Digital I/O Module Summary

Catalog Number	Inputs	Outputs	Terminal Base Unit	Electrical Range	Module Type
DC Modules					
1794-IB8	8	—	1794-TB3, 1794-TB3S, 1794-TB3K, 1794-TB3SK	24V DC	Nonisolated inputs
1794-IB16	16	—			
1794-IB16D			1794-TB32, 1794-TB32S		Group isolated inputs Diagnostics
1794-IB16XT			1794-TB3, 1794-TB3S, 1794-TB3K, 1794-TB3SK		Nonisolated inputs Extended temperatures
1794-IB10XOB6	10	6	1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3K, 1794-TB3SK		Nonisolated I/O
1794-IB10XOB6XT					Nonisolated I/O Extended temperatures
1794-IB16XOB16P	16	16	1794-TB32, 1794-TB32S		Nonisolated I/O Protected outputs
1794-IC16		—	1794-TB3, 1794-TB3S, 1794-TB3K, 1794-TB3SK	48V DC	Nonisolated inputs
1794-IG16				5V DC	
1794-IH16				125V DC	
1794-IV16				24V DC	
1794-IB32	32		1794-TB32, 1794-TB32S		
1794-IV32					Nonisolated inputs with groups
1794-OB8	—	8	1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3K, 1794-TB3SK	24V DC	Nonisolated outputs
1794-OB8EP			1794-TB2, 1794-TB3, 1794-TB3S, 1794-TBN, 1794-TB3K, 1794-TB3SK, 1794-TBNK		Nonisolated, protected outputs
1794-OB8EPXT					Nonisolated, protected outputs Extended temperatures
1794-OB16	—	16	1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3K, 1794-TB3SK	24V DC	Nonisolated outputs
1794-OB16D					Group isolated inputs Diagnostics
1794-OB16P			1794-TB2, 1794-TB3, 1794-TB3S, 1794-TBN, 1794-TB3K, 1794-TB3SK, 1794-TBNK		Nonisolated, protected outputs Conformal coated
1794-OB16PXT					Nonisolated, protected outputs Extended temperatures
1794-OB32P		32	1794-TB32, 1794-TB32S		Nonisolated, protected outputs with groups

Digital DC Output Comparison

Specification	1794-OB8	1794-OB16	1794-OV16	1794-OV32	1794-OG16	1794-OC16
Thermal dissipation, max	11.2 BTU/hr @31.2V DC	18.1 BTU/hr @31.2V DC	14.3 BTU/hr @ 31.2V DC	8.53 BTU/hr @ 31.2V DC	3.41 BTU/hr @ 5.5V DC	12.6 BTU/hr @ 60V DC
Dimensions (HxWxD), approx	46 x 94 x 53 mm (1.8 x 3.7 x 2.1 in.) 94 x 94 x 69 mm (3.7 x 3.7 x 2.7 in.) installed					
Isolation voltage	50V continuous, I/O to system Tested to 850V DC for 1 s, I/O to system No isolation between individual channels		50V continuous Tested 1770V DC for 60 s, I/O to system No isolation between individual channels	50V (continuous), Basic Insulation Type, between field side and system Type tested at 707V DC for 60 s, between field side and system No isolation between individual channels		75V continuous, I/O to system Tested to 1900V DC for 1 s, I/O to system (No isolation between individual channels)

(1) OFF to ON delay is the time from a valid output ON signal to output energization. ON to OFF delay is the time from a valid output OFF signal to output de-energization.

FLEX I/O Digital DC Protected Output Modules

- 1794-OB16P provides 16 sourcing 1/2 Amp outputs self-protected against shorts, overloads, and over temperature. The faulted output will automatically return when the fault is removed. No feedback to the processor is provided.
- 1794-OB16PXT is the extended temperature version of the 1794-OB16P module. The module is conformal coated.
- 1794-OB8EP provides 8 sourcing 2 Amp outputs with electronic fuse type of overload protection, which opens when overloaded. The fuse can be 'reset' several ways. Fault status is provided to the processor.
- 1794-OB8EPXT is the extended temperature version of the 1794-OB8EP module. The module is conformal coated.
- 1794-OB32P provides 32 self-protected sourcing 1/2 Amp outputs in 2 groups of 16 outputs. Separate voltage sources can be used with each group.
- 1794-OV16P is the sinking version of the 1794-OB16P.

Digital DC Protected Output Comparison

Specification	1794-OB16P, 1794-OB16PXT	1794-OB8EP, 1794-OB8EPXT	1794-OB32P	1794-OV16P
Voltage, on-state output, nom	24V DC, sourcing			24V DC, sinking
Voltage, on-state output, min	10V DC	19V.2 DC	10V DC	
Voltage, on-state output, max	31.2V DC(1)	31.2V DC		
Voltage drop, on-state output, max	0.5V DC	0.2V DC	0.5V DC	0.2V DC
Terminal base unit	1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3K, 1794-TB3SK	1794-TB2, 1794-TB3, 1794-TB3S, 1794-TBN, 1794-TB3K, 1794-TB3SK, 1794-TBNK	1794-TB32, 1794-TB32S	1794-TB3, 1794-TB3S, 1794-TB3K, 1794-TB3SK
Current on-state output, min	1.0 mA per channel			

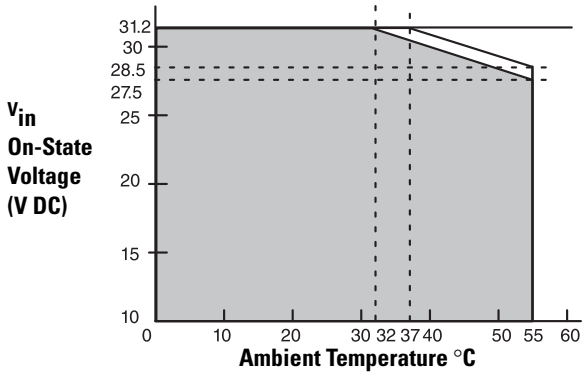
Digital DC Protected Output Comparison

Specification	1794-OB16P, 1794-OB16PXT	1794-OB8EP, 1794-OB8EPXT	1794-OB32P	1794-OV16P
Current, on-state output, max	500 mA per channel, 8 A per module	2.0 A per channel, 10 A per module	500 mA per channel, 14 A per module(2)	500 mA per channel, 8 A per module
Leakage current, off-state output, max	0.5 mA			
Output surge current, max	1.5 A for 50 ms, repeatable every 2 s	4 A for 50 ms, repeatable every 3 s	2 A for 50 ms, repeatable every 2 s	
Output delay time, OFF to ON, max	0.5 ms	0.1 ms	0.5 ms	
Output delay time, ON to OFF, max	1.0 ms	0.1 ms	1.0 ms	
External DC supply voltage range	10…31.2V DC (5% AC ripple)	19.2…31.2V DC (5% AC ripple)	10…31.2V DC (5% AC ripple)	
External DC supply current range	25…75 mA	20…35 mA	103…273 mA	20…65 mA
Power dissipation, max	5.0 W @ 31.2V DC	5.5 W @ 31.2V DC	5.3 W @ 31.2V DC	4.2 W @ 31.2V DC
Thermal dissipation, max	17.0 BTU/hr @ 31.2V DC	18.8 BTU/hr @ 31.2V DC	18.1 BTU/hr @ 31.2V DC	14.3 BTU/hr @ 31.2V DC
Dimensions (HxWxD), approx	46 x 94 x 53 mm (1.8 x 3.7 x 2.1 in.) 94 x 94 x 69 mm (3.7 x 3.7 x 2.7 in.) installed			
Isolation voltage	50V (continuous), Basic Insulation Type Type tested at 2121V DC for 60 s, between field side and system No isolation between individual channels	50V (continuous), Basic Insulation Type Type tested at 850V DC for 60 s, between field side and system **1794-OB8EPXT:** Type tested at 1500V AC for 60 s, between field side and system No isolation between individual channels		50V (continuous), Basic Insulation Type Type tested at 1770V DC for 60 s, between field side and system No isolation between individual channels

(1) See 1794-OB16P Derating Curve.

(2) 6.0 A total for channels 0…15; 8.0 A total for channels 16…31.

1794-OB16P Derating Curve



The area within the curve represents the safe operating range for the module under various conditions of user supplied 24V DC supply voltages and ambient temperatures.

□ = Normal mounting safe operating range ▭ included
▭ = Other mounting positions (including inverted horizontal, vertical) safe operating range