MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ALLEN-BRADLEY FLEX I/O

1794-OE4XT

ANALOG OUTPUT MODULE

Used with the applicable FLEX I/O-XT distributed I/O configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Rockwell Automation 1794-OE4XT Installation Instructions 1794-IN125

Installation Instructions

Original Instructions

Allen-Bradley
by ROCKWELL AUTOMATION

FLEX I/O Input, Output, and Input/Output Analog Modules

Catalog Numbers 1794-IE8XT, 1794-OE4XT, 1794-IE4XOE2XT, Series B

Summary of Changes

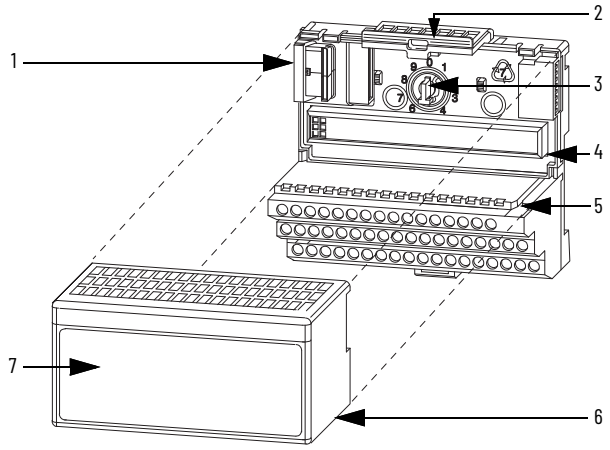
This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

Topic	Page
Updated Certifications	13
Added Additional Resources	13

Rockwell Automation

Overview

The FLEX™ I/O module mounts on a FLEX I/O terminal base.



	Description		Description
1	Flexbus connector	5	Groove
2	Latching mechanism	6	Alignment bar
3	Keyswitch	7	Module
4	Terminal base		

Install Your Module

ATTENTION: During mounting of all devices, be sure that all debris (for example, metal chips, wire strands, and so on) is kept from falling into the module. Debris that falls into the module could cause damage on power up.

ATTENTION: Allow 25.4 mm (1 in.) of space between adjacent equipment for adequate ventilation.

1. Rotate the keyswitch (3) on the terminal base (4) clockwise to position 3 (1794-IE8XT), 4 (1794-OE4XT), or 5 (1794-IE4XOE2XT) as required.
2. Make sure the Flexbus connector (1) is pushed all the way to the left to connect with the adjacent terminal base or 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 that they align properly with the connector in the terminal base.
4. Position the module (7) with its alignment bar (6) aligned with the groove (5) 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 (2) is locked into the module.

Connect Wiring for the Analog Inputs and Outputs

1. Connect individual input/output wiring to numbered terminals on the 0…15 row (A) for 1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3T, and 1794-TB3TS, or on row (B) for the 1794-TBN as indicated in Table 1, Table 2, and Table 3.

IMPORTANT Use shielded wire for signal wiring.

2. Connect channel common/return to the associated terminal on row (A) or row (B) for the 1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3T, and 1794-TB3TS, or on row (C) for the 1794-TBN. For input devices requiring terminal base power, connect the channel power wiring to the associated terminal on row (C).
3. Connect any signal wiring shields to functional ground as near as possible to the module.

   For 1794-TB3T or 1794-TB3TS only – Connect to earth ground terminals C-39…C-46.
4. Connect the +V DC power to terminal 34 on the 34…51 row (C) and -V common/return to terminal 16 on row (B).
5. If daisy chaining +V power to the next terminal base, connect a jumper from terminal 51 (+V DC) on this base unit to terminal 34 on the next base unit.
6. If continuing DC common (-V) to the next terminal base, connect a jumper from terminal 33 (common) on this base unit to terminal 16 on the next base unit.

Figure 2 - Terminal Base Wiring for the 1794-OE4XT Module

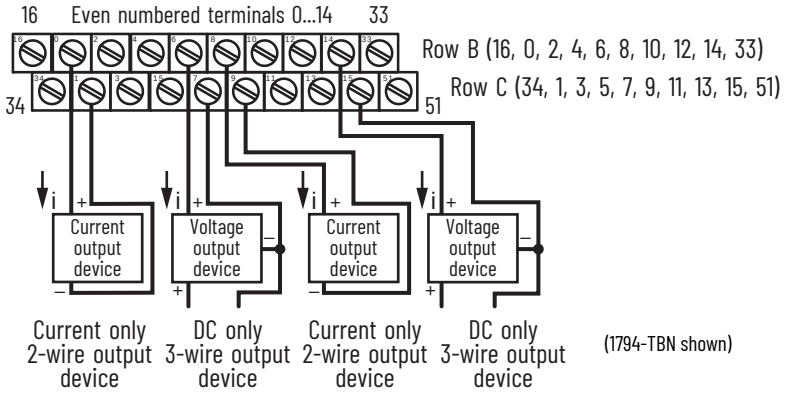


Table 2 - Wiring Connections for the 1794-OE4XT Module

Channel	Signal Type	Label Marking	1794-TB2, 1794-TB3, 1794-TB3S, 1794-TB3T, 1794-TB3TS		1794-TBN
			Output Terminal[1]	Shield (1794-TB3T, 1794-TB3TS)	Output Terminal[2]
Output 0	Current	I0	A-0	C-39	B-0
	Current	I0 Ret	A-1		C-1
	Voltage	V0	A-2	C-40	B-2
	Voltage	V0 Ret	A-3		C-3
Output 1	Current	I1	A-4	C-41	B-4
	Current	I1 Ret	A-5		C-5
	Voltage	V1	A-6	C-42	B-6
	Voltage	V1 Ret	A-7		C-7
Output 2	Current	I2	A-8	C-43	B-8
	Current	I2 Ret	A-9		C-9
	Voltage	V2	A-10	C-44	B-10
	Voltage	V2 Ret	A-11		C-11
Output 3	Current	I3	A-12	C-45	B-12
	Current	I3 Ret	A-13		C-13
	Voltage	V3	A-14	C-46	B-14
	Voltage	V3 Ret	A-15		C-15
-V DC Common	1794-TB3 and 1794-TB3S - Terminals 16...33 are internally connected in the terminal base unit. 1794-TB3T and 1794-TB3TS - Terminals 16, 17, 19, 21, 23, 25, 27, 29, 31, and 33 are internally connected in the terminal base unit. 1794-TB2 - Terminals 16 and 33 are internally connected in the terminal base unit.				
+V DC Power	1794-TB3 and 1794-TB3S - Terminals 34...51 are internally connected in the terminal base unit. 1794-TB3T and 1794-TB3TS - Terminals 34, 35, 50, and 51 are internally connected in the terminal base unit. 1794-TB2 - Terminals 34 and 51 are internally connected in the terminal base unit.				
Chassis ground (Shield)	1794-TB3T, 1794-TB3TS - Terminals 39...46 are internally connected to chassis ground.				

(1) A-1, 3, 5, 7, 9, 11, 13, and 15 are internally connected in the module to 24V DC common.
(2) C-1, 3, 5, 7, 9, 11, 13, and 15 are internally connected in the module to 24V DC common.

Table 8 - Range Selection Bits - 1794-IE8XT and 1794-IE4X0E2XT

1794-IE8XT	In Ch 0		In Ch 1		In Ch 2		In Ch 3		In Ch 4		In Ch 5		In Ch 6		In Ch 7	
1794-IE4X0E2XT	In Ch 0		In Ch1		In Ch 2		In Ch 3		Out Ch 0		Out Ch 1					
	F0	C0	F1	C1	F2	C2	F3	C3	F4	C4	F5	C5	F6	C6	F7	C7
Dec Bits	00	08	01	09	02	10	03	11	04	12	05	13	06	14	07	15
0...10V DC or 0...20 mA	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
4...20 mA	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
-10...+10V DC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Off[1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Where:	C = Configure select bit F = Full range															

(1) When configured to Off, individual input channels return 0000H; Output channels drive 0V/0 mA.

Table 9 - Input Map (Read) - 1794-OE4XT

Dec	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Oct	17	16	15	14	13	12	11	10	7	6	5	4	3	2	1	0
Word 0	PU	Not used - Set to 0											W3	W2	W1	W0
Where:	PU = Power up bit W0...W3 = Wire off current loop status for output channels															

Table 10 - Output Map (Write) - 1794-OE4XT

Dec	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Oct	17	16	15	14	13	12	11	10	7	6	5	4	3	2	1	0
Word 0	S	Output data Channel 0														
Word 1	S	Output data Channel 1														
Word 2	S	Output data Channel 2														
Word 3	S	Output data Channel 3														
Word 4	—	Not used - Set to 0											M3	M2	M1	M0
Word 5	Not used - Set to 0				C3	C2	C1	C0	Not used - Set to 0				F3	F2	F1	F0
Word 6...9	Not used - Set to 0															
Word 10	S	Safe state value for Channel 0														
Word 11	S	Safe state value for Channel 1														
Word 12	S	Safe state value for Channel 2														
Word 13	S	Safe state value for Channel 3														
Where:	S = Sign bit in 2's complement M = Multiplex control bit C = Configure select bit F = Full range bit															

Table 11 - Range Selection Bits - 1794-OE4XT

Channel Number	In Ch 0		In Ch 1		In Ch 2		In Ch 3	
	F0	C0	F1	C1	F2	C2	F3	C3
Dec Bits	00	08	01	09	02	10	03	11
0...10V DC or 0...20 mA	1	0	1	0	1	0	1	0
4...20 mA	0	1	0	1	0	1	0	1
-10...+10V DC	1	1	1	1	1	1	1	1
Off[1]	0	0	0	0	0	0	0	0
Where:	C = Configure select bit F = Full range							

(1) When configured to Off, individual output channels drive 0V/0 mA.