MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ALLEN-BRADLEY

1746-OB16

16-POINT DC SOURCING OUTPUT MODULE

Used with the applicable SLC 500 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Rockwell Automation 1746-IN027D-EN-P, pp. 24, 37–38

Installation Instructions

Allen-Bradley

SLC 500 Digital I/O Modules

Input Catalog Numbers 1746-IA4, 1746-IA8, 1746-IA16, 1746-IB8, 1746-IB16, 1746-IC16, 1746-IG16, 1746-IH16, 1746-IM4, 1746-IM8, 1746-IM16, 1746-IN16, 1746-ITB16, 1746-ITV16, 1746-IV8, 1746-IV16

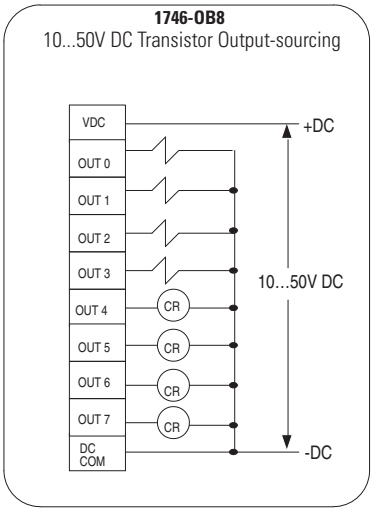
Output Catalog Numbers 1746-OA8, 1746-OA16, 1746-OAP12, 1746-OB8, 1746-OB6EI, 1746-OB16, 1746-OB16E, 1746-OBP8, 1746-OBP16, 1746-OG16, 1746-OV8, 1746-OV16, 1746-OVP16, 1746-OW4, 1746-OW8, 1746-OW16, 1746-OX8

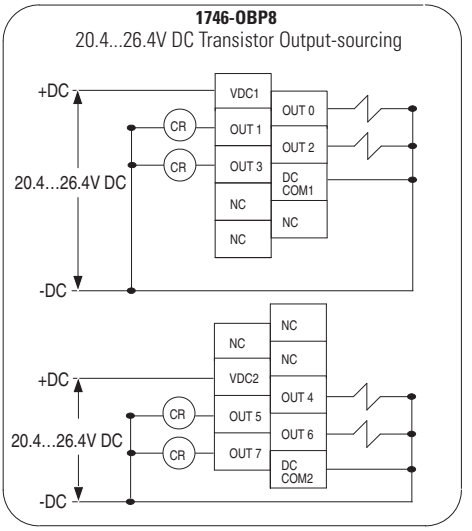
Combination Input/Output Catalog Numbers 1746-IO4, 1746-IO8, 1746-IO12, 1746-IO12DC

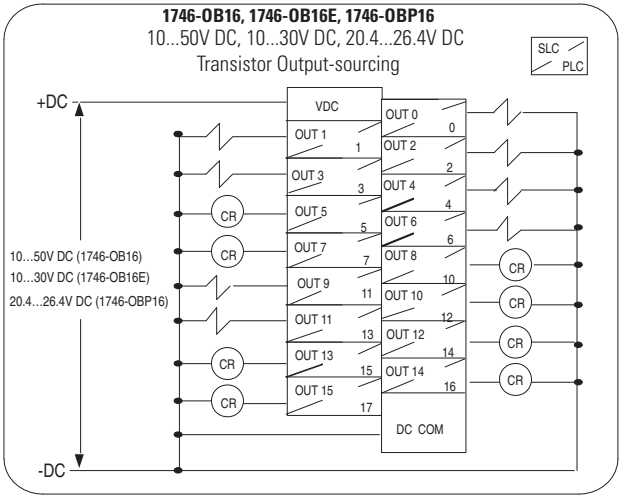
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1746-OB8, 1746-OBP8, 1746-OB16, 1746-OB16E, 1746-OBP16







Specifications – 1746-OA8, 1746-OA16, and 1746-OAP12

Attribute	Value		
	1746-OA8	1746-OA16(5)	1746-OAP12(5)(6)(7)
Load current, min	10 mA		
Continuous current per point(3)	1.0 A @ 30 °C (86 °F) 0.50 A @ 60 °C (140 °F)	0.50 A @ 30 °C (86 °F) 0.25 A @ 60 °C (140 °F)	2.0 A @ 30 °C (86 °F) 1.25 A @ 55 °C (131 °F) 1.0 A @ 60 °C (140 °F)
Continuous current per module, max	8.0 A @ 30 °C (86 °F) 4.0 A @ 60 °C (140 °F)	8.0 A @ 30 °C (86 °F) 4.0 A @ 60 °C (140 °F)	9.0 A @ 30 °C (86 °F) 6.8 A @ 55 °C (131 °F) 6.0 A @ 60 °C (140 °F)
On-state voltage drop, max	1.50V @ 1.0 A	1.50V @ 0.50 A	1.2V @ 2.0 A
Surge current per point(4), max	10.0 A for 25 ms	10.0 A for 25 ms	17.0 A for 25 ms(8)

(1) Triac outputs turn on at any point in the AC line cycle, and turn off at AC line zero cross.

(2) To limit the effects of leakage current through solid-state outputs, a loading resistor can be connected in parallel with your load. For 120V AC operation, use a 15 KΩ, 2 W resistor. For 240V AC operation, use a 15 KΩ, 5 W resistor.

(3) Recommended surge suppression: For triac outputs when switching 120V AC inductive loads, use Harris Metal-Oxide Varistor, model number V220MA2A. Refer to the SLC 500 Modular Hardware Style User Manual, publication 1747-UM011, for more information on surge suppression.

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

(5) Removable terminal block.

(6) A fused common and blown fuse LED indicator are provided on this module. See Fuse Protection and Blown Fuse Diagnostics.

(7) Use ID Code 2803 when configuring your system with programming software or the HHT.

(8) Surge current = 35 A per common for 10 ms.

DC Output Modules

Specifications – 1746-OB8, 1746-OB16, and 1746-OB16E

Attribute		Value		
		1746-OB8	1746-OB16(4)	1746-OB16E(4)(5)
Voltage category		24V DC Signal Output		
Number of outputs		8	16	16
Points per common		8	16	16
Voltage, operating (V DC)		10...50 (source)		10...30 (source)
Backplane current consumption	5V DC	0.135 A	0.280 A	0.135 A
	24V DC	0.0 A		
Signal delay, max resistive load		On = 1 ms Off = 1.0 ms	On = 0.1 ms Off = 1.0 ms	On = 1.0 ms(6) Off = 1.0 ms
Off-state leakage, max(1)		1 mA		
Load current, min		1 mA		

Specifications – 1746-OB8, 1746-OB16, and 1746-OB16E

Attribute	Value		
	1746-OB8	1746-OB16[4]	1746-OB16E[4][5]
Continuous current per point[2]	1.0 A @ 30 °C (86 °F) 0.50 A @ 60 °C (140 °F)	0.50 A @ 30 °C (86 °F) 0.25 A @ 60 °C (140 °F)	1.0 A @ 30 °C (86 °F)[7] 0.50 A @ 60 °C (140 °F)
Continuous current per module, max	8.0 A @ 30 °C (86 °F) 4.0 A @ 60 °C (140 °F)	8.0 A @ 30 °C (86 °F) 4.0 A @ 60 °C (140 °F)	8.0 A @ 0...60 °C (32...140 °F)
On-state voltage drop, max	1.2V @ 1.0 A	1.2V @ 0.50 A	1.0V @ 0.50 A
Surge current per point[3]	3.0 A for 10 ms	3.0 A for 10 ms	2.0 A for 10 ms[8]

(1) 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 KΩ, 1/2 W resistor.

(2) 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.

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

(4) Removable terminal block.

(5) Use the following ID Code when configuring your system with programming software or the HHT: 1746-OB16E = 2920.

(6) Fast turn-off modules (1746-OB6EI, 1746-OBP8 Series B and later, 1746-OB16E Series B and later, 1746-OBP16, and 1746-OVP16) provide fast OFF delay for inductive loads. Comparative OFF delay times for 1746-OB8/1746-OV8 and fast turn-off modules, when switching Bulletin 100-B110 (24W sealed) contactor, are: 1746-OB8/1746-OV8 OFF delay = 152 ms; fast turn-off modules OFF delay = 47 ms.

(7) Fast off delay for inductive loads is accomplished with surge suppressors on the 1746-OB6EI, 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.



ATTENTION: A transient pulse occurs in transistor outputs when the external DC supply voltage is applied to the output common terminals (for example, through the master control relay). This can occur regardless of the processor having power or not. For most applications, the energy of this pulse is not sufficient to energize the load.

Refer to the SLC 500 Modular Hardware Style User Manual, publication 1747-UM011, for more information on transient pulses and guidelines to reduce inadvertent processor operation.

Specifications – 1746-OB6EI, 1746-OBP8, and 1746-OBP16

Attribute	Value		
	1746-OB6EI[5][6]	1746-OBP8[5][6][8]	1746-OBP16[5][6][9][10]
Voltage category	24V DC Signal Output		
Number of outputs	6	8	16
Points per common	Individually isolated	4	16