<i>Electrical /EMC:</i>	<i>The unit has passed testing at the following levels:</i>	
ESD Immunity (IEC61000-4-2)	4 kV contact, 8 kV air, 4 kV indirect	
Radiated Immunity (IEC61000-4-3)	10 V/m, 80 to 1000 MHz, 80% amplitude modulation, +900 MHz keyed carrier	
Fast Transient Burst (IEC61000-4-4)	2 kV, 5 kHz	
Surge Immunity (IEC61000-4-5)	1 kV galvanic gun	
Conducted Immunity (IEC61000-4-6)	10V, 0.15 to 80 MHz ⁽¹⁾	

(1) Conducted Immunity frequency range may be 150 kHz to 30 MHz if the Radiated Immunity frequency range is 30 MHz to 1000 MHz.

Dimensions

CompactLogix Controller



NOTE: All dimensions are in mm (in.).
Hole spacing tolerance: ± 0.4 mm (0.016 in.)

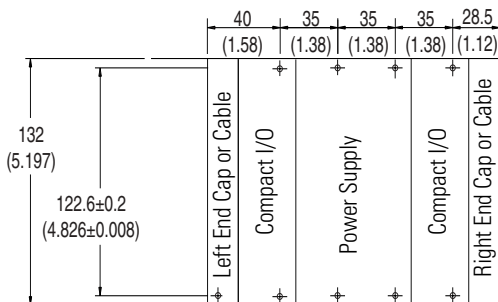
1769-L20 controller

1769-L30 controller

Height (A)	118 mm (4.649 in.)
Width (B)	50 mm (1.97 in.)
Depth (C)	87 mm (3.43 in.)

See page 10 for CompactLogix System dimensions.

Compact I/O Expansion Cable, I/O, Power Supply and End Cap



NOTE: All dimensions are in mm (in.).
Hole spacing tolerance: ± 0.4 mm (0.016 in.)

TIP



Compact I/O expansion cables have the same dimensions as the end caps. Expansion cables can be used on either the right or left end. A 1769-ECR (right end cap) or 1769-ECL (left end cap) is required to terminate the end of the communication bus.