# Programmable Logic Controller (AB MicroLogix 1100)
587530 (3240-A0)

**LabVolt Series**

Datasheet


Festo Didactic
en 120 V - 60 Hz
01/2019

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# General Description

The Programmable Logic Controller (AB MicroLogix 1100) is specially designed to help students develop skills in operating, programming, and troubleshooting modern PLC-controlled systems. Driven by an Allen-Bradley® MicroLogix™ 1100 controller, the training module is fully supported by instructional material and is compatible with several didactic applications.

# Compatibility

Listed below are the PLC applications compatible with the Programmable Logic Controller, Model 3240-A.

- Traffic Lights, Model 8075-1: Partial compatibility only
- Electro-Pneumatic, Model 8075-2: Full compatibility
- Electro-Mechanical DC Motor, Model 8075-3: Full compatibility
- Electro-Mechanical Step Motor, Model 8075-4: Full compatibility
- Wind Turbine, Model 8075-5: Full compatibility
- Level Process Control, Model 8075-6: Full compatibility, but requires the Analog Expansion Kit, Model 3244-A, to perform all exercises
- Bottling Process, Model 8075-7: Full compatibility

# Features & Benefits

- Digital and Analog I/Os
  - Ten 24 V dc digital inputs
  - Six 24 V dc digital outputs
  - Two analog inputs (0-10 V dc)
- 24 V dc built-in power supply
- Built-in 10/100 Mbps Ethernet/IP port for peer-to-peer messaging and programming
- Eight fault switches
- Online editing
- Five push-buttons, five toggle switches, and Two 0-10 V dc outputs
- PID Capability
- Embedded Web server and LCD screen
- Onboard traffic light simulator
- Easy expansion using rackless I/O modules (Analog Expansion Module, Model 3244-A)
- Compatibility with MicroLogix and SLC instruction set

- Requires the RSLogix Micro programming software, Model 3245-A *
  - * RSLogix Micro Starter Lite for MicroLogix 1000 and 1100 is available for free on Allen-Bradley website (www.ab.com).
- For programming, an Ethernet cable is included with the trainer. A serial cable, Model 3246-4, can also be ordered
- Includes curriculum

## List of Manuals

| Description | Manual number |
|---|---|
| Programmable Logic Controller (Student Manual) | 589767 (52281-00) |
| Programmable Logic Controller (Instructor Guide) | 589768 (52281-10) |

## Table of Contents of the Manual(s)

### Programmable Logic Controller (Student Manual) (589767 (52281-00))

- 1 Familiarization with the PLC Trainer and RSLogix Micro
- 2 Online Operations and Monitoring I/O Data Files
- 3 Relay Instructions Part 1
- 4 Relay Instructions Part II
- 5 Timer Instructions
- 6 Counter Instructions
- 7 Comparison Instructions
- 8 Move Instructions
- 9 Sequencer Instructions

## Additional Equipment Required to Perform the Exercises

| Qty | Description | Model number |
|---|---|---|
| 1 | PLC Software (RSLogix Micro, Educational) | 587552 (3245-A0) |
| 1 | Personal Computer | 579785 (8990-00) [1] |

## Optional Equipment

| Qty | Description | Model number |
|---|---|---|
| 1 | Analog I/O Expansion Kit for 3240-A | 587547 (3244-A0) [2] |
| 1 | Communication Cable (Allen-Bradley) | 587566 (3246-40) |
| 1 | Programmable Logic Controller - Basic Programming - eSeries | 587571 (3280-E0) |
| 1 | Serial-to-USB Converter | 775477 (34879-00) |
| 1 | Programmable Logic Controller (Manuals on CD-ROM) | 585276 (88270-A0) |

## Specifications

| Parameter | Value |
|---|---|
| **PLC** | Allen-Bradley MicroLogix 1100 |
| **Power Requirements** | 120-240 V, 50/60 Hz, 1.5 A |
| **Switches (10)** | 5 push buttons and 5 toggle switches |
| **Inputs (10)** | 24 V dc (four 40 kHz high-speed) |
| **Outputs (6)** | 24 V dc (two 40 kHz high-speed), each with a pilot light |
| **Analog Inputs (2)** | 0-10 V dc (10 bits resolution) |
| **Communication Ports (2)** | Ethernet, serial (DF1 full-duplex protocol) |

[1] Refer to the Computer Requirements in the PLC Software Specifications section of this datasheet if the computer is to be provided by the end-user.

[2] Required to perform exercises for Level Process Control (8075-6).

| Parameter | Value |
|---|---|
| **Fault-Insertion Switches** | 8 |
| **Protection** | Circuit breaker |
| **Physical Characteristics** | |
| Dimensions (H x W x D) | 202 × 327 × 266 mm (8 × 12.9 × 10.5 in) |
| Net Weight | 5 kg (11 lb) |

# Module Options Description

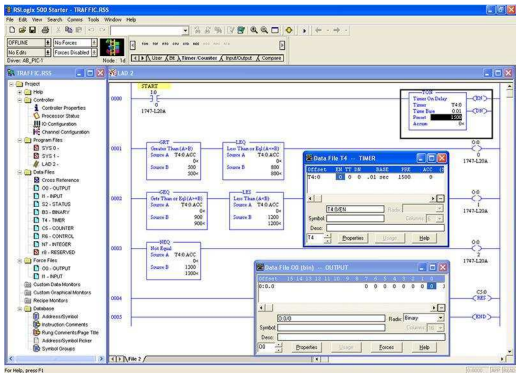
## Analog I/O Expansion Kit for 3240-A 587547 (3244-A0)

The Analog I/O Expansion Kit for 3240-A is an expansion kit for the Programmable Logic Controller, Model 3240-A, that adds analog inputs and outputs to the PLC.

### Specifications

| Parameter | Value |
|---|---|
| **Analog Inputs/Outputs** | 2 inputs and 2 outputs; 0-10 V dc / 4-20 mA (12 bits resolution) |
| **Physical Characteristics** | |
| Dimensions (H × W × D) | 90 × 40 × 87 mm (3.5 × 1.6 × 3.4 in) |
| Net Weight | 0.45 kg (1 lb) |

## PLC Software (RSLogix Micro, Educational) 587552 (3245-A0)



The RSLogix Micro software is a tool to design and implement ladder programs for the Allen-Bradley MicroLogix™ family of processors (it cannot be used with SLC 500 controllers). It is a Windows®-based application produced by Rockwell Software that allows PLC programming using a personal computer.

The free-form ladder of RSLogix Micro lets students concentrate on the application logic rather than using the proper syntax when editing programs. Several other features of RSLogix Micro greatly facilitate PLC programming, such as a project verifier, drag-and-drop editing, and search-and-replace functions. The PLC can be programmed via either an RS-232 port or an Ethernet port on the PLC processor. This software comes with RSLinx™, which provides connectivity between the PLC and the computer.

The software is available with either an educational license (Model 3245-A) or as a commercial license (Model 3245-B).

### Specifications

| Parameter | Value |
|---|---|
| **Computer Requirements** | A currently available personal computer with USB 2.0 ports, running under one of the following operating systems: Windows® 7 or Windows® 8. |

## Communication Cable (Allen-Bradley) 587566 (3246-40)

The communication cable is an RS-232-C serial cable specifically designed to connect a personal computer to an Allen-Bradley programmable logic controller, thus making it possible to program and monitor the PLC.

### Specifications

| Parameter | Value |
|---|---|
| **Communication Cable** | |
| Type | 8 pin mini DIN to 9 pin D shell |
| Length | 2 m (6.5 ft) |

## Programmable Logic Controller - Basic Programming - eSeries 587571 (3280-E0)


This eSeries course introduces students to the basic principles of PLC programming. It is meant to be used in conjunction with a Programmable Logic Controller Trainer, Model 3240 or Model 3270. It contains one course which begins with a pretest and ends with a posttest. The course includes the topics covered in the book-based content and their related hands-on exercises. Exercise procedures are presented in enhanced PDF format. Completed exercises may be printed, saved to a specific location, and submitted (emailed) to the instructor. Exercise presentation of technical content is accompanied by voiceover narration to minimize the amount of on-screen reading.

The following learning platforms are available:

- 3280-E: Programmable Logic Controller - Basic Programming - eSeries
- 3280-F: Programmable Logic Controller - Basic Programming - SCORM
- 3280-G: Programmable Logic Controller - Basic Programming - Stand-Alone

### Specifications

| Parameter | Value |
|---|---|
| **Computer Requirements** | A currently available personal computer running under one of the following operating systems: Windows® 7 or Windows® 8. |

## Personal Computer 579785 (8990-00)

The Personal Computer consists of a desktop computer running under Windows® 10. A monitor, keyboard, and mouse are included.

### Specifications

| Parameter | Value |
|---|---|
| **Power Requirements** | |
| Current | 2 A |
| Service Installation | Standard single-phase ac outlet |

## Serial-to-USB Converter 775477 (34879-00)

The Serial-to-USB Converter converts a standard serial port to a USB port.

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.



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