

Allen-Bradley 1746 1747 Series Service Manual

1766-L32BWA

1. Description

The 1766-L32BWA is a MicroLogix 1400 Controller under the Bulletin 1766 product family. This compact controller features integrated Three (3) communication ports such as a combo RS232 / RS485 port, isolated RS232 port and an Ethernet communication port. It has embedded Input and Output channels which consists of Twelve (12) Fast 24V DC, Eight (8) Normal 24V DC Inputs, and Twelve Technical specifications for 1766-L32BWA

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1766-L32BWA
Series	MicroLogix 1400
Product	Family: MicroLogix
Module	Type Controller
Product	Type: MicroLogix 1400 Controller
Inputs	(12) Digital Fast 24V DC, (8) Digital Normal 24V DC
Outputs	(12) Relay
Number	of I/O: 32 points
Operating	Power 110-240V AC
Number	of Discrete Inputs: Twenty (20) 120VAC
Channel	Count (20) I _P , (12) O _P
Analog	Input Signal Range: None
Memory	20 KB
Number	of Discrete Outputs: Twelve (12) Relay
Feature	Built-in RTC
Weight	2 lbs
Power	supply: 100/240V AC
Input	power 100 to 240 VAC
Operating	Frequency: 47-63 Hz
Wire	Gage 26 to 14 AWG
Power	Consumption: 120 VA
Cable	length 30m
Power	supply inrush current 120V AC: 25 A for 8 ms 240V AC: 40A for 4 ms
Resolution	12 bit
Communication	port: 1 RS232 / RS485; 1 Ethernet; 1 RS232
UPC	10612598518101
Supported	Protocols: Serial: DF1, ASCII, MODBUS RTU, DNP3, DH485 Ethernet: Ethernet I/P, DNP3, MODBUS TCP/IP
UNSPSC	32151705
Dimensions:	90 x 180 x

3. Product Information

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Operating Power 110-240V AC

Number of Discrete Inputs: Twenty (20) 120VAC

Channel Count (20) IP, (12) OP

Analog Input Signal Range: None

Memory 20 KB

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Feature Built-in RTC

Weight 2 lbs

Power supply: 100/240V AC

Input power 100 to 240 VAC

Operating Frequency: 47-63 Hz

Wire Size 22 to 14 AWG

Power Consumption: 120 VA

Cable length 30m

Power supply inrush current 120V AC: 25 A for 8 ms 240V AC: 40A for 4 ms

Resolution 12 bit

Communication port: 1 RS232 / RS485; 1 Ethernet; 1 RS232

UPC 10612598518101

Supported Protocols: Serial: DF1, ASCII, MODBUS RTU, DNP3, DH485 Ethernet: Ethernet I/P, DNP3, MODBUS TCP/IP

UNSPSC 32151705

Dimensions: 90 x 180 x 87 mm (3.5 x 7.087 x 3.43 in)

Mounting: Panel Mounting / DIN Rail

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Description
The 1766-L32BWA is a discontinued Programmable Logic Controller (PLC) that is manufactured by Allen Bradley. This controller belongs to the MicroLogix 1400 product family. It is especially compatible for use in machine level automation or small processes.

This controller has embedded Twelve (12) Fast 24V DC Inputs, Eight (8) standard 24VDC inputs and Twelve (12) Relay outputs. The High-speed inputs support fast switching devices with rated frequency of 100 kHz. The standard 24VDC Inputs is used for general purpose application while the Relay Outputs may be operated with different voltage categories, for energizing electrical loads with different nominal voltage actuations.

The integrated communication ports include One (1) combo isolated RS232/RS485port, One (1) RS232 communication port and One (1) Ethernet I/P port. These communication ports are capable of being operated individually to communicate with different partner devices. Supported protocols include DF1, DH485, ASCII, DNP3 Serial, DNP3 Ethernet, MODBUS RTU, MODBUS Ethernet, and ASCII protocol.

When configured as MODBUS RTU via RS485 wiring, daisy chain topology may be implemented where up to 32 devices may be connected. This is an ideal solution for integrating Power Meters and other MODBUS devices. DNP3 is typically used in substation automation for communicating with Intelligent Electronic Devices (IEDs). Ethernet protocol is the most modern and user-friendly protocol for communicating with multiple devices in linear topology. ASCII protocol is typically used in factory automation especially in the manufacturing area. Most common application is the reading of barcode data of a specific product.

The Allen-Bradley 1766-L32BWA is a part of the MicroLogix 1400 Programmable Logic Controller series. It combines the features of previous MicroLogix 1100 controllers, such as EtherNet/IP, online editing capabilities, and an LCD with enhanced features. It also features a backlight on the LCD for setting network configuration, viewing the controller and I/O status, monitoring, and manipulation. The 1766-L32BWA controller requires 120 to 240 VAC input power and has battery-backed RAM. It supports 32 digital I/O points that consist of Twelve (12) digital fast 24 Volts DC inputs, Eight (8) digital normal 24 Volt DC inputs, and Twelve (12) relay outputs. It can be expanded with up to Seven (7) 1762 expansion I/O modules. It has dimensions of 3.5 x 7.08 x 3.43 inches and a weight of 2 pounds. For communication, the 1766-L32BWA has an isolated RS-232/485 port, an Ethernet port, and a non-isolated RS-232 port. It also has an embedded real-time clock to provide a reference for applications that need time-based control. For installation, it has Panel or DIN-Rail mounting options with an open enclosure. It is suitable for use in a clean, dry industrial environment with circuits not exceeding Over Voltage Category II. The 1766-L32BWA controller has various enhanced features that its predecessors lack. The Ethernet port provides DNP3 protocol support as well as a web server and email capabilities. It has 2 Serial ports with DH485/DF1/Modbus RTU/DNP3/ASCII protocol support. It has up to 6 embedded 100 kHz high-speed counters (only for DC controllers). It also has 20 KB of memory for user programs and data.