APTER■POWER

PRODUCT TECHNICAL REFERENCE

INDUSTRIAL AUTOMATION PRODUCT

3504E

64-Point 24/48 VDC Digital Input Module

Triconex 3504E is a high-density sixty-four-point TMR digital input module. It acquires commoned 24 or 48 VDC field states and transfers voted input data to the main processors.

IDENTITY	VERIFIED VALUE
Manufacturer	Triconex
System family	Tricon high-density digital input
Part number	3504E
Country	USA
HS code	8537101190

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2 Technical Specifications

Technical values below are limited to the named Triconex product record.

PARAMETER	VALUE
Module type	TMR digital input
Input points	64 commoned; DC coupled
Configured voltage	24 VDC or 48 VDC
DC range	20 to 72 VDC
Maximum voltage	72 VDC
OFF-to-ON at 24 V	>18 VDC
ON-to-OFF at 24 V	<6 VDC
OFF-to-ON at 48 V	>32 VDC
ON-to-OFF at 48 V	<11 VDC
Typical hysteresis	4 VDC / 7 VDC

PARAMETER	VALUE
Input delay	<10 ms OFF-to-ON / ON-to-OFF
Nominal input impedance	>30 kOhm
Field power per ON point	Negligible
Input indicators	1 per point
Module indicators	PASS; FAULT; ACTIVE
24 V commoned panel	9566-810
48 V commoned panel	9565-810
24 V basic panel	9750-310
48 V basic panel	9750-410

VERIFIED PRODUCT RECORD

DATA GROUP	VERIFIED VALUE
Installed host / carrier	Tricon I/O chassis
Companion hardware	voltage-matched external termination panel
Field connection	24 or 48 VDC field input circuits
Primary system function	Scans sixty-four commoned DC inputs through three independent channels
Controlled acceptance duty	High-density shutdown permissive acquisition

3 System Role and Architecture

Triconex 3504E is a high-density sixty-four-point TMR digital input module. It acquires commoned 24 or 48 VDC field states and transfers voted input data to the main processors.

FUNCTION 1

Scans sixty-four commoned DC inputs through three independent channels

FUNCTION 2

Votes input data at the main processors before control-program execution

FUNCTION 3

Continuously tests the ability to detect transitions to the opposite state

FUNCTION 4

Supports online hot-spare replacement through a separate termination panel

Matched system components

- Tricon I/O chassis
- voltage-matched external termination panel
- 24 or 48 VDC field input circuits
- hot-spare module position

SYSTEM INTEGRATION RECORD

INTEGRATION ITEM	DOCUMENTED ROLE
Installed host / carrier	Tricon I/O chassis
Companion hardware	voltage-matched external termination panel
Field connection	24 or 48 VDC field input circuits
Primary system function	Scans sixty-four commoned DC inputs through three independent channels
Controlled acceptance duty	High-density shutdown permissive acquisition

4 Applications and Engineering Context

High-density shutdown permissive acquisition

Scans sixty-four commoned DC inputs through three independent channels

Sixty-four-point machine interlock monitoring

Votes input data at the main processors before control-program execution

24/48 VDC field-state migration

Continuously tests the ability to detect transitions to the opposite state

Online spare-supported digital-input maintenance

Supports online hot-spare replacement through a separate termination panel

TECHNICAL NOTE

Select 24 or 48 V operation in the approved TriStation configuration, match the corresponding termination panel, and prove threshold, channel voting, and stuck-state diagnostics.

MODEL-SPECIFIC ACCEPTANCE EVIDENCE

CHECK	ACCEPTANCE CONDITION
Identity	3504E / 3504E recorded
Physical interface	Tricon I/O chassis
Companion check	voltage-matched external termination panel
Functional proof	Scans sixty-four commoned DC inputs through three independent channels
Application test	High-density shutdown permissive acquisition

5 Engineering Precautions

1. Verify 3504E and the configured 24 or 48 V execution before module handling.
2. Place affected safety functions in the approved maintenance condition.
3. Isolate the field supply and record all sixty-four channel assignments.
4. Match the external termination panel to the configured field voltage.
5. Use ESD controls and confirm the module keying before insertion.

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
Triconex 3008	Main Processor Module	**Open product page**
Triconex 4210	Remote Extender Module Set	**Open product page**
Triconex 4119A	Enhanced Intelligent Communication Module	**Open product page**

MANUFACTURER SOURCE RECORD

Tricon Systems Technical Product Guide

9791007-013

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