

MicroLogix 1100 Controller



The MicroLogix 1100 controller is designed to broaden application coverage through embedded analog inputs, Ethernet communication, and visualization capabilities. MicroLogix 1100 controllers maintain the same critical features you have come to expect from the MicroLogix family, and expand that capability to include true online editing. MicroLogix 1100 controllers complement our low-end controllers for applications that require up to 144 digital I/O.

Each MicroLogix 1100 controller contains 2 embedded analog inputs, with 10 digital inputs and 6 digital outputs. The controller can also expand its I/O capabilities by using the same modules as the MicroLogix 1200 controller. Up to four of the 1762 I/O modules can be used with a single MicroLogix 1100 controller.

Using the latest version of our world-class RSLogix 500 programming software, the MicroLogix 1100 controller can be programmed with an instruction set that is common with the MicroLogix and SLC 500 families of controllers. RSLogix 500 Starter, Standard, and Professional applications all support the MicroLogix 1100 controller, including its online editing capabilities. In addition, the new RSLogix Micro Starter and Developer software provide MicroLogix only programming at a lower cost.

Each controller supports a built-in RS-232/RS-485 combo port for serial and networked communication and a second built-in EtherNet/IP port, which supports Ethernet peer-to-peer messaging.

An embedded LCD screen lets you monitor controller and I/O status, as well as make changes to bit and integer data.

Advantages for the MicroLogix 1100 Controllers

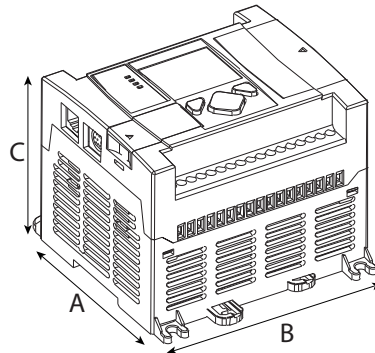
- Large 8 KB memory (4 KB user program with 4 KB user data) to solve a variety of applications.
- True online editing allows tuning of program, including PID, without going offline.
- Support for MicroLogix 1100 controller online editing in all current versions of RSLogix 500 and RSLogix Micro Starter and Developer software.
- Mode switch for Run/Remote/Program.
- Time-based or event-triggered data logging capability stores controller data records with optional time stamp in a separate 128 Kbyte memory area for later analysis (for example, trending and I/O status during alarm condition data).
- Recipe storage (up to 64 KB that is deducted from Data Logging memory) that is accessible by your ladder program, enabling quick and easy batch changes of program data for timers, counters, and other data types.
- High performance expansion I/O options (up to four 1762 I/O modules, in any combination).
- Four high-speed inputs (except 1763-L16AWA controller) that can be used individually as latching (pulse-catch) inputs, event interrupts, or alternately combined as one 40 kHz high-speed counter featuring 8 modes of operation.
- Two built-in 0...10V DC analog inputs with 10-bit resolution (not isolated).

MicroLogix 1100 Controller

Dimensions are in millimeters (inches).

Controller Spacing = 50 mm (2 in.) on all sides for adequate ventilation.

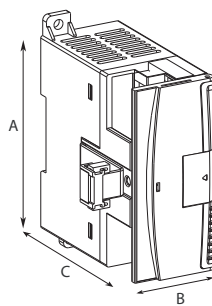
MicroLogix 1100 Controller Dimension Drawing



MicroLogix 1100 Controller Dimensions

Dimension	1763-L16AWA, 1763-L16BWA, 1763-L16BBB, 1763-L16DWD
A	90 mm (3.5 in.)
B	110 mm (4.33 in.)
C	87 mm (3.43 in.)

1762 Expansion I/O Module Dimension Drawing



1762 Expansion I/O Dimensions

Dimension	Expansion I/O Module
A	90 mm (3.5 in.)
B	40 mm (1.57 in.)
C	87 mm (3.43 in.)

Select MicroLogix 1100 Controllers

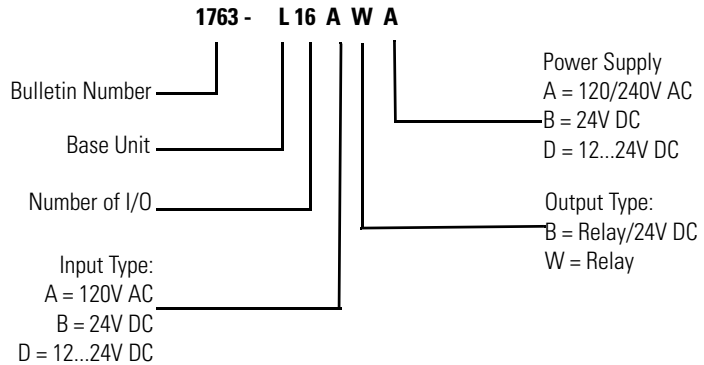
MicroLogix 1100 Base Units

The base unit houses embedded inputs, outputs, power supply, and communication ports. The base unit also provides the interface to expansion I/O when required by an application.

Step 6 - Select:

- controller - review power and I/O configurations to select a controller catalog number; see power supply and I/O specification for more detailed information
- accessories - memory modules
- record your selection in the Selection Record (starts on [page 86](#))

MicroLogix 1100 Controller Catalog Number Detail



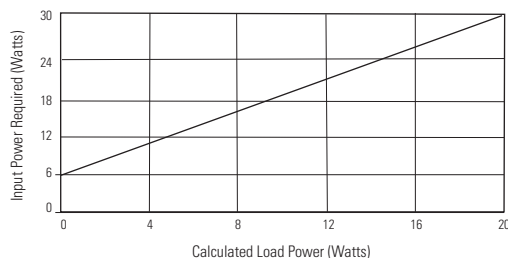
MicroLogix 1100 Controller Power and I/O Configuration

Cat. No.	Line Voltage	Number of Inputs	Number of Outputs	High Speed I/O
1763-L16AWA	120/240V AC	(10) 120V AC (2) Analog Voltage	(6) Individually Isolated Relay	None
1763-L16BWA	120/240V AC	(6) 24V DC (4) Fast 24V DC (2) Analog Voltage	(6) Individually Isolated Relay	(4) 40 kHz input
1763-L16BBB	24V DC	(6) 24V DC (4) Fast 24V DC (2) Analog Voltage	(2) Individually Isolated Relay (2) 24V DC FET (2) Fast 24V DC FET	(4) 40 kHz input (2) 40 kHz output
1763-L16DWD	12...24V DC	(6) 12V DC/24V DC (4) Fast 12V DC/24V DC (2) Analog Voltage	(6) Individually Isolated Relay	(4) 40 kHz input

MicroLogix 1100 Controller Power Supply Specifications

Attribute	1763-L16AWA	1763-L16BWA	1763-L16BBB	1763-L16DWD
Power Supply Voltage	85...264V AC @ 47...63 Hz		20.4...26.4V DC Class 2 SELV	12...24V DC (-15%, 10%) Class 2 SELV
Power Consumption	46 VA	52 VA	6...30 W	6...30 W
Power Supply Inrush Current, max	120V AC: 25 A for 8 ms 240V AC: 40 A for 4 ms		24V DC: 15 A for 20 ms	24V DC: 15 A for 20 ms
24V DC Sensor Power	---	250 mA, 400µF capacitance, max	---	---

MicroLogix 1100 Controller DC Input Power Requirements for 1763-L16BBB and 1763-L16DWD Units



MicroLogix 1100 Controller Digital Input Specifications

Attribute	1763-L16AWA	1763-L16BWA and 1763-L16BBB		1763-L16DWD	
		Inputs 0...3	Inputs 4 and higher	Inputs 0...3	Inputs 4 and higher
On-state Voltage Range	79...132V AC @ 47...63 Hz	14...26.4V DC @ 65 °C (149 °F) 14...30.0V DC @ 30 °C (86 °F)	10...26.4V DC @ 65 °C (149 °F) 10...30.0V DC @ 30 °C (86 °F)	10...24V DC @ 65 °C (149 °F) 10...30V DC @ 30 °C (86 °F)	
Off-state Voltage Range	0...20V AC	0...5V DC		0...5V DC	
Operating Frequency	47...63 Hz	0 Hz...40 kHz ⁽¹⁾	0 Hz...1 kHz	0 Hz...40 kHz	0 Hz...1 kHz
Signal Delay, max	On Delay = 20 ms Off Delay = 20 ms	standard inputs: selectable from 0.5...16 ms high-speed inputs: selectable from 0.0125...16 ms		standard inputs: selectable from 0.5...16 ms high-speed inputs: selectable from 0.0125...16 ms	
On-state Current min nom max	5.0 mA @ 79V AC 12 mA @ 120V AC 16.0 mA @ 132V AC	2.5 mA @ 14V DC 8.8 mA @ 24V DC 12.0 mA @ 30V DC	2.0 mA @ 10V DC 8.5 mA @ 24V DC 12.0 mA @ 30V DC	2.0 mA @ 10V DC 8.5 mA @ 24V DC 12.0 mA @ 30V DC	
Off-state Leakage Current, max	2.5 mA, max	1.5 mA, min		1.5 mA, min	
Impedance, nom	12 kΩ @ 50 Hz 10 kΩ @ 60 Hz	3.1 kΩ		2.61 kΩ	3.1 kΩ
Inrush Current, max	250 mA @ 120V AC	---		---	

(1) OS series B FRN 4 or later.

MicroLogix 1100 Controller Digital Output Specifications

Attribute	1763-L16AWA, 1763-L16BWA, and 1763-L16DWD	1763-L16BBB	
	Relay	FET Standard Operation	FET High-speed Operation (Output 2 and 3 only)
Operating Voltage Range	5...125V DC 5...264V AC	20.4...26.4V DC	
Continuous Current per Point, max	See MicroLogix 1100 Controller Relay Contact Rating on page 48.	See MicroLogix 1100 Controller FET Standard Outputs Continuous Current per Point, max on page 49	100 mA
Continuous Current per Common, max	5 A/3 A		

MicroLogix 1100 Controller Digital Output Specifications

Attribute	1763-L16AWA, 1763-L16BWA, and 1763-L16DWD	1763-L16BBB	
	Relay	FET Standard Operation	FET High-speed Operation (Output 2 and 3 only)
Continuous Current per Controller, max	30 A or total of per-point loads, whichever is less at 150V, max 20 A or total of per-point loads, whichever is less at 240V, max		
On-state Current, min	10.0 mA	1 mA	10.0 mA
Off-state Leakage Current, max	0 mA	1 mA	
Signal Delay, max - resistive load	On Delay = 10 ms Off Delay = 10 ms	On Delay = 0.1 ms Off Delay = 1.0 ms	On Delay = 6 μ s Off Delay = 18 μ s
Surge Current per Point (peak)	---	4 A for 10 ms (repeatability is once every 2 s @ 65 °C (149 °F), once every 1 s @ 30 °C (86 °F))	

MicroLogix 1100 Controller Analog Input Specifications

Attribute	1763-L16AWA, 1763-L16BWA, 1763-L16BBB, 1763-L16DWD
Voltage Input Range	0...10V DC
Input Coding (0...10V DC)	0...1023
Voltage Impedance	210 k Ω
Input Resolution	10-bit
Non-linearity (in percent full scale)	\pm 0.5%
Overall Accuracy	\pm 0.5% full scale at -20...65 °C (-4...149 °F)
Update Time	100/20/16.67/4 ms (selectable)
Voltage Input Overvoltage Protection	10.5V DC
Field Wiring to Logic Isolation	Non-isolated with logic

MicroLogix 1100 Controller Relay Contact Rating

Voltage, max	Amperes		Amperes Continuous	Voltamperes	
	Make	Break		Make	Break
240V AC	15.0 A	1.5 A	5.0 A/3.0 A	3600 VA	360 VA
120V AC	30 A	3.0 A			
125V DC	0.22 A		1.0 A	28 VA	
24 V DC	1.2 A		2.0 A		

Fill in Your Selection Listing

Step 16 - Select:

- all catalog numbers required for your system specification

Master List of Catalog Numbers

Cat. No.	Description	Quantity Selected
MicroLogix 1000 Controllers		
1761-L10BWA	MicroLogix 1000 10-Point AC Controller	
1761-L10BWB	MicroLogix 1000 10-Point DC Controller	
1761-L10BXB	MicroLogix 1000 10-Point DC Controller	
1761-L16AWA	MicroLogix 1000 16-Point AC Controller	
1761-L16BBB	MicroLogix 1000 16-Point DC Controller	
1761-L16BWA	MicroLogix 1000 16-Point AC Controller	
1761-L16BWB	MicroLogix 1000 16-Point DC Controller	
1761-L16NWA	MicroLogix 1000 16-Point AC Controller	
1761-L16NWB	MicroLogix 1000 16-Point DC Controller	
1761-L20AWA-5A	MicroLogix 1000 25-Point AC Controller with Analog	
1761-L20BWA-5A	MicroLogix 1000 25-Point AC Controller with Analog	
1761-L20BWB-5A	MicroLogix 1000 25-Point DC Controller with Analog	
1761-L32AAA	MicroLogix 1000 32-Point AC Controller	
1761-L32AWA	MicroLogix 1000 32-Point AC Controller	
1761-L32BBB	MicroLogix 1000 32-Point DC Controller	
1761-L32BWA	MicroLogix 1000 32-Point AC Controller	
1761-L32BWB	MicroLogix 1000 32-Point DC Controller	
MicroLogix 1100 Controllers and Accessories		
1763-L16AWA	MicroLogix 1100 16-Point AC Controller	
1763-L16BWA	MicroLogix 1100 16-Point AC Controller	
1763-L16BBB	MicroLogix 1100 16-Point DC Controller	
1763-L16DWD	MicroLogix 1100 16-Point DC Controller	
1763-MM1	MicroLogix 1100 Memory Module	
MicroLogix 1200 Controllers and Accessories		
1762-L24AWA	MicroLogix 1200 24-Point AC Controller	
1762-L24AWAR	MicroLogix 1200 24-Point AC Controller with Programming/HMI Port	
1762-L24BWA	MicroLogix 1200 24-Point AC Controller	
1762-L24BWAR	MicroLogix 1200 24-Point AC Controller with Programming/HMI Port	
1762-L24BXB	MicroLogix 1200 24-Point DC Controller	
1762-L24BXBR	MicroLogix 1200 24-Point DC Controller with Programming/HMI Port	
1762-L40AWA	MicroLogix 1200 40-Point AC Controller	
1762-L40AWAR	MicroLogix 1200 40-Point AC Controller with Programming/HMI Port	