



Isolated-Circuit Discrete Input and Output Modules

(Cat. No. 1746sc Series)

Installation Instructions

Input Module Catalog Numbers:

- 1746sc-IA8I Isolated-Circuit 100/120 V ac/dc Inputs (8)
- 1746sc-IB8I Isolated-Circuit 24 Vdc Inputs (8)
- 1746sc-IC8I Isolated-Circuit 48 Vdc Inputs (8)
- 1746sc-IM8I Isolated-Circuit 200/240 V ac/dc Inputs (8)

Output Module Catalog Numbers:

- 1746sc-OAP8I Isolated-Circuit 120/240 Vac Outputs (8)

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1746sc-IA8I Specifications

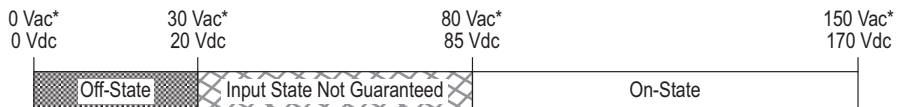
Number of Inputs	8
Points per Common	1 (individually isolated)
Voltage Category	100/120 Vac @ 50/60 Hz 100/120 Vdc, sink or source
Operating Voltage	80 to 150 Vac @ 47 to 63 Hz 85 to 170 Vdc
Nominal Input Current	16 mA @ 120 Vac, 60 Hz 2.5 mA @ 120 Vdc
Input Inrush Current (maximum)	0.7 A @ 120 Vac
Input Signal Delay (maximum) Off to On On to Off	17 ms @ 120 Vac 7 ms @ 120 Vdc 45 ms @ 120 Vac 40 ms @ 120 Vdc
Off-State Current (maximum)	4 mA @ 20 Vac ^① 0.5 mA @ 20 Vdc
Power Dissipation (maximum) Watts per point ^② Total watts ^③	0.5 W @ 120 Vac/dc; 0.75 W @ 150 Vac/dc 4 W @ 120 Vac/dc; 6 W @ 150 Vac/dc
Backplane Current Draw (max.) 5 V 24 V	0.110 A 0.0 A

^① Maximum allowable leakage current from an input device in an off state.

^② Maximum with 1 input turned on.

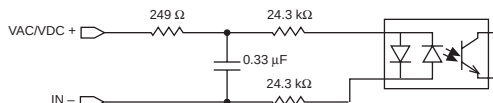
^③ Maximum with all 8 inputs turned on (100% duty cycle).

1746sc-IA8I On/Off-State Voltage Range



* Frequency = 47 to 63 Hz

1746sc-IA8I Circuit Diagram (one circuit shown)



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Important Pre-Installation Considerations

This module is shipped in a static-shielded container to guard against electrostatic discharge damage. Observe the following precautions when handling the module:



CAUTION

ELECTROSTATICALLY SENSITIVE COMPONENTS

Observe the following precautions to guard against electrostatic damage:

- Wear an approved wrist strap grounding device, or touch a grounded object to discharge yourself before handling the module.
- Do not touch the gold backplane connector or connector pins.
- If available, use a static-free work station.
- When not in use, keep the module in a static-shielded bag.

Failure to observe these precautions can damage your module.

When using Allen-Bradley Programming Software (APS) to configure a chassis slot for your module, simply select your module from the list of modules on the system I/O configuration display. (Note: Some versions of APS list the modules without the “sc” designation, as in 1746-IA8I.) If your module is not listed, select OTHER at the bottom of the list and enter your module’s ID code at the prompt:

Module ID Code

1746sc-IA8I	303	1746sc-IM8I	304
1746sc-IB8I/-IC8I	324	1746sc-OAP8I	1905

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Wiring Field Devices To Your Module

For UL and C-UL compliance, power, input, and output (field device) wiring must be in accordance with Class I, Division 2, wiring methods [Article 501-4 (b) of the National Electrical Code, NFPA 70] and in accordance with the authority having jurisdiction. In addition, peripheral equipment must be suitable for the location in which it is used.



WARNING

THIS DEVICE IS INTENDED TO ONLY BE USED WITH THE ALLEN-BRADLEY SLC500 SYSTEMS.



WARNING

EXPLOSION HAZARD

When in hazardous locations, turn off power before replacing or wiring modules.

Also, do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

Failure to observe this precaution can cause equipment damage, severe personal injury, or death.



WARNING

HIGH LEAKAGE CURRENT

Before wiring field devices to the 1746sc-IA8I, -IM8I, or -OAP8I, ensure that the SLC 500 processor has been properly grounded.

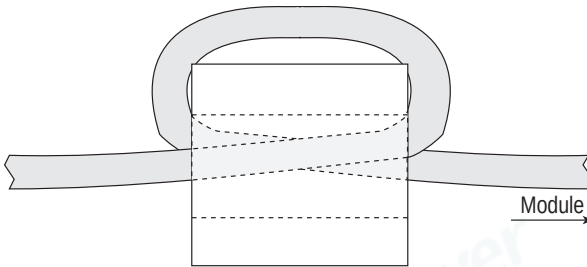
Failure to observe this precaution can cause equipment damage or personal injury.

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In addition, for the 1746sc-1A8I, -1B8I, -1C8I, and -1M8I only, you must install a ferrite on the SLC 500 power line. You may use either a clam-shell type (Steward part 28B2029-0A0 or equivalent) or a ring type (Steward part 28B2400-000 oivalent). If you use the ring type, loop the cable through at least once.



You may obtain these ferrites directly from Steward:

Post Office Box 510

Chattanooga, TN 37401

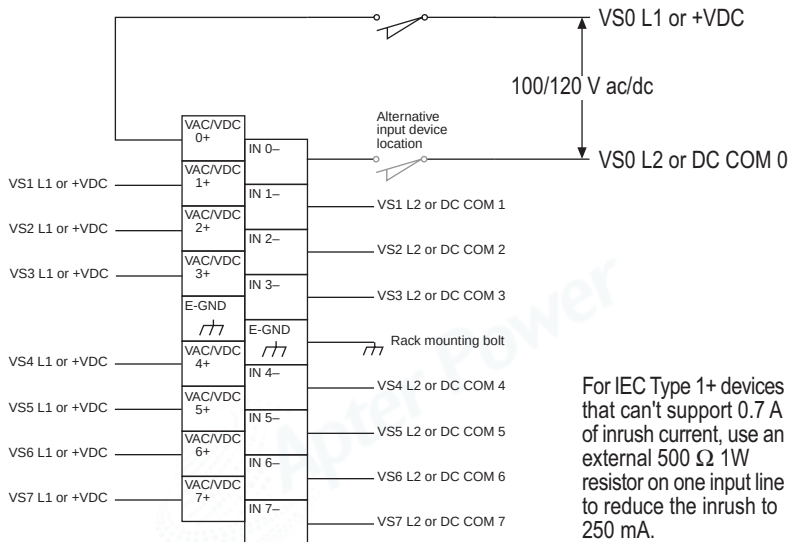
Fax: (426) 867-4102 • Tel: (426) 867-4100

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1746sc-IA8I Isolated-Circuit 100/120 V ac/dc Inputs (8)



Note -- The input circuits are electrically isolated from each other (the commons are NOT connected internally). Therefore, up to eight different voltage sources (VS0-VS7) may be used.

Module ID Code = 303



Ask your distributor about these other Allen-Bradley compatible products from Spectrum Controls:

Catalog No.	Description
1746sc-INI4vi	Isolated-Channel Analog Inputs (4) Each Current or Voltage Selectable
1746sc-INI4i	Isolated-Channel Analog Inputs (4) Current only
1746sc-INO4vi	Isolated-Channel Analog Outputs (4) Each Current or Voltage Selectable
1746sc-INO4i	Isolated-Channel Analog Outputs (4) Current only
1746sc-IA8I	Isolated-Circuit 100/120 V ac/dc Inputs (8)
1746sc-IB8I	Isolated-Circuit 24 Vdc Inputs (8)
1746sc-IC8I	Isolated-Circuit 48 Vdc Inputs (8)
1746sc-IM8I	Isolated-Circuit 200/240 V ac/dc Inputs (8)
1746sc-OAP8I	Isolated-Circuit 120/240 Vac Outputs (8)
1771sc-IMI16	Isolated-Circuit 200/240 V ac/dc Inputs (16)
1771sc-OMI16	Isolated-Circuit 120/240 Vac Triac Outputs (16) Each Fuse Protected

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Publication 0300146-08 Rev. J May 2004

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