

Product Details and Certifications

Cross Reference RA Part Number: 1746-OV8 A

 **Product: 1746-OV8**

Description: 1746 SLC System, 8 Ch-DC Output Module for Programmable Controller



Representative Photo Only (actual product may vary based on configuration sections)

I/O MODULES AND HARDWARE

| | |
|--|-------------------------|
| Bulletin Number | 1746 SLC 500 I/O Module |
| Number of Outputs | 8 |
| Points per Common | 8 |
| Voltage Category | 24V DC |
| Operating Voltage Range | 10...50V DC |
| Backplane Current (mA) @ 5V | 135 mA |
| Backplane Current (mA) @ 24V | 0 mA |
| Voltage Drop, On-State Output, Max | 1.2V @ 1.0A |
| Load Current, Min | 1 mA |
| Leakage Current, Off-State Output, Max | 1 mA |

Sinking DC Input Modules

| Specifications | 1746-IB8 | 1746-IB16 | 1746-IB32 | 1746-IC16 | 1746-IH16 ⁽¹⁾ | 1746-ITB16 |
|--------------------------------|---------------|-----------|-----------------|-----------------|--|---------------|
| Voltage, Off-State Input, max. | 5.0V DC | | | 10V DC | 20V DC | 5V DC |
| Nominal Input Current | 8 mA @ 24V DC | | 5.1 mA @ 24V DC | 4.1 mA @ 48V DC | 2.15 mA @ 125V DC 2.25 mA @ 132V DC | 8 mA @ 24V DC |
| Current, Off-State Input, Max. | 1 mA | | 1.5 mA | | 0.8 mA | 1.5 mA |
| Signal On Delay, Max | 8 ms max | | 3 ms max | 4 ms max | 9 ms max | 0.30 ms max |
| Signal Off Delay, Max | 8 ms max | | 3 ms max | 4 ms max | 9 ms max | 0.50 ms max |

- (1) If the input module is connected in parallel with an inductive load, use surge suppression across the load to protect the input module from damage caused by reverse voltage. Refer to the SLC 500 Modular Hardware Style User Manual, publication [1747-UM011](#), for more information on surge suppression.
- (2) Maximum Points ON Simultaneously: 16 @ 146V DC and 30 °C (86 °F); 12 @ 146V DC and 50 °C (122 °F); 14 @ 132V DC and 55 °C (131 °F); 16 @ 125V DC and 60 °C (140 °F).

Sourcing DC Input Modules

| Specifications | 1746-IG16 | 1746-IV8 | 1746-IV16 | 1746-IV32 | 1746-ITV16 |
|--------------------------------|------------------------------|---------------|-----------|--|----------------------------|
| Number of inputs | 16 | 8 | 16 | 32 | 16 |
| Points per common | 16 | 8 | 16 | 8 | 16 |
| Voltage category | 5V DC | 24V DC | 24V DC | 24V DC | 24V DC |
| Operating voltage range | 4.5...5.5V DC ⁽¹⁾ | 10...30V DC | | 15...30V DC @ 50 °C (122 °F) 15...26.4V DC @ 60 °C (140 °F) | 10...30V DC |
| Backplane current (mA) @ 5V | 140 mA | 50 mA | 85 mA | 50 mA | 85 mA |
| Backplane current (mA) @ 24V | 0 mA | 0 mA | 0 mA | 0 mA | 0 mA |
| Voltage, off-state input, max. | 2...5.5V DC | 5.0V DC | 5.0V DC | 5.0V DC | 5.0V DC |
| Nominal input current | 3.7 mA @ 5V DC | 8 mA @ 24V DC | | 5.1 mA @ 24V DC | 8 mA @ 24V DC |
| Current, off-state input, max. | 4.1 mA | 1 mA | | 1.5 mA | 1.5 mA |
| Signal on delay, max | 0.25 ms max | 8 ms max | | 3 ms max | 0.30 ms max |
| Signal off delay, max | 0.50 ms max | 8 ms max | | 3 ms max | 0.50 ms max ⁽²⁾ |

(1) 50 mV peak-to-peak ripple (max.)

(2) Typical signal delay for this module: ON = 0.1 ms, OFF = 0.25 ms @ 24V DC.

**Sinking DC Output Modules**

| Specifications | 1746-OG16 | 1746-OV8 | 1746-OV16 | 1746-OV32 | 1746-OVP16 ⁽⁵⁾ |
|------------------------------|------------------------------|-------------|-----------|------------|---------------------------|
| Number of outputs | 16 | 8 | 16 | 32 | 16 |
| Points per common | 16 | 8 | 16 | 16 | 16 |
| Voltage category | 5V DC | 24V DC | | | |
| Operating voltage range | 4.5...5.5V DC ⁽²⁾ | 10...50V DC | | 5...50V DC | 20.4...26.4V DC |
| Backplane current (mA) @ 5V | 180 mA | 135 mA | 270 mA | 190 mA | 250 mA |
| Backplane current (mA) @ 24V | 0 mA | 0 mA | 0 mA | 0 mA | 0 mA |


Sinking DC Output Modules


| Specifications | 1746-OG16 | 1746-OV8 | 1746-OV16 | 1746-OV32 | 1746-OVP16 ⁽⁵⁾ |
|--|-----------|---|--|---|--|
| Voltage drop, on-state output, max. | — | 1.2V @ 1.0 A | 1.2V @ 0.5 A | 1.2V @ 0.5 A | 1.0 V @ 1.0 A |
| Load current, min. | 0.15 mA | 1 mA | 1 mA | 1 mA | 1 mA |
| Leakage current, off-state output, max | 0.1 mA | 1 mA ⁽³⁾ | 1 mA ⁽³⁾ | 1 mA ⁽³⁾ | 1 mA ⁽³⁾ |
| Signal On Delay, max (resistive load) | 0.25 ms | 0.1 ms | 0.1 ms | 0.1 ms | 0.1 ms ⁽⁶⁾ |
| Signal Off Delay, max (resistive load) | 0.50 ms | 1.0 ms | 1.0 ms | 1.0 ms | 1.0 ms |
| Continuous current per module | N/A | 8.0 A @ 30 °C (86 °F) 4.0 A @ 60 °C (140 °F) | | 8.0 A @ 0...60 °C (32...140 °F) | 6.4 A @ 0...60 °C (32...140 °F) |
| Continuous current per point | 24 mA | 1.0 A @ 30 °C (86 °F) 0.5 A @ 60 °C (140 °F) | 0.50 A @ 30 °C (86 °F) 0.25 A @ 60 °C (140 °F) ⁽⁴⁾ | 0.50 A @ 30 °C 0.25 A @ 60 °C | 1.5 A @ 30 °C (86 °F) 1.0 A @ 60 °C (140 °F) ⁽⁷⁾ |
| Surge current per point for 10 ms ⁽¹⁾ | N/A | 3.0 A | | 1.0 A @ 30 °C (86 °F) 1.0 A @ 60 °C (140 °F) | 4.0 A ⁽⁸⁾ |

(1) Repeatability is once every 1 s @ 30 °C (86 °F). Repeatability is once every 2 s @ 60 °C (140 °F).

(2) 50 mV peak to peak ripple, max.

(3) To limit the effects of leakage current through solid-state outputs, a loading resistor can be connected in parallel with your load. For transistor outputs, 24V DC operation, use a 5.6 K Ω , 1/2 W resistor.

(4) Recommended surge suppression: For transistor outputs, when switching 24V DC inductive loads, use a 1N4004 diode reverse-wired across the load. Refer to the SLC 500 Modular Hardware Style User Manual, publication [1747-UM011](#), for more information on surge suppression.

(5) The 1746-OVP16 module features a fused common and blown fuse LED indicator.

(6) Fast turn-off modules provide fast OFF delay for inductive loads. Fast turn-off delay for inductive loads is accomplished with surge suppressors on this module. A suppressor at the load is not needed unless another contact is connected in series. If this is the case, a 1N4004 diode should be reverse wired across the load. This defeats the fast turn-off feature. Comparative OFF delay times for 1746-OB8, 1746-OV8 and fast turn-off modules, when switching Bulletin 100-B110 (24 W sealed) contactor, are: 1746-OB8 and 1746-OV8 modules OFF delay = 152 ms; fast turnoff modules OFF delay = 47 ms.

(7) Fast off-delay for inductive loads is accomplished with surge suppressors on the 1746-IB6EI and 1746-OBP8 series B and later, 1746-OB16E series B and later, 1746-OBP16 and 1746-OVP16 modules. A suppressor at the load is not needed unless another contact is connected in series. If this is the case, a 1N4004 diode should be reverse-wired across the load. This defeats the fast turn-off feature.

(8) Surge current = 32 A per module for 10 ms.

Sourcing DC Output Modules

| Specifications | 1746-OB6EI | 1746-OB8 | 1746-OB16 | 1746-OB16E | 1746-OB32 | 1746-OB32E | 1746-OBP8 ⁽⁴⁾ | 1746-OBP16 |
|------------------------------|----------------------------|-------------|-----------|-----------------------------|------------|-----------------------------|--------------------------|-------------------|
| Number of outputs | 6 Electronically Protected | 8 | 16 | 16 Electronically Protected | 32 | 32 Electronically Protected | 8 | 16 ⁽⁵⁾ |
| Points per common | Individually isolated | 8 | 16 | 16 | 16 | 16 | 4 | 16 |
| Voltage category | 24V DC | | | | | | | |
| Operating voltage range | 10...30V DC | 10...50V DC | | 10...30V DC | 5...50V DC | 10...30V DC | 20.4...26.4V DC | |
| Backplane current (mA) @ 5V | 46 mA | 135 mA | 280 mA | 135 mA | 190 mA | | 135 mA | 250 mA |
| Backplane current (mA) @ 24V | 0 mA | 0 mA | 0 mA | 0 mA | 0 mA | 0 mA | 0 mA | 0 mA |