

MicroLogix 1100 / 1763 Small Logic Controllers

MicroLogix 1100

With online editing and a built-in 10/100 Mbps EtherNet/IP port for peer-to-peer messaging, the MicroLogix 1100 controller adds greater connectivity and application coverage to the MicroLogix™ family of Allen-Bradley controllers. This next generation controller's built-in LCD screen displays controller status, I/O status, and simple operator messages; enables bit and integer manipulation; offers digital trim pot functionality, and a means to make operating mode changes (Prog / Remote / Run).

By combining all the features that have made the existing MicroLogix controllers successful with industrial EtherNet/IP, embedded DH-485 / Modbus™ RTU networking, and the ability for an operator to interface to the control program through the LCD screen, the MicroLogix 1100 controller may be all you need and more.

APPLICATIONS:

The MicroLogix 1100 is particularly well suited to meet the needs of SCADA RTU, packaging, and material handling applications. With even more memory for data logging and recipe than the MicroLogix 1500, the MicroLogix 1100 is great for remote monitoring and for applications that are memory intensive, but require limited I/O.



Features:

- Online editing
- Built-in 10/100 Mbps EtherNet/IP port for messaging
- Isolated RS-232/RS-485 combo port
- Ten digital inputs, two analog inputs, six digital outputs on each controller
- One embedded 40kHz high-speed counter (on controllers with dc inputs)
- Two 40kHz high-speed PTO/PWM outputs (on controllers with dc outputs)
- Embedded LCD for controller and I/O status and simple operator interface for messages, and bit/integer monitoring and manipulation
- 4K words user program memory and 4K words user data memory
- Up to 128K bytes for data logging and 64K bytes for recipe
- Embedded Web server
- Email support
- CIP generic messaging support

MicroLogix 1100 Controller



The MicroLogix 1100 combines all the features you demand in a compact controller, with EtherNet/IP messaging, online editing, a built-in LCD screen on every controller and a versatile combination of I/O.

The embedded 10/100 Mbps EtherNet/IP port for peer-to-peer messaging offers users high speed connectivity between controllers and the ability to access, monitor and program from the factory floor to anywhere an Ethernet connection is available. An embedded Web server allows a user to custom configure data from the controller to be displayed as a web page. Furthermore, a second RS-232/RS-485 combo port provides a host of different point-to-point and network protocols.

With online editing, modifications can be made to a program while it is running, making fine tuning of an operating control system possible, including PID loops.

A close-up of the LCD screen displaying the text: "00000 REMOTE", "Enter Valve", "Pressure:", and "=+000000010". The text is in a green monospace font on a dark background.

The built-in LCD screen allows the user to monitor data within the controller, optionally modify that data, and interact with the control program. The LCD displays status for embedded digital I/O and controller functions, and acts as a pair of digital trim pots to allow a user to tweak and tune a program. The user program can now use a new LCD instruction to send, and optionally receive, information through the display, providing real time program interaction. A user configurable start up screen allows the user to personalize the controller to identify the machine it is used on, the designer of the control system, or the name of the company that uses it. Communication port status and communication toggle function, operating mode status, and battery status monitoring are among the many features of the LCD screen.

A close-up of the LCD screen displaying the text: "Custom", "MicroLogix", "1100", and "Boot Screen!". The text is in a green monospace font on a dark background.

For small applications, the embedded I/O in this controller may represent all of the control required. There are 10 digital inputs, 6 digital outputs, and 2 analog inputs on every controller, with the ability to add digital, analog, RTD, and thermocouple modules to customize the controller for your application. On versions of the controller with dc inputs, there is a high speed counter, and on the dc output version, two PTO/PWM (pulse train outputs and pulse width modulated) outputs, enabling the controller to support simple motion applications.

A close-up of the LCD screen displaying the text: "00000 REMOTE", "I-0000000000", "0123456789", and "0-00000". The text is in a green monospace font on a dark background.

Communications

The combo Communication Channel 0 port provides isolated RS-232 and RS-485 electrical compatibility (on separate pins). This port supports the same protocols as the MicroLogix 1200 and MicroLogix 1500:

- DF1 Full Duplex / DF1 Half Duplex Master & Slave / DF1 Radio Modem
- DH-485 (supported directly using the 1763-NC01 RS-485 cable on this port; or using the RS-232 port and existing cables, a 1761-NET-AIC and external power is required for networking)
- Modbus™ RTU Master and RTU Slave (supported directly using the 1763-NC01 RS-485 cable on this port, or using the RS-232 port and existing cables, a 1761-NET-AIC and external power is required for networking)
- ASCII

Communication Channel 1 with embedded RJ45 port supports EtherNet/IP for peer-to-peer messaging:

- 10/100 Mbps port with support for BOOTP, DHCP, & SNMP capability directly from the controller
- Automatically assign IP address through DHCP or BOOTP, or configure using RSLogix 500 programming software
- Monitor your IP address through the LCD screen (or use the write-on nameplate)
- Supports CIP
- Allows controllers to exchange data with other controllers through messaging (does not support scanning of I/O on Ethernet adapters)

Expansion

Use up to four 1762 I/O modules (also used to expand the MicroLogix 1200 controllers) to increase your I/O count, as well as provide flexibility of I/O for your application.

Modules include:

Inputs – 120V ac, 24V dc sink/source, analog, RTD, and thermocouple
Outputs – 120 to 240V ac, 24V dc sourcing, relay (including high current isolated), and analog



RSLogix™ 500 Programming Software

Supporting the Allen-Bradley SLC 500 and MicroLogix families of processors, RSLogix 500 was the first PLC programming software to offer unbeatable productivity with an industry-leading user interface.

RSLogix 500 software offers:

- Flexible, easy-to-use editors
- Diagnostics and troubleshooting tools
- Powerful, time-saving features & functionality
- A world-class user interface designed for first time power users



Accessories

The MicroLogix 1100 accessories include:

- Memory module: 1763-MM1 - provides memory for program backup transport and can be useful to update programs in the field.
- RS-485 cable: 1763-NC01- used on Communication Channel 0 to provide daisy chain connection for DH-485 and Modbus RTU Master/Slave networks.

MicroLogix - A Family of Success

All members of the MicroLogix and SLC™ 500 families share a host of commonalities - from a common instruction set and industry-leading RSLogix 500™ programming software, to compatible network and HMI devices. These systems are designed to work seamlessly - within a single machine or across your entire factory.

All MicroLogix controllers are DIN-rail and panel mountable, as well as UL listed, C-UL Certified, and Class 1, Division 2 and CE compliant for conformity to necessary global standards. Your use of one controller within the family is an investment in the future, as your applications change and grow, allowing you to easily move from one level of control to another.



PRODUCT SPECIFICATIONS

MicroLogix 1100	1763-L16AWA	1763-L16BWA	1763-L16BBB	1763-L16DWD
Input Power	120/240V ac		24V dc	12V dc - 24V dc
Memory	non-volatile battery backed RAM			
User Program / User Data Space	4K / 4K			
Data Logging / Recipe Storage	Up to 128K bytes for data logging and up to 64K bytes for recipe (recipe memory subtracted from available data logging)			
Battery Back-up	Yes			
Back-up Memory Module	Yes			
Digital Inputs	Ten 120V ac	Six 24V dc, Four fast 24V dc		Six 12V dc / 24V dc, Four fast 12V dc / 24V dc
Analog Inputs	Embedded, two in local, with additional 1762 analog modules			
Digital Outputs	Six relay	Two relay, Two 24V dc FET, Two fast 24V dc FET		Six Relay
Serial Ports	One RS-232 / RS-485 Combo Port			
Serial Protocols	DF1 Full Duplex, DF1 Half Duplex Master/Slave, DF1 Radio Modem, DH-485, Modbus RTU Master/Slave, ASCII			
Ethernet Ports	One 10/100 port			
Ethernet Protocols	EtherNet/IP messaging only			
Trim Potentiometers	Two digital			
High-Speed Inputs (Pulse Catch)		Four @ 40kHz input (1ch)	Four @ 40 kHz input (1ch)	Four @ 40 kHz input (1ch)
Real Time Clock	Yes (embedded)			
PID	Yes (multiple loops only limited by program and stack memory)			
PWM /PTO		Two @ 40 kHz		
Dual Axis Servo control		Through embedded PTO		
Embedded LCD	Yes			
Floating Point Math	Yes			
Online Editing	Yes			
Operating Temperature	-20°C to +65°C (-4°F to +149°F)			
Storage Temperature	-40°C to +85°C (-40°F to +185°F)			

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