



Installation Instructions

SLC 500™ 32-Channel Digital I/O Modules

(Catalog Numbers 1746-IB32, -IV32, -OB32, -OB32E and -OV32)

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ATTENTION

A transient pulse occurs in transistor inputs when the external dc supply voltage is applied to the output common terminals (e.g., via the master control relay). This can occur whether or not the processor is powered. For most applications, the energy of this pulse is not sufficient to energize the load. For more information on transient pulses and guidelines to reduce inadvertent processor operation, refer to the *SLC 500 Modular or Fixed Hardware Style Installation and Operation Manual* (Publication Number 1747-6.2 or 1747-6.21).

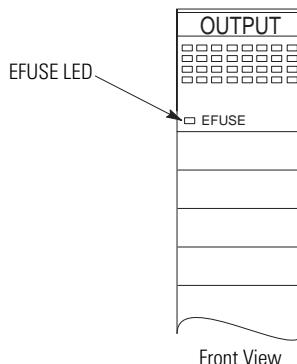
Electronically Protected Module (1746-OB32E)

Electronic Protection

The electronic protection of the 1746-OB32E has been designed to provide protection for the module from short-circuit and overload current conditions. The protection is based on a thermal cut-out principle. In the event of a short circuit or overload current condition on an output channel, that channel will limit current within milliseconds after its thermal cut-out temperature has been reached. All other channels continue to operate as directed by the CPU (processor) module.

IMPORTANT

The module does not provide protection against reverse polarity wiring or wiring to AC power sources. Electronic protection is not intended to replace fuses, circuit breakers, or other code-required wiring protection devices.



Front View

Auto Reset Operation

IMPORTANT

The 1746-OB32E performs auto-reset under overload conditions. When an output channel overload occurs as described above, that channel limits current within milliseconds after its thermal cut-out temperature has been reached. While in current limit, the output channel can cool below the thermal cut-out temperature, allowing the module to auto-reset and resume control of the output channel as directed by the processor until the thermal cut-out temperature is again reached.

Removing power from an overloaded output channel would also allow the output channel to cool below the thermal cut-out temperature allowing auto-reset to occur when power is restored. The output channel would operate as directed by the processor until the thermal cut-out temperature is again reached.

To avoid auto-reset of an output channel under overload conditions, an external mechanical fuse can be used to open the circuit when overloaded.

Short Circuit/Overload Current Diagnostics

If a short circuit or overload current condition occurs on an output channel:

1. The E-Fuse LED will illuminate provided that power is applied to the module. (power required: 5V dc via backplane and load power via an external supply)
2. All other channels continue to operate as directed by the CPU (processor) module.

Recovery From Channel Shutdown

1. Remove the SLC 500 system power and correct the conditions causing the short circuit or overload current condition.
2. Restore the SLC 500 system power. The module automatically resets and resumes control of the output channel and associated load.

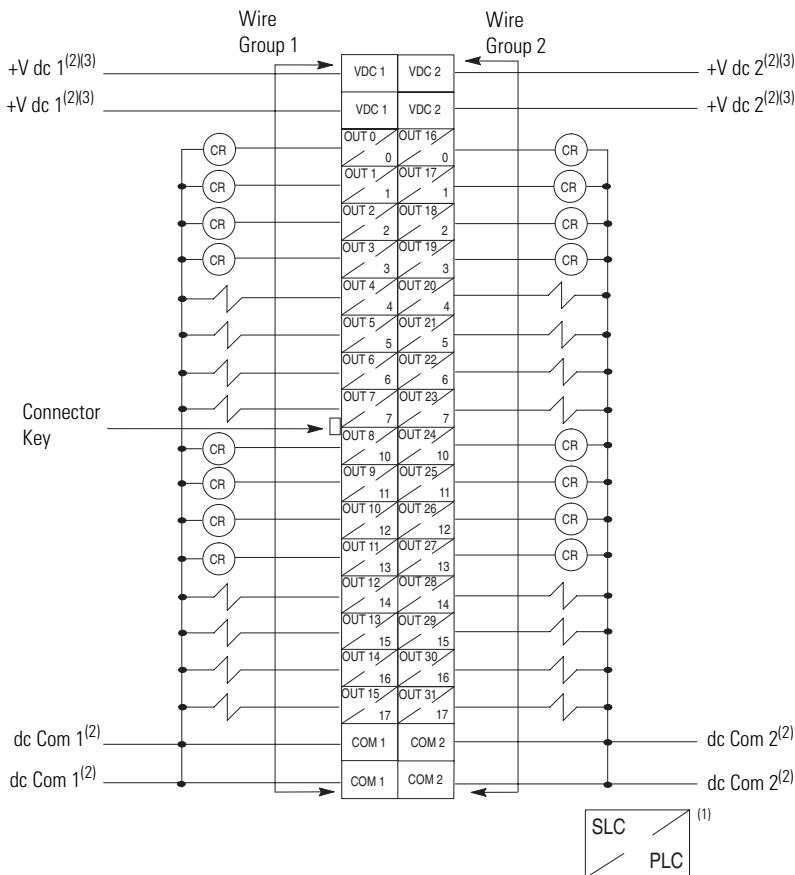
Output Module (1746-OB32 and 1746-OB32E)

1746-OB32

5 to 50V dc Transistor Output Sourcing

1746-OB32E

10 to 30V dc Electronically Protected Sourcing



- (1) See decimal and octal coding information on page 16.
- (2) The V dc and dc Com pins on the 1746-OB32 and 1746-OB32E output module are isolated between the two groups and the two V dc and two dc Com pins in each group are connected internally.
- (3) Both V dc pins must be connected to the dc power source if current for a common group is expected to exceed 2 amps. To maintain group isolation provided by 32-point I/O modules, use a 1492 terminal block that provides group isolation. Consult 1492 documentation or your Allen-Bradley Sales Office for additional information.