

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

Combination I/O Modules

Specifications	1746-IO4	1746-IO8	1746-IO12	1746-IO12DC
Number of inputs	2	4	6	6
Number of outputs	2	4	6	6
Points per common	2	4	6	6
Voltage category	120V AC (inputs) 100/120V AC (relay contact outputs)			10...30V DC (inputs) 5...265V AC @ 47...63 Hz / 5...125V DC (outputs)
Operating voltage range	85...132V AC @ 47...63 Hz (inputs) 5...265V AC @ 47...63 Hz / 5...125V DC (outputs)			10...30V DC (inputs) 5...265V AC @ 47...63 Hz / 5...125V DC (outputs)
Backplane current (mA) @ 5V	30 mA	60 mA	90 mA	80 mA
Backplane current (mA) @ 24V	25 mA	45 mA	70 mA	60 mA
Continuous current per point	See Relay Contact Ratings for 1746-OW4 on page 16		See Relay Contact Ratings for 1746-OW16 on page 16	
Continuous current per module	4 A	8 A	8 A	8 A

1746-SIM Input Simulator

The 1746-SIM Input Simulator is designed for use on 16-channel 24V DC sinking and sourcing modules with removable terminal blocks, including 1746-IB16, 1746-ITB16, 1746-IV16, 1746-ITV16, and 1746-IN16 modules. The input simulator provides 16 switches for simulating inputs to the SLC 500.

1746 Analog I/O Modules

Analog I/O modules feature user-selectable voltage or current inputs, backplane isolation, removable terminal blocks, and diagnostic feedback.

The 1746-NI4, 1746-NIO4I, and 1746-NIO4V input channels are filtered to reject high frequency noise and provide 14- to 16-bit (range-dependent) resolution.

All 4-channel analog output modules provide 14-bit resolution and a 2.5 ms conversion rate.

The 1746-FIO4I and 1746-FIO4V modules have less input filtering and can sense more rapidly changing inputs. However, their input resolution is only 12-bit. Because the input filter on the 1746-FIO4I or 1746-FIO4V module may pass more electrical noise, you should thoroughly ground and shield the input transducer, its power supply, and cables.

The 1746-NI8 module provides high accuracy and fast analog signal conversion. The 1746-NI8, 1746-NI16I and 1746-NI16V modules are high density analog input modules that are software configurable.

The 1746-NO8I (current output) and 1746-NO8V (voltage output) modules are high density, analog output modules that provide 8 individually configurable output channels with 16-bit resolution.