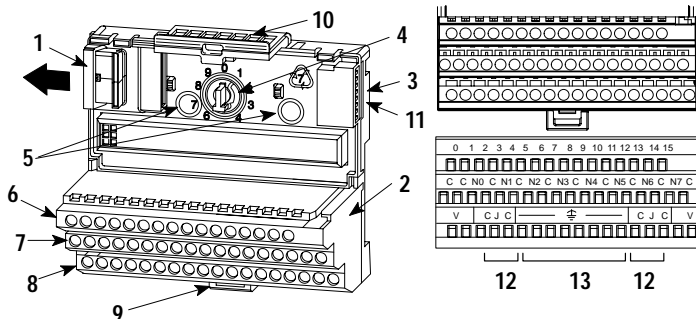




# Installation Instructions

## FLEX I/O Temperature Terminal Base (Cat. No. 1794-TB3T)



The temperature terminal base has connections for cold junction compensation, and 8 terminals designated for shield termination to chassis ground.

### Component Identification

1	Female flexbus connector
2	Terminal base unit
3	Male flexbus connector
4	Keyswitch – set to the position required for the installed module
5	Mounting holes for panel mounting
6	Input/output terminal strip for connecting input/output wiring
7	Terminal strip for input/output commons
8	Terminals for power connections, cold junction connections, chassis grounds
9	Locking tab
10	Module locking latch
11	Cover plug for male flexbus connector
12	Cold Junction Compensator terminals
13	Chassis ground terminals

## European Union Directive Compliance

If this product has the CE mark it is approved for installation within the European Union or 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.

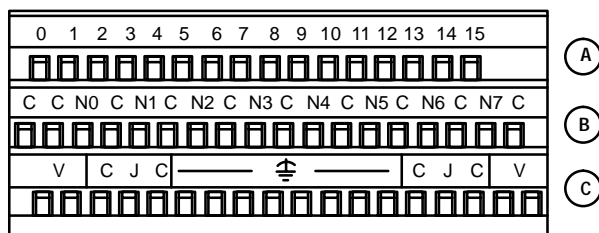
For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as the following Allen-Bradley publications:

- 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.

## Description

The temperature terminal base has connections for cold junction compensation and 8 terminals designated for shield termination to chassis ground.



Where: V = 24V dc  
 C = 24V dc common  
 CJC = cold junction compensation

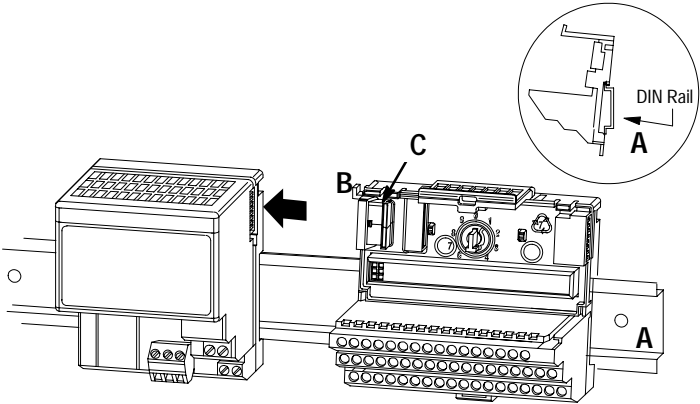
N = additional input  
 = chassis ground

## Mounting on a DIN Rail

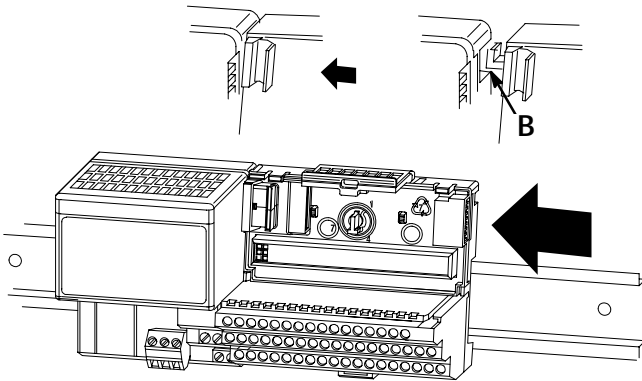


**ATTENTION:** Do not remove or replace a terminal base unit when power is applied. Interruption of the flexbus can result in unintended operation or machine motion.

13. Remove the cover plug (if used) in the male connector of the unit to which you are connecting this terminal base unit.
14. Check to make sure that the 16 pins in the male connector on the adjacent device are straight and in line so that the mating female connector on this terminal base unit will mate correctly.
15. Make certain that the female flexbus connector **C** is **fully retracted** into the base unit.
16. Position the terminal base on the 35 x 7.5mm DIN rail **A** (A-B pt. no. 199-DR1).



Position terminal base at a slight angle and hooked over the top of the DIN rail A.



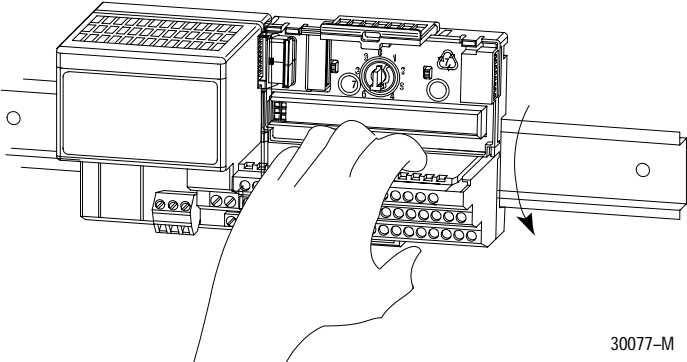
Slide the terminal base unit over tight against the adapter. Make sure the hook **B** on the terminal base slides under the edge of the adapter and the flexbus connector is fully retracted.



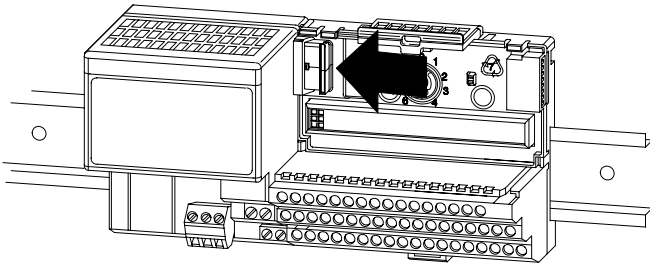
**ATTENTION:** Do not force the terminal base into the adjacent base/adapter. Forcing the units together can bend or break the hook and allow the units to separate and break communication over the backplane.

---

17. Rotate the terminal base onto the DIN rail with the top of the rail hooked under the lip on the rear of the terminal base. **Use caution to make sure that the female flexbus connector does not strike any of the pins in the mating male connector.**



Press down on the terminal base unit to lock the terminal base on the DIN rail. If the terminal base does not lock into place, use a screwdriver or similar device to open the locking tab, press down on the terminal base until flush with the DIN rail and release the locking tab to lock the base in place.



**Gently** push the flexbus connector into the side of the adapter to complete the backplane connection.

18. For specific wiring information, refer to the installation instructions for the module you are installing in this terminal base unit.
19. Repeat the above steps to install the next terminal base.

## Wiring

Channel	1794-TB3T Terminal Base Unit				
	High Signal Terminal (+)	Low Signal Terminal (-)	Signal Return	Reserved	Shield Return <sup>1</sup>
0	0	1	17(C)	18(N0)	39
1	2	3	19(C)	20(N1)	40
2	4	5	21(C)	22(N2)	41
3	6	7	23(C)	24(N3)	42
4	8	9	25(C)	26(N4)	43
5	10	11	27(C)	28(N5)	44
6	12	13	29(C)	30(N6)	45
7	14	15	31(C)	32(N7)	46
24V dc Common	16, 17, 19, 21, 23, 25, 27, 29, 31 and 33				
+24V dc power	34, 35, 50 and 51				

Terminals 36, 37, 38 and 47, 48, 49 are used with Cold Junction Compensators only.

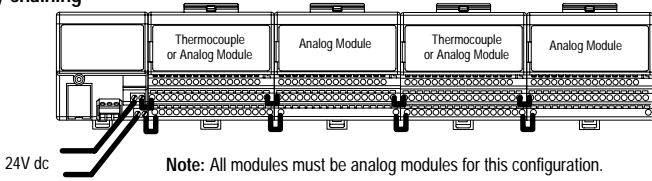
<sup>1</sup> Terminals 39 thru 46 are chassis ground.



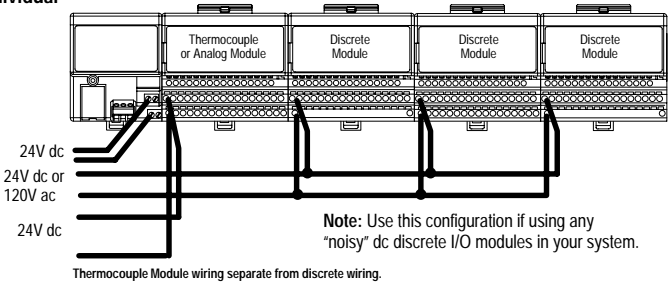
**ATTENTION:** Total current draw through the terminal base unit is limited to 10A. Separate power connections may be necessary.



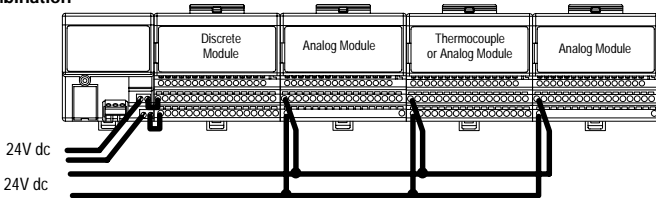
**ATTENTION:** Do not daisy chain power or ground from the thermocouple terminal base unit to any ac or dc discrete module terminal base unit.

**Daisy-chaining**

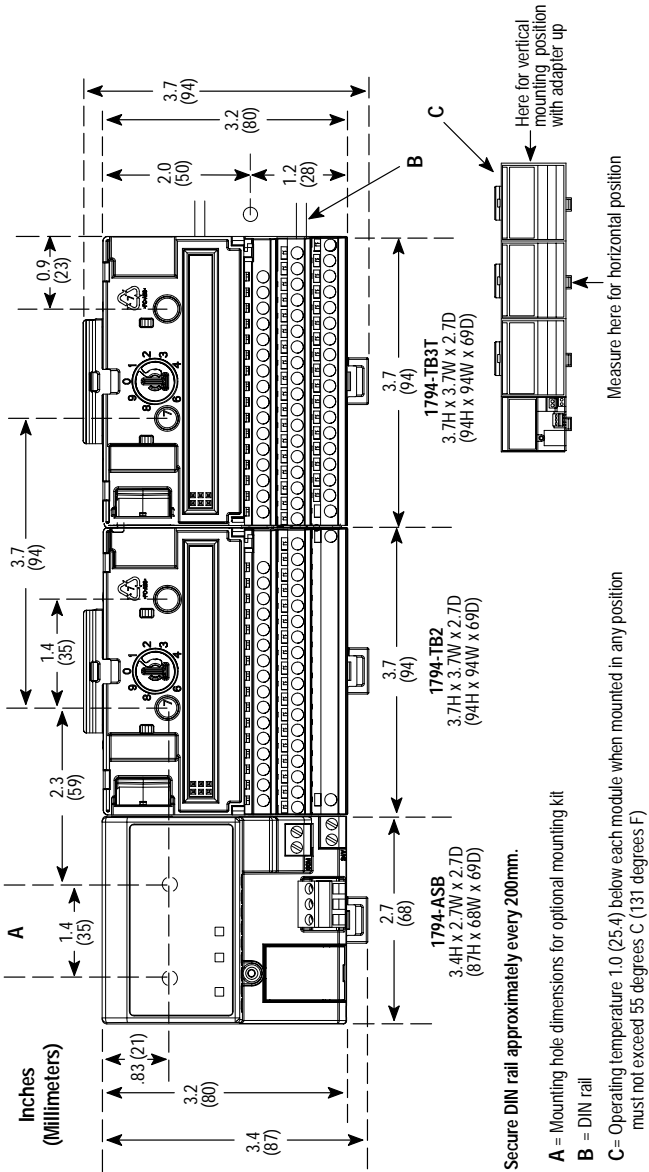
Wiring when total current draw is less than 10A

**Individual**

Wiring when total current draw is greater than 10A

**Combination**

Total current draw through any base unit must not be greater than 10A





---

## CSA Hazardous Location Approval

---

CSA<sup>®</sup> certifies products for general use as well as for use in hazardous locations. **Actual CSA certification is indicated by the product label** as shown below, and not by statements in any user documentation.

---

### Example of the CSA certification product label



---

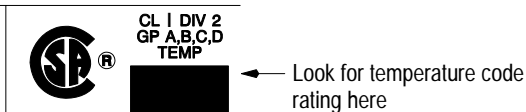
To comply with CSA certification for use in hazardous locations, the following information becomes a part of the product literature for CSA-certified Allen-Bradley industrial control products.

- This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D, or non-hazardous locations only.
  - The products having the appropriate CSA markings (that is, Class I Division 2, Groups A, B, C, D), are certified for use in other equipment where the suitability of combination (that is, application or use) is determined by the CSA or the local inspection office having jurisdiction.
- 

**Important:** Due to the modular nature of a PLC<sup>®</sup> control system, the product with the highest temperature rating determines the overall temperature code rating of a PLC control system in a Class I, Division 2 location. The temperature code rating is marked on the product label as shown.

---

### Temperature code rating



### CSA Hazardous Location Approval

---

The following warnings apply to products having CSA certification for use in hazardous locations.

---



**ATTENTION:** Explosion hazard —

- Substitution of components may impair suitability for Class I, Division 2.
- Do not replace components unless power has been switched off or the area is known to be non-hazardous.
- Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- Do not disconnect connectors unless power has been switched off or the area is known to be non-hazardous. Secure any user-supplied connectors that mate to external circuits on an Allen-Bradley product using screws, sliding latches, threaded connectors, or other means such that any connection can withstand a 15 Newton (3.4 lb.) separating force applied for a minimum of one minute.

### Approbation d'utilisation dans des emplacements dangereux par la CSA

---

La CSA<sup>®</sup> certifie les produits d'utilisation générale aussi bien que ceux qui s'utilisent dans des emplacements dangereux. **La certification CSA en vigueur est indiquée par l'étiquette du produit** et non par des affirmations dans la documentation à l'usage des utilisateurs.

---

Exemple d'étiquette de certification d'un produit par la CSA



Pour satisfaire à la certification de la CSA dans des endroits dangereux, les informations suivantes font partie intégrante de la documentation des produits industriels de contrôle Allen-Bradley certifiés par la CSA.

- Cet équipement convient à l'utilisation dans des emplacements de Classe I, Division 2, Groupes A, B, C, D, ou ne convient qu'à l'utilisation dans des endroits non dangereux.
- Les produits portant le marquage approprié de la CSA (c'est à dire, Classe I, Division 2, Groupes A, B, C, D) sont certifiés à l'utilisation pour d'autres équipements où la convenance de combinaison (application ou utilisation) est déterminée par la CSA ou le bureau local d'inspection qualifié.

**Important:** Par suite de la nature modulaire du système de contrôle PLC<sup>®</sup>, le produit ayant le taux le plus élevé de température détermine le taux d'ensemble du code de température du système de contrôle d'un PLC dans un emplacement de Classe I, Division 2. Le taux du code de température est indiqué sur l'étiquette du produit.

---

---

**CSA Hazardous Location Approval**

---

**Approbation d'utilisation dans des emplacements dangereux par la CSA**

---

## Taux du code de température

CL I DIV 2  
GP A,B,C,D  
TEMP← Le taux du code de  
température est indiqué ici

---

Les avertissements suivants s'appliquent aux produits ayant la certification CSA pour leur utilisation dans des emplacements dangereux.

---

**AVERTISSEMENT: Risque d'explosion —**

- La substitution de composants peut rendre ce matériel inacceptable pour les emplacements de Classe I, Division 2.
- Couper le courant ou s'assurer que l'emplacement est désigné non dangereux avant de remplacer les composants.
- Avant de débrancher l'équipement, couper le courant ou s'assurer que l'emplacement est désigné non dangereux.
- Avant de débrancher les connecteurs, couper le courant ou s'assurer que l'emplacement est reconnu non dangereux. Attacher tous connecteurs fournis par l'utilisateur et reliés aux circuits externes d'un appareil Allen-Bradley à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens permettant aux connexions de résister à une force de séparation de 15 newtons (3,4 lb. - 1,5 kg) appliquée pendant au moins une minute.

---

Le sigle CSA est la marque déposée de l'Association des Standards pour le Canada.

PLC est une marque déposée de Allen-Bradley Company, Inc.

CSA logo is a registered trademark of the Canadian Standards Association

PLC is a registered trademark of Allen-Bradley Company, Inc.

---

**1794-TB3T Temperature Terminal Base Specifications**

Number of Terminals	1 row of 16 2 rows of 18
Terminal Screw Torque	7-9 inch-pounds
Dimensions (with module installed in base) Inches (Millimeters)	3.7H x 3.7W x 2.7D (94H x 94W x 69D)
Current Capacity	10A maximum
Voltage Rating	132V ac maximum
Isolation Voltage	Channel-to-channel isolation determined by inserted module
Environmental Conditions	
Operational Temperature	0 to 55°C (32 to 131°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
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 <sup>2</sup> ) stranded maximum 3/64 inch (1.2mm) insulation maximum
Category	2 <sup>1</sup>
Agency Certification (when product is marked)	<ul style="list-style-type: none"> <li>• CSA certified</li> <li>• CSA Class I, Division 2, Groups A, B, C, D certified</li> <li>• UL listed</li> <li>• CE marked for all applicable directives</li> </ul>

<sup>1</sup> You use this conductor category information for planning conductor routing as described in the system level installation manual.



## **Allen-Bradley**

With major offices worldwide.

World Headquarters, Allen-Bradley

1201 South Second Street

Milwaukee, WI 53204 USA

Tel: (1) 414 382-2000 Fax: (1) 414 382-4444