

Allen-Bradley 1746 1747 Series Service Manual

1746-NO4I

1. Description

The Allen-Bradley 1746-NO4I is an SLC 500 Analog Output Module. This Analog Output Module has Four (4) Current outputs channels that provides output range of 0 to +20 mA. This module is used with SLC 500 fixed or modular style hardware. Technical specifications for 1746-NO4I

2. Specifications

Specification	Value
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
Part	Number/Catalog No. 1746-NO4I
Series	SLC 500
Module	Type Analog Output Module
Backplane	Current (5 Volts) 55 milliamps
Outputs	Four (4)
Backplane	Current (24 Volts DC) 195 milliamps
Output	Current range 0 to +20 mA
Full	Scale Output 21 mA
Overrange	Capability 5% (0 to +21 mA - 1 LSB)
Current	Output Coding 0 to +32764
Update	Time 512 microseconds
Backplane	Current (5 Volts) 55 milliamps; (24 Volts DC) 195 milliamps
Resolution	14 bits
Step	Response 2.5 milliseconds
UPC	10662073735912
Manufacturer	Rockwell Automation
Brand	Allen-Bradley
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3. Product Information

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Ambient Operating Temperature 0 to 60 degrees Celsius Technical specifications for 1746-NO4I

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Ambient Operating Temperature 0 to 60 degrees Celsius Description

The Allen-Bradley 1746-NO4I module is a Programmable Logic Controller (PLC) analog output module that belongs to the SLC 500 product platform. This module is used with the mentioned platform and compatible with the Two (2) controller variant such as fixed hardware or modular hardware style.

This module is capable of producing an output Current range of 0 to 20 mA that may be used to drive modulating instruments and devices. Typical analog outputs are connected to a controller's control command. If used with a Proportional-Integral-Derivative controller, the analog output is assigned to represent the Control Output (CO) of the PID controller. For manual loading stations, the analog output represents the manual command entered by the operator. It may also be used to re-transmit an important signal to a single or multiple device. This may be for the purposes of indication, data logging and signal conversion.

The appropriate signal is assigned by modifying the module properties. This module is also installed with an embedded selector switch to allow selection of power supply source.

Internal power supply may be selected which means that the module will utilize the supply from the backplane while external source refers to an external power supply with specification of 24 ±10% at 195 mA max.

The Allen-Bradley 1746-NO4I is an SLC 500 Four (4) channel analog output module using a 16-bit 2's complementary binary format. It has 4 current outputs that have an output range of 0 to +20 mA with full-scale current output of 21 mA. The backplane current draw of this module is 55 mA at 5 VDC while and 195 mA at 24 VDC while the over range capacity is 5% (0 to 21 mA and 1 LSB). Its power supply voltage rating is 24 Volts DC +/- 10% at 195 mA maximum and the backplane isolation is 500 Volts DC. Note that some applications require 21.6 to 26.4 Volts DC power when there is not enough power flowing from the SLC power supply. The 1746-NO4I also comes with an update response time of 512 µs for all the channels that are in parallel. The input step response of this module is 2.5 milliseconds at 95%. Its operating temperature is 0 to 60 degrees Celsius; Storage temperature is -40 to 85 degrees Celsius, and its non-condensing ambient relative humidity is 5 to 95%. This factory-calibrated output module has an open enclosure and it is only compatible with the 1746 chassis. An LED status indicator is also present in this module. The 1746-NO4I has a load range of 0 to 500 ohms and maximum load reactance of 100 µH, with a converter resolution of 14 bits via the R-2R Ladder conversion method. The 1746-NO4I's maximum overall accuracy drift is +/- 70 ppm/ degree Celsius of the full-scale accuracy.

When wiring this module, use shielded communication cable such as Belden 8761 or equivalent with lengths kept as short as possible. For wiring convenience, the module is provide with a removable terminal for simplified wiring and ease when replacing the module.

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