

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ALLEN-BRADLEY

1797-TB3

INTRINSICALLY SAFE SCREW TERMINAL BASE

Used with the applicable FLEX Ex configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Rockwell 1797-IN001G-EN-P, August 2017, selected pages 2, 17, 18

Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls (Publication SGI-1.1 available from your local Rockwell Automation sales office or online at <http://www.literature.rockwellautomation.com>) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

Reproduction of the contents of this manual, in whole or in part, without written permission of Rockwell Automation, Inc., is prohibited.

Throughout this manual we use notes to make you aware of safety considerations.

WARNING 	Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.
ATTENTION 	Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you: • identify a hazard. • avoid a hazard. • recognize the consequence.
SHOCK HAZARD 	Labels may be located on or inside the equipment to alert people that dangerous voltage may be present.
BURN HAZARD 	Labels may be located on or inside the equipment to alert people that surfaces may be dangerous temperatures.

Description

The 1797-TB3 and 1797-TB3S terminal bases have 36 wiring connections to and from a plug-in module. The use of each terminal depends on the module mounted in the base.

Specifications - 1797-TB3 and 1797-TB3S Terminal Base Units

Number of Terminals	1 row of 16, 2 rows of 18
1797-TB3 Terminal Screw Torque	0.8...1.0 Nm (7...9 lb-in)
1797-TB3S Terminal Type	Spring-clamp - To open, insert bladed screwdriver (2.54-3.05 mm/0.100-0.120 in.) and lift up.
Terminals Assignments ¹ +34, -35, +50, -51, and 96 Pin Female I/O Connector Pins 30...32, 62...64, 94...96, 36, 49 All Other Terminals	Only for intrinsically safe circuits $U_i \leq 10V$ dc $I_i \leq 2.5$ A $C_i \leq 1$ nF L_i Negligible Must not be used for any connection $U_i \leq 30V$ dc $I_i \leq 100$ mA $C_i \leq 1$ nF L_i Negligible
Flexbus Connection Intrinsically Safe	$U_i \leq 10V$ dc $I_i \leq 400$ mA $C_i \leq 1$ nF L_i Negligible
Isolation Voltage	Channel-to-channel isolation determined by inserted module
Weight	200 g (approximately)
Dimensions (With Module Installed in Base) Metric Imperial	3.7H x 3.7W x 2.7D mm (94H x 94W x 69D in.)
Environmental Conditions	
Operational Temperature	-20...70 °C (-4...158 °F)
Storage Temperature	-40...85 °C (-40...185 °F)
Relative Humidity	5...95% noncondensing
ShockOperating	Tested 15 g peak acceleration, 11 (±1) ms pulse width
Nonoperating	Tested 15 g peak acceleration, 11 (±1) ms pulse width
Vibration	Tested 2 g @ 10...500 Hz per IEC 68-2-6
Conductors	Wire Size
	4 mm ² (12 gauge) stranded max 1.2 mm (3/64 in.) insulation max

1797-TB3 and -TB3S Specifications Continued

Agency Certification	
IECEX	Ex ia IIC T4 Gb
CENELEC	II 2G Ex ia IIC Gb T4
UL, C-UL	Class I, Groups A, B, C and D; Class II, Groups E, F and G; Class III Hazardous Locations. Class I, Zone 1, AEx ib[ia] IIC T4.
FM	Intrinsically safe Class I, Div 1, Groups A, B, C, D, T4. Associated Apparatus with intrinsically safe Connection Class I, II, III, Div 1, Groups A--G Intrinsically safe Class I, Zone 1, AEx ib[ia] IIC T4.
INMETRO	BR-Ex ia IIC T4
Certificates	
IECEX	BVS 08.0006X
CENELEC	DMT 98 ATEX E012 U 
UL, C-UL	UL File Numer E197983  Class I Division 1 Hazardous
FM	FM Certificate Number 3009806 
INMETRO	05/UL-BRAE-0019U 

- 1 Termination connections are unique with each I/O module. Refer to the appropriate I/O module's installation instructions.