

Allen-Bradley 1746 1747 Series Service Manual

1785-L46B

1. Description

The Allen-Bradley 1785-L46B is a PLC-5 Programmable controller. This controller is a standard controller with protected memory with maximum user memory 48,000 Words and capable of handling up to 2048 I/Os. This controller is equipped with communication ports that is configurable for Data Highway Plus (DH+) or Remote I/O, operating in Adapter or Scanner mode. It also has One (1) Technical specifications for 1785-L46B

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1785-L46B
Manufacturer	Rockwell Automation
Module	Type Standard Processor
Brand	Allen-Bradley
Processor	PLC-5/46
Module	Type Programmable Controller
Max	User Memory Words 48 Kilowords
Max	Total I/O 2048 (any mix); 2048 Input / 2048 output (complimentary)
Battery-Backed	Static RAM Yes
Communication	Ports Four (4) Data Highway Plus (DH+); Remote I/O (RIO); One (1) Serial;
EEPROM	Program Backup Option (using 1785-ME16, -ME32, -ME64, and -M100) Yes
Controller	Memory 48 Kwords
Protected	Memory Yes
Memory	Protection Integrated
Max	Total I/O 2048 (any mix) or 2048 in + 2048 out (complementary)
Hardware	Addressing 2-slot; 1-slot; 1/2-slot
Max	Analog I/O 2048
Program	Scan time 0.5 ms per K word (bit logic) 2 ms per K word (typical)
I/O	Scan Time Per Rack 10 ms at 57.6 kbits/s, 7 ms at 115.2 kbits/s, 3 ms at 230.4 mbits/s
Module	Location 1771-A1B, -A2B, A3B, -A3B1, -A4B chassis; left-most slot
Max	I/O Chassis Total 61
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3. Product Information

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Manufacturer Rockwell Automation

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Module Type Standard Processor

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Processor PLC-5/46

Module Type Programmable Controller

Max User Memory Words 48 Kilowords

Max Total I/O 2048 (any mix); 2048 Input / 2048 output (complimentary)

Battery-Backed Static RAM Yes

Communication Ports Four (4) Data Highway Plus (DH+); Remote I/O (RIO); One (1) Serial;

EEPROM Program Backup Option (using 1785-ME16, -ME32, -ME64, and -M100) Yes

Controller Memory 48 Kwords

Protected Memory Yes

Memory Protection Integrated

Max Total I/O 2048 (any mix) or 2048 in + 2048 out (complementary)

Hardware Addressing 2-slot; 1-slot; 1/2-slot

Max Analog I/O 2048

Program Scan time 0.5 ms per K word (bit logic) 2 ms per K word (typical)

I/O Scan Time Per Rack 10 ms at 57.6 kbits/s, 7 ms at 115.2 kbits/s, 3 ms at 230.4 mbits/s

Module Location 1771-A1B, -A2B, A3B, -A3B1, -A4B chassis; left-most slot

Max I/O Chassis Total 61

I/O system Bulletin 1771 I/O, 1794 I/O, 1746 I/O, and 1791 I/O including 8-, 16-, 32-pt, and intelligent modules

Max I/O Chassis Extended Local 0

Battery 1770-XYC

Max I/O Chassis Universal Remote 32 Max. Per I/O Link

Memory Modules 1785-ME32, 1785-ME64, 1785-M100

RS-232-C/422-A/423-A Ports 1

Control Coprocessor Expansion Port Yes

UPC 10612598124036 Description

The Allen-Bradley 1785-L46B is a PLC-5 controller. This controller has a programmable memory, amounting to 48000 Words, allowing control sequences to be automated and efficiently implemented. The 1785-L46B comes with a number of communication interfaces, specifically Four (4) ports configurable for Data Highway Plus (DH+) or Remote I/O (RIO) protocol and operate in Adapter or scanner mode. Additionally, it is also provided with One (1) 9-pin D-shell connector supporting RS232C, RS422 and RS423 communication standards. This serial port primarily supports DF1 protocol in full or half duplex mode. The 1785-L46B is capable of processing up to 2048 Input and Output (I/Os) of any combination or 2048 in + 2048 out when configured in complementary mode. Up to 16 (0-17) I/O racks is supported by this controller; 61 I/O chassis with 60 of these as Remote I/O racks. This controller does not support implementation of local I/O adapter. The 1785-L46B comes with a protected memory. With this type of memory and controller, access to critical data as well as proprietary information residing within the controller such as program blocks, routines is limited. Additionally, controller operating mode and I/O configuration is provided with additional protection, ensuring that these information and operational parameters are only modified when required. The 1785-L46B has maximum power dissipation of 17.3 Watts and backplane current draw of 3.0 A.

The 1785-L46B is a PLC-5 Enhanced Programmable Controller with Protected Memory by Allen-Bradley which is a chassis-based enhanced device, with 48K word user memory and supports up to 2048 maximum I/O capacity in any combination, or 2048 input +2048 output (complimentary). It is designed to communicate with Allen-Bradley devices that are connected on the Data Highway Plus (DH+) or Remote I/O (RIO) network. The 1785-L46B also has a 25 pin D-shell serial port on its front panel for RS-232C, RS422 and RS423 serial connection. It is installed on the 1771 I/O chassis, and it draws a 3.3A backplane current at 5V DC, with a thermal dissipation of 59.04 BTU/hr. The 1785-L46B also has an internal clock with a variation of +/- 5 minutes per month at 60 oC, with a timing accuracy of 1 program per scan, and a maximum I/O scan time of 0.5ms for the extended-local I/O adapter, and a 10ms scan time for the remote I/O rack at 57.6 kbps of speed. The 1785-L46B supports the 1771 intelligent module, 8-points, 16-point, and 32-point I/O modules, and addresses connected hardware through the 2-slot, the 1-slot, or the ½ slot addressing modes. It is keyed to the Chassis via a connection between pins 40 and 42, 54 and 56 of the backplane top connector, and it can provide voltage isolation between the communication ports, and between the communication port and the relay cartridge tested at 500V and 1000V for 60 seconds. It supports Relay Cartridge use and is compatible with the 1785-ME32, 1785-ME64, and 1785-M10 battery-backed memory module. The 1785-L46B has a working temperature range around 0-60 oC (32-140 oF) at a relative humidity of 5-95%, without condensation, and its storage temperature range is -40-85 oC (-40-185 oF). It can withstand a 30G shock and a 1G vibration at 10-500Hz, and it comes in an open enclosure. It weighs about 1.42 kg (3.1lbs) and is UL, CSA, C-TICK, and CE-certified.

