

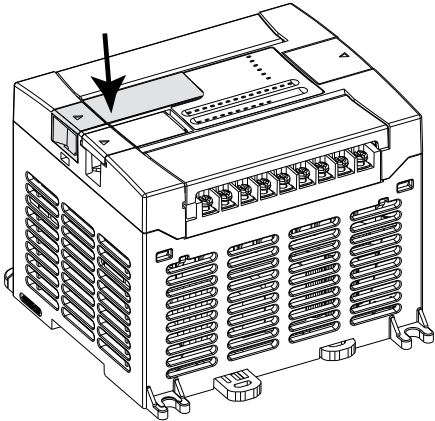
Controller Input Power and Embedded I/O (Continued)

Catalog Number	Description		
	Input Power	Inputs	Outputs
1762-L40AWA, 1762-L40AWAR	120/240V AC	24 120V AC	16 relay
1762-L40BWA, 1762-L40BWAR	120/240V AC	20 24V DC 4 fast 24V DC	16 relay
1762-L40BXB, 1762-L40BXBR	24V DC	20 24V DC 4 fast 24V DC	8 relay, 7 24V DC FET 1 high-speed 24V DC FET

Component Descriptions

MicroLogix 1200 Memory Module and/or Real-time Clock

The controller is shipped with a memory module port cover in place. You can order a memory module, real-time clock, or memory module and real-time clock as an accessory.



Memory Module and/or Real-time Clock

Catalog Number	Description
1762-MM1	Memory module only
1762-RTC	Real-time clock only
1762-MM1RTC	Memory module and real-time clock

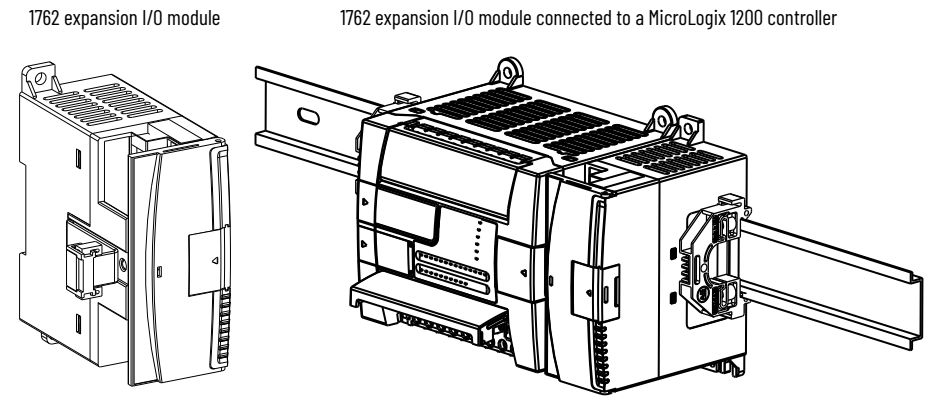
1762 Expansion I/O Modules

1762 expansion I/O modules can be connected to the MicroLogix 1200 controller, as shown in [Figure 2](#).



A maximum of six I/O modules, in certain combinations, may be connected to a controller. See [System Loading and Heat Dissipation on page 105](#) to determine valid combinations.

Figure 2 - 1762 Expansion I/O Modules



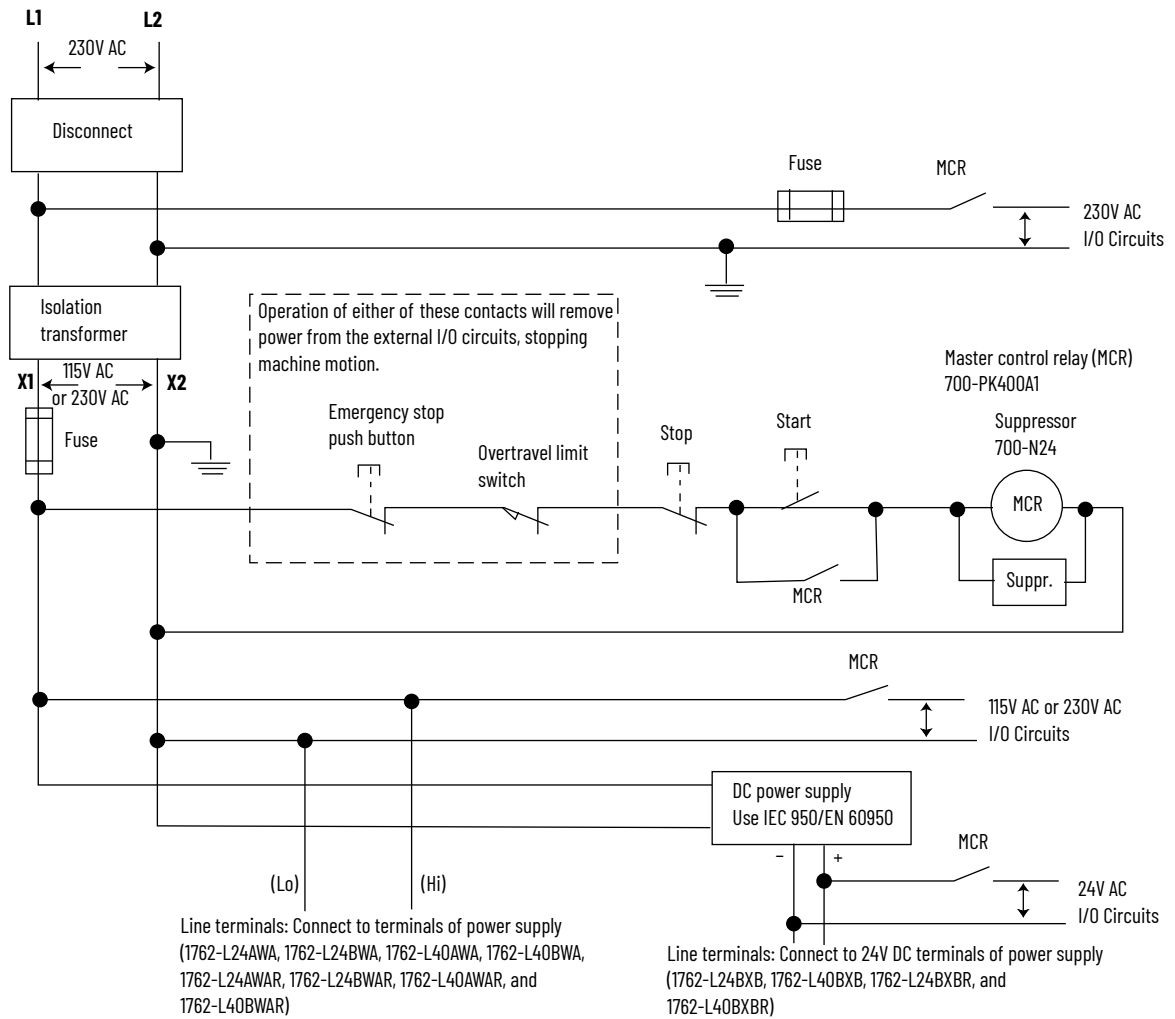
- Install emergency stop switches and the master control relay in your system. Verify that relay contacts have a sufficient rating for your application. Emergency stop switches must be easy to reach.
- In the following illustration, input and output circuits are shown with MCR protection. However, in most applications, only output circuits require MCR protection.

Figure 3 and Figure 4 show the master control relay wired in a grounded system.



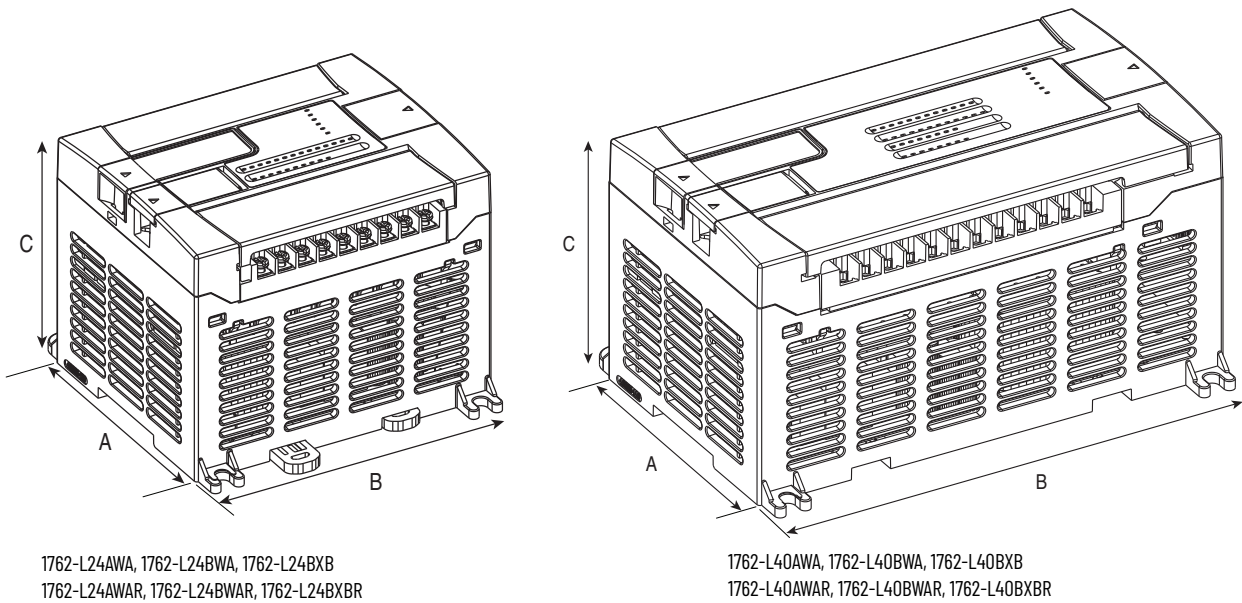
In most applications input circuits do not require MCR protection; however, if you must remove power from all field devices, you must include MCR contacts in series with input power wiring.

Figure 3 - Schematic (Using IEC Symbols)



Controller Mounting Dimensions

Figure 5 - Controller Dimensions

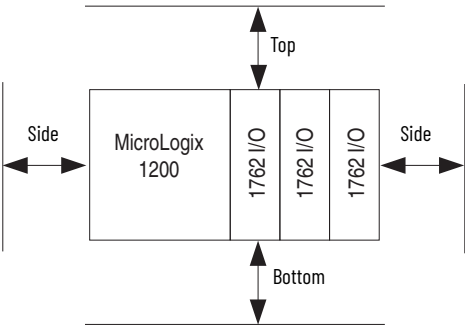


Dimension	1762-L24AWA 1762-L24AWAR	1762-L24BWA 1762-L24BWAR	1762-L24BXB 1762-L24BXR	1762-L40AWA 1762-L40AWAR	1762-L40BWA 1762-L40BWAR	1762-L40BXB 1762-L40BXR
A	90 mm (3.5 in.)			90 mm (3.5 in.)		
B	110 mm (4.33 in.)			160 mm (6.30 in.)		
C	87 mm (3.43 in.)			87 mm (3.43 in.)		

Controller and Expansion I/O Spacing

The controller mounts horizontally, with the expansion I/O extending to the right of the controller. Allow 50 mm (2 in.) of space on all sides of the controller system for adequate ventilation. Maintain spacing from enclosure walls, wireways, and adjacent equipment, as shown in [Figure 6](#).

Figure 6 - Controller and Expansion I/O Spacing



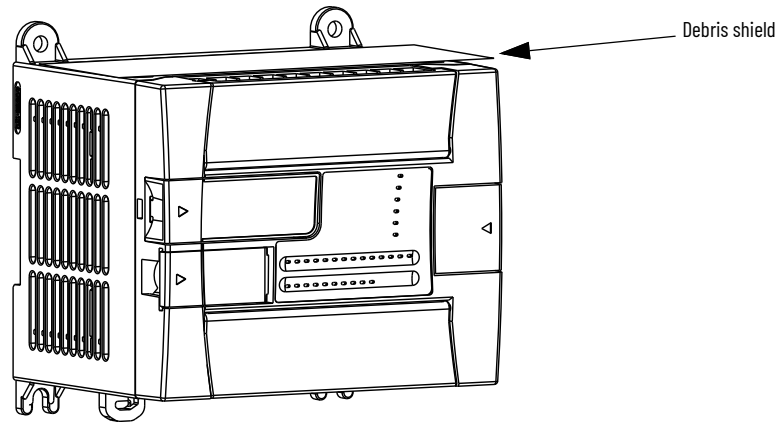
Mount the Controller

MicroLogix 1200 controllers are suitable for use in an industrial environment when installed in accordance with these instructions. Specifically, this equipment is intended for use in clean, dry environments (Pollution degree 2^(a)) and to circuits not exceeding Over Voltage Category II^(b) (IEC 60664-1)^(c).

(a) Pollution Degree 2 is an environment where, normally, only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation shall be expected.
(b) Over Voltage Category II is the load level section of the electrical distribution system. At this level transient voltages are controlled and do not exceed the impulse voltage capability of the product's insulation.
(c) Pollution Degree 2 and Over Voltage Category II are International Electrotechnical Commission (IEC) designations.



ATTENTION: Do not remove the protective debris shield until after the controller and all other equipment in the panel near the controller are mounted and wiring is complete. Once wiring is complete, remove protective debris shield. Failure to remove shield before operating can cause overheating.



ATTENTION: Electrostatic discharge can damage semiconductor devices inside the controller. Do not touch the connector pins or other sensitive areas.

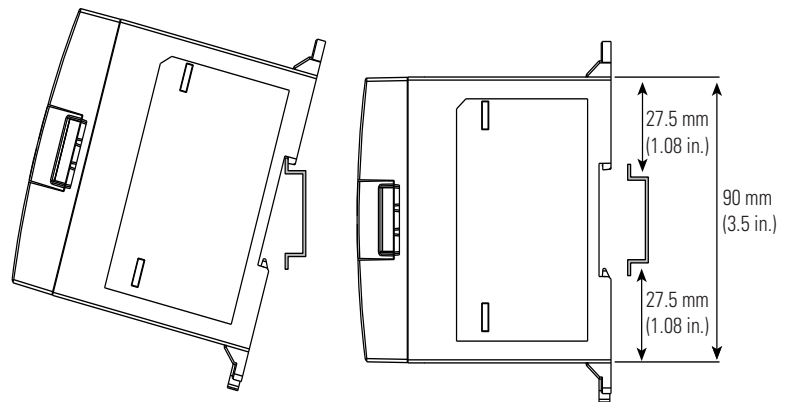


For environments with greater vibration and shock concerns, use the panel mounting method described on [Panel Mounting on page 22](#), rather than DIN rail mounting.

DIN Rail Mounting

The maximum extension of the latch is 14 mm (0.55 in.) in the open position. A flat-blade screwdriver is required for removal of the controller. The controller can be mounted to EN 50022 - 35 x 7.5 or EN 50022 - 35 x 15 DIN rails. DIN rail mounting dimensions are shown in [Figure 7](#).

Figure 7 - DIN Rail Mounting Dimensions



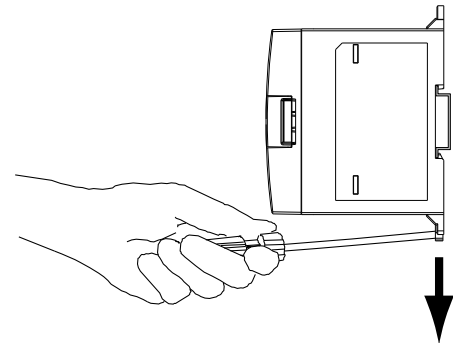
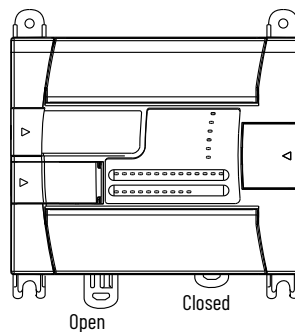
To install your controller on the DIN rail, do as follows:

1. Mount your DIN rail. Make sure that the placement of the controller on the DIN rail meets the recommended spacing requirements, see [Controller and Expansion I/O Spacing on page 20](#).
2. Close the DIN latch, if it is open.
3. Hook the top slot over the DIN rail.

4. While pressing the controller down against the top of the rail, snap the bottom of the controller into position.
5. Leave the protective debris shield attached until you are finished wiring the controller and any other devices.

To remove your controller from the DIN rail:

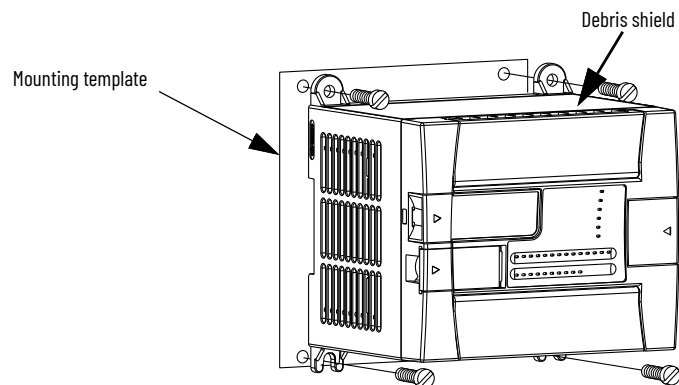
1. Place a flat-blade screwdriver in the DIN rail latch at the bottom of the controller.
2. Holding the controller, pry downward on the latch until the latch locks in the open position.
3. Repeat steps 1 and 2 for the second DIN rail latch.
4. Unhook the top of the DIN rail slot from the rail.



Panel Mounting

Mount to panel using #8 or M4 screws. To install your controller using mounting screws:

1. Secure the template to the mounting surface. Make sure your controller is spaced properly. See [Controller and Expansion I/O Spacing on page 20](#).
2. Drill holes through the template.
3. Remove the mounting template.
4. Mount the controller.
5. Leave the protective debris shield in place until you are finished wiring the controller and any other devices.



Specifications

Controller Specifications

General Specifications

Attribute	1762-L24AWA 1762-L24AWAR	1762-L24BWA 1762-L24BWAR	1762-L24BXB 1762-L24BXHR	1762-L40AWA 1762-L40AWAR	1762-L40BWA 1762-L40BWAR	1762-L40BXB 1762-L40BXHR
Dimensions	Height: 90 mm (3.54 in.), 104 mm (4.09 in.) (with DIN latch open) Width: 110 mm (4.33 in.) Depth: 87 mm (3.42 in.)			Height: 90 mm (3.54 in.), 104 mm (4.09 in.) (with DIN latch open) Width: 160 mm (6.30 in.) Depth: 87 mm (3.42 in.)		
Shipping weight	0.9 kg (2.0 lbs)			1.1 kg (2.4 lbs)		
Number of I/O	14 inputs, 10 outputs			24 inputs, 16 outputs		
Power supply voltage	100...240V AC (-15%, +10%) @ 47...63 Hz		24V DC (-15%, +10%) Class 2, SELV	100...240V AC (-15%, +10%) @ 47...63 Hz		24V DC (-15%, +10%) Class 2, SELV
Heat dissipation	15.2 W	15.7 W	17.0 W	21.0 W	22.0 W	27.9 W
Power supply inrush current	120V AC: 25 A for 8 ms 240V AC: 40 A for 4 ms		24V DC: 15 A for 20 ms	120V AC: 25 A for 8 ms 240V AC: 40 A for 4 ms		24V DC: 15 A for 30 ms
Power supply usage	68VA	70VA	27 W	80VA	82VA	40 W
Power supply output	5V DC	400 mA	400 mA ⁽¹⁾	600 mA	600 mA ⁽²⁾	600 mA
	24V DC	350 mA	350 mA ⁽¹⁾	500 mA	500 mA ⁽²⁾	500 mA
Sensor power output	none	250 mA @ 24V DC AC Ripple < 500 mV peak-to-peak 400 μ F max. ⁽¹⁾	none	none	400 mA @ 24V DC AC Ripple < 500 mV peak-to-peak 400 μ F max. ⁽²⁾	none
Input circuit type	120V AC	24V DC sinking/sourcing	24V DC sinking/sourcing	120V AC	24V DC sinking/sourcing	24V DC sinking/sourcing
Output circuit type	Relay	Relay	Relay/FET	Relay	Relay	Relay/FET
Terminal screw torque	0.791 N•m (7 lb•in) rated					

(1) Do not allow the total load power consumed by the 5V DC, 24V DC, and sensor power outputs to exceed 12 W.

(2) Do not allow the total load power consumed by the 5V DC, 24V DC, and sensor power outputs to exceed 16 W.

See [System Loading and Heat Dissipation on page 105](#) for system validation worksheets.

Input Specifications

Attribute	1762-L24AWA 1762-L40AWA 1762-L24AWAR 1762-L40AWAR	1762-L24BWA, 1762-L24BXB, 1762-L40BWA, 1762-L40BXB 1762-L24BWAR, 1762-L24BXHR, 1762-L40BWAR, 1762-L40BXHR	
		Inputs 0...3	Inputs 4 and Higher
On-state voltage range	79...132V AC	14...24V DC (+10% @ 55 °C/131 °F) (+25% @ 30 °C/86 °F)	10...24V DC (+10% @ 55 °C/131 °F) (+25% @ 30 °C/86 °F)
Off-state voltage range	0...20V AC	0...5V DC	
Operating frequency	47...63 Hz	0 Hz...20 kHz	0 Hz...1 kHz (scan time dependent)
On-state current: Minimum Nominal Maximum	5.0 mA @ 79V AC 12 mA @ 120V AC 16.0 mA @ 132V AC	2.5 mA @ 14V DC 7.3 mA @ 24V DC 12.0 mA @ 30V DC	2.0 mA @ 10V Dc 8.9 mA @ 24V Dc 12.0 mA @ 30V DC
Off-state leakage current	2.5 mA max.	1.5 mA min.	
Nominal impedance	12 k Ω @ 50 Hz 10 k Ω @ 60 Hz	3.3 k Ω	2.7 k Ω
Inrush current @ 120V AC, max	250 mA	Not applicable	

Output Specifications

Attribute		1762-L24AWA 1762-L24BWA 1762-L24AWAR 1762-L24BWAR	1762-L24BXB 1762-L24BXBR	1762-L40AWA 1762-L40BWA 1762-L40AWAR 1762-L40BWAR	1762-L40BXB 1762-L40BXBR
Relay and FET Outputs					
Controlled load, max		1440VA	–	1440VA	1440VA
Continuous current, max					
Current per group common		8 A	7.5 A	8 A	8 A
Current per controller	@ 150V max	30 A or total of per-point loads, whichever is less			
	@ 240V max	20 A or total of per-point loads, whichever is less			
Relay Outputs					
Turn on time/Turn off time, min		10 ms ⁽¹⁾			
Relay life - Electrical		See Figure 73			
Relay life - Mechanical		20,000,000 cycles			
Load current, min		10 mA			

(1) Scan time dependent

Relay Contact Ratings

Maximum Volts	Amperes		Amperes Continuous	Voltamperes	
	Make	Break		Make	Break
240V AC	7.5 A	0.75 A	2.5 A ⁽¹⁾	1800VA	180VA
120V AC	15 A	1.5 A	2.5 A ⁽¹⁾	1800VA	180VA
125V DC	0.22 A ⁽²⁾		1.0 A	28VA	
24V DC	1.2 A ⁽²⁾		2.0 A		

- (1) 1.5 A above 40 °C (104 °F).
(2) For DC voltage applications, the make/break ampere rating for relay contacts can be determined by dividing 28VA by the applied DC voltage. For example, 28VA/48V DC = 0.58 A. For DC voltage applications less than 14V, the make/break ratings for relay contacts cannot exceed 2 A.



ATTENTION: Do not exceed the “Current per group common” specification.

Figure 73 - Relay Life Chart

