



3504E

64-Point 24/48 VDC High-Density TMR Digital Input Module

Product scope

- Provides sixty-four commoned, DC-coupled digital inputs in one high-density TMR module.
- Supports either 24 VDC or 48 VDC input ranges selected through TriStation 1131.
- Performs periodic input diagnostics with one state indication for every field point.

Manufacturer source

Triconex Planning and Installation Guide, 3504E Digital Input Specifications

Triconex Planning and Installation Guide for Tricon v9-v11 Systems, Table 34, 3504E Digital Input Specifications.

Request a fast quote	Product reference	
Email: info@apterpower.com Phone: +86 18106909650 apter.com/inquiry.php	3504E	

The enclosed manufacturer pages are reproduced without alteration to technical content. External interactive links and unrelated pages are excluded from this web-optimized copy.



3504E product reference

64-Point 24/48 VDC High-Density TMR Digital Input Module

Verified configuration

Triconex 3504E is a 64-point commoned TMR digital input module configurable for 24 or 48 VDC service with per-point indication and online diagnostics.

Manufacturer	Triconex
Model	3504E
Product family	Tricon High-Density Digital Input Modules
Product type	High-Density TMR Digital Input Module
Model	3504E
Architecture	High-density TMR digital input
Input points	64 commoned, DC-coupled
Selectable nominal voltage	24 VDC or 48 VDC
24 VDC input range	20 to 36 VDC
48 VDC input range	40 to 72 VDC
Input over-range	115 VAC continuous; 150 VDC continuous
24 V Off-to-On	15 V typical; 18 V worst-case

Manufacturer source

Triconex Planning and Installation Guide, 3504E Digital Input Specifications

The following pages retain the manufacturer technical content for configuration and engineering review.

Table 33 3505E Digital Input Specifications (continued)

Feature	Specification
Diagnostic glitch duration ^d	20 ms typical
Output voltage	$< 1/2 V_{IN}$
Output impedance	$< 1.87 \text{ k}\Omega$

- When used with a typical shunt-diode intrinsic safety barrier, the nominal field power per On point is approximately 350 milliwatts @ 24 VDC.
- The maximum input toggle rate enables proper operation of I/O diagnostics and detection of all normally detectable faults.
- For more information, see *Toggling Field I/O Points* on page 288.
- V_{IN} is the voltage applied to an energized point. Output voltage is noticeable on an adjacent de-energized point for the duration of the diagnostic glitch. Be advised that the glitch output may falsely energize the paralleled input of another piece of equipment.

24 to 48 VDC Digital Input Modules

This figure is a simplified schematic for Model 3504E, which is a high-density TMR Digital Input Module.

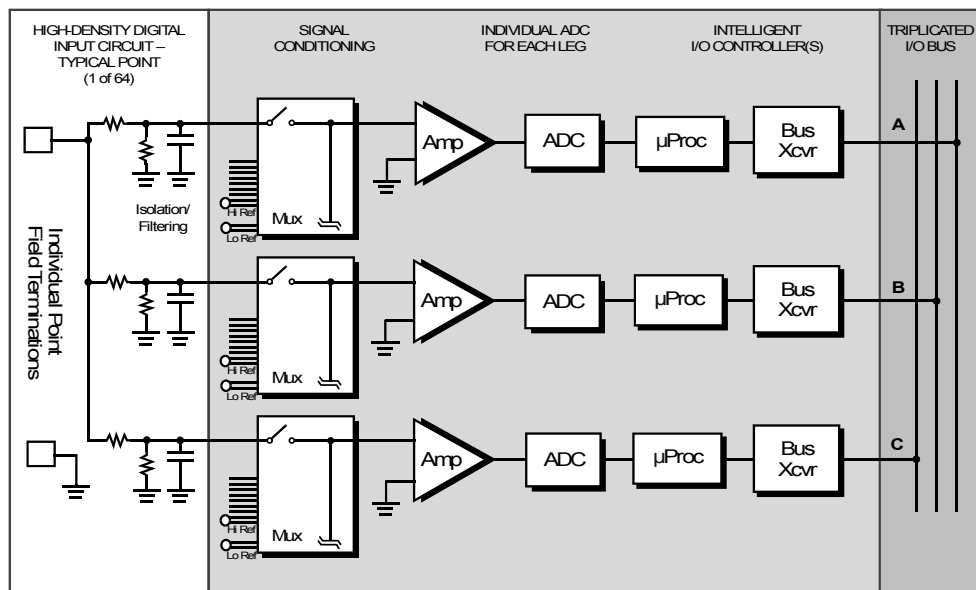


Figure 39 3504E Simplified Schematic

118 Chapter 2 System Components

This figure shows the front panel of Model 3504E.

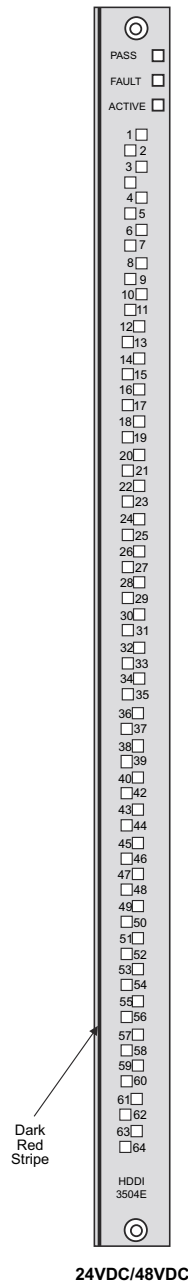


Figure 40 3504E Front Panel

Planning and Installation Guide for Tricon v9-v11 Systems

3504E Specifications

This table lists the specifications for Model 3504E, which is a high-density TMR Digital Input Module with an nominal input voltage of 24 or 48 VDC.

Table 34 3504E Digital Input Specifications

Feature	Specification
Color code	Dark red
Number of input points	64, commoned, DC-coupled
Input voltage range: 24 VDC ^a	20–36 VDC
Input voltage range: 48 VDC ¹	40–72 VDC
Input over-range protection	115 VAC continuous, 150 VDC continuous
Switching level for 24 VDC: Off to On	15 VDC typical, 18 VDC worst-case, 4 VDC typical hysteresis
Switching level for 24 VDC: On to Off	8 VDC typical, 6 VDC worst-case, 4 VDC typical hysteresis
Switching level for 48 VDC: Off to On	27 VDC typical, 32 VDC worst-case, 7 VDC typical hysteresis
Switching level for 48 VDC: On to Off	14 VDC typical, 11 VDC worst-case, 7 VDC typical hysteresis
Input delay: Off to On	< 10 ms
Input delay: On to Off	< 10 ms
Status indicator: On or Off state	1 per point
Status indicator: Module status	Pass, Fault, Active
Input impedance ^b	> 30 kΩ nominal
Logic power	< 10 watts
Input diagnostic fault coverage ^c :	
Maximum input toggle rate	Once every 100 ms
Minimum input toggle rate	Not required
Diagnostic glitch duration	1 ms every 2–3 seconds
Output voltage	0 VDC or 5 VDC typical
Output impedance	100 kΩ typical

a. Specified in TriStation 1131.

b. A ballast resistor is installed on the external termination panel to lower the input impedance equivalent to other Triconex Digital Input Modules. For more information, see the *Field Terminations Guide for Tricon v9–v11 Systems*.

c. The maximum input toggle rate enables proper operation of I/O diagnostics and detection of all normally detectable faults. The minimum toggle rate provides fault coverage of normally undetectable faults within 10 percent of the calculated mean-time-between-faults (MTBF) for the module.



GLOBAL INDUSTRIAL AUTOMATION SOURCING

Ready to source this part?

Ask for availability, pricing and delivery options.

Request a fast quote

Include the product title and any required part number or quantity.

EMAIL

info@apterpower.com

PHONE

+86 18106909650

REQUEST A QUOTE

PRODUCT: 3504E



SCAN TO CHAT ON WHATSAPP

Manufacturer pages are reproduced without alteration to technical content.

Apter Power is not an authorized distributor, reseller or representative of the products featured.