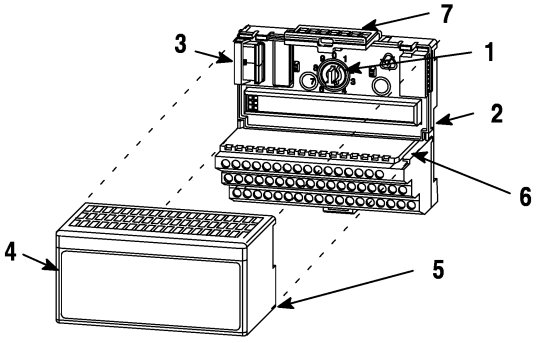
Installation Instructions

24V dc FLEX I/O
16 Protected Sink Output Module
(Cat. No. 1794-OV16P)

English



Module Installation

This module mounts on a 1794 terminal base unit.

1. Rotate keyswitch (1) on terminal base unit (2) clockwise to position as required for this type of module.
2. Make certain the flexbus connector (3) is pushed all the way to the left to connect with the neighboring terminal base/adapter. **You cannot install the module unless the connector is fully extended.**
3. Make sure that the pins on the bottom of the module are straight so they will align properly with the connector in the terminal base unit.
4. Position the module (4) with its alignment bar (5) aligned with the groove (6) on the terminal base.
5. Press firmly and evenly to seat the module in the terminal base unit. The module is seated when the latching mechanism (7) is locked into the module.

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ATTENTION: Remove field-side power before removing or inserting this module. This module is designed so you can **remove and insert it under backplane power**. When you remove or insert a module with field-side power applied, an electrical arc may occur. An electrical arc can cause personal injury or property damage by:

- sending an erroneous signal to your system's field devices causing unintended machine motion
- causing an explosion in a hazardous environment

Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance.

European Union Directive Compliance

If this product has the CE mark it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

EMC Directive

This product is tested to meet Council Directive 89/336/EEC Electromagnetic Compatibility (EMC) and the following standards, in whole or in part, documented in a technical construction file:

- EN 50081-2 EMC – Generic Emission Standard, Part 2 – Industrial Environment
- EN 50082-2 EMC – Generic Immunity Standard, Part 2 – Industrial Environment

This product is intended for use in an industrial environment.

Low Voltage Directive

This product is tested to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131–2 Programmable Controllers, Part 2 – Equipment Requirements and Tests.

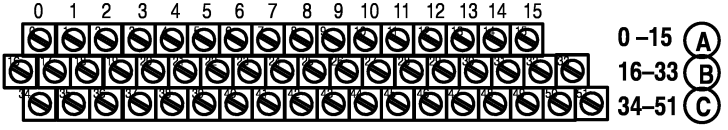
For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as the following Allen-Bradley publications:

- Industrial Automation Wiring and Grounding Guidelines For Noise Immunity, publication 1770-4.1
- Automation Systems Catalog, publication B111

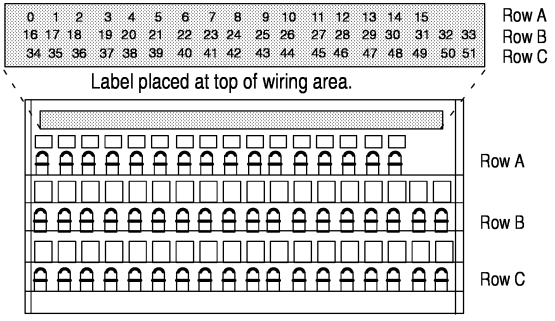
This equipment is classified as open equipment and must be mounted in an enclosure during operation to provide safety protection.

Wiring to a 1794-TB3 or -TB3S Terminal Base Unit

1. Connect individual output device wiring to numbered terminals on the **0–15** row **(A)** as indicated in the table on the following page.
2. Connect the associated output wiring to the corresponding +24V dc power terminal on the **34–51** row **(C)** as indicated in the table on the following page. (Power terminals are internally connected together.)
3. Connect +24V dc power to terminal 34 on the **34–51** row **(C)**.
4. Connect dc return to terminal 16 on the **16–33** row **(B).**
5. If continuing power to the next terminal base unit, connect a jumper from terminal 51 (+24V dc) on this base unit to terminal 34 on the next base unit.
6. If continuing common to the next terminal base unit, connect a jumper from terminal 33 (common) on this base unit to terminal 16 on the next base unit.



1794-TB3

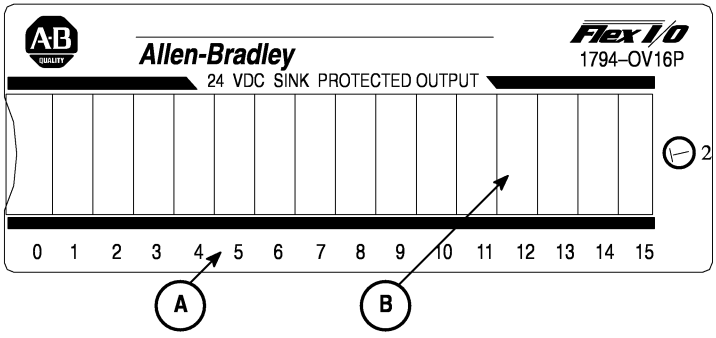


1794-TB3S

ATTENTION: Total current draw through the terminal base unit is limited to 10A. Separate power connections to the terminal base unit may be necessary.

Output	Output Terminal	Power Terminal	Output	Output Terminal	Power Terminal
Output 0	A–0	C–35	Output 8	A–8	C–43
Output 1	A–1	C–36	Output 9	A–9	C–44
Output 2	A–2	C–37	Output 10	A–10	C–45
Output 3	A–3	C–38	Output 11	A–11	C–46
Output 4	A–4	C–39	Output 12	A–12	C–47
Output 5	A–5	C–40	Output 13	A–13	C–48
Output 6	A–6	C–41	Output 14	A–14	C–49
Output 7	A–7	C–42	Output 15	A–15	C–50
Common	B–16 thru B–33		+24v dc	C–34 thru C–51	

Indicators



A = Status Indicators – show status of individual outputs.

B = Insertable label for writing individual output designations.

Memory Mapping

Bit⇒ Word⇓	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
Read	Not used															
Write	O15	O14	O13	O12	O11	O10	O9	O8	O7	O6	O5	O4	O3	O2	O1	O0
Where: O = Output value																

Specifications – 24V dc Output Module Cat. No. 1794-OV16P	
Number of Outputs	16 (1 group of 16), non-isolated, sinking
Module Location	Cat. No. 1794-TB3 , -TB3S Terminal Base Unit
ON-state Voltage Range	10V dc minimum 24V dc nominal; 31.2V dc maximum
Output Current Rating	8A (16 outputs @ 0.5A)
OFF-state Voltage	31.2V dc maximum
ON-state Current	1.0mA minimum per channel 500mA maximum per channel
Surge Current	2A for 50ms, repeatable every 2 seconds
OFF-state Leakage	0.5mA maximum
ON-state Voltage Drop	0.2V dc maximum
Isolation Voltage (minimum)	100% tested at 2121V dc for 1s between user and system No isolation between individual channels
Output Signal Delay Off to On On to Off	 0.5ms maximum 1.0ms maximum
Flexbus Current (maximum)	80mA
Power Dissipation	4.2W maximum @ 31.2V
Thermal Dissipation	14.3 BTU/hr @ 31.2V dc
Indicators (field side indication, logic driven)	16 yellow status indicators
Keyswitch Position	2
Fusing	Outputs are electronically protected.

Specifications continued on next page.

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General Specifications

External dc Power	
Supply Voltage	24V dc nominal
Voltage Range	19.2 to 31.2V dc (includes 5% ac ripple)
Supply Current	49mA @ 24V dc (38 to 65mA)
Dimensions Inches	1.8H x 3.7W x 2.1D
(Millimeters)	(45.7 x 94.0 x 53.3)
Environmental Conditions	
Operational Temperature	0 to 55ºC (32 to 131ºF)
Storage Temperature	–40 to 85ºC (–40 to 185ºF)
Relative Humidity	5 to 95% noncondensing
Shock Operating	30 g peak acceleration, 11(±1)ms pulse width
Non-operating	50 g peak acceleration, 11(±1)ms pulse width
Vibration	Tested 5 g @ 10–500Hz per IEC 68-2-6
Conductors Wire Size	12 gauge (4mm^2) stranded maximum 3/64 inch (1.2mm) insulation maximum
Category	2[1]
Agency Certification (when product is marked)	• CSA certified • CSA Class I, Division 2 Groups A, B, C, D certified • UL listed • CE marked for all applicable directives

[1] You use this conductor category information for planning conductor routing. Refer to publication 1770-4.1, "Industrial Automation Wiring and Grounding Guidelines for Noise Immunity."

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Publication 1794-5.52 – May 1998 PN955128–52