Invensys Triconex 3502E

48 VAC/VDC TMR Digital Input Module

The Invensys Triconex 3502E monitors discrete field states across three independent input channels before the Main Processors vote the resulting data. Its documented diagnostics, hot-spare support and mechanical keying are intended for controlled Tricon v9-v11 service.

01

32 points commoned in groups of eight

02

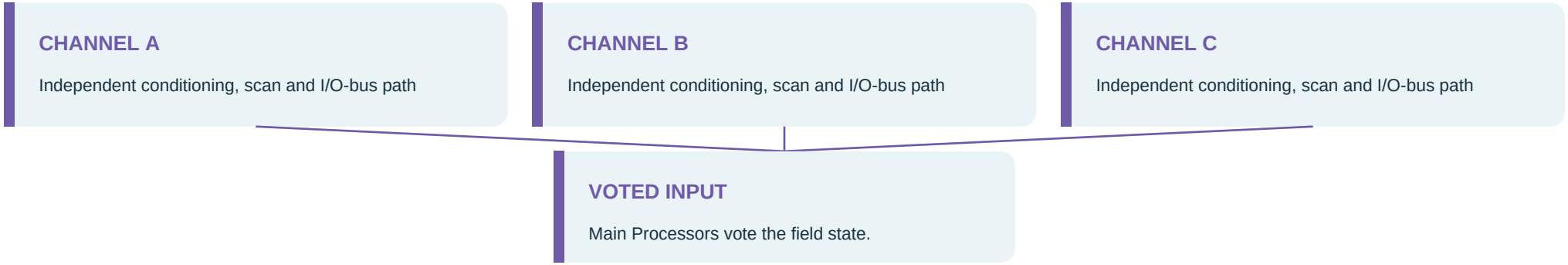
48 VAC/VDC nominal TMR input architecture

03

Continuous circuit stuck-On self-test

04

PASS, FAULT, ACTIVE and per-point indicators



Verified related ApterPower product pages

These links support portfolio navigation only and do not establish compatibility or substitution.

Invensys Triconex 3503E

Invensys Triconex 3504E

Documented technical data

Module type	TMR digital input with circuit stuck-On self-test
Nominal input	48 VAC/VDC
Input points	32, commoned in groups of 8
Input frequency	DC or 47-63 Hz
Recommended input range	35-95 VAC/VDC
Maximum voltage	95 VAC/VDC
Off-to-On level	27 VAC/VDC typical; 32 VAC/VDC worst-case
On-to-Off level	14 VAC/VDC typical; 11 VAC/VDC worst-case

Nominal turn-on current	6-9 mA
Input impedance	> 2.9 kOhm nominal
Input delay	Off-to-On < 8 ms; On-to-Off < 15 ms
Point isolation	1,000 VAC minimum; 1,500 VDC minimum
Logic power	< 10 W
Status indication	One indicator per point; PASS, FAULT and ACTIVE module indicators
Slot keys	Top 004; bottom 005
Maintenance toggle	Normally Off points: every 24 months, under approved procedure

DATA BOUNDARY

The self-test checks the ability to detect the transition of a normally energized circuit to the Off state. The official guide warns that a diagnostic glitch can appear on an adjacent de-energized point, so parallel equipment inputs and commissioning tests must account for the documented behavior.

Verified related ApterPower product pages

These links support portfolio navigation only and do not establish compatibility or substitution.

Invensys Triconex 3510

Invensys Triconex 3511

Model-specific application contexts

EMERGENCY SHUTDOWN INPUTS

Acquire approved 48 VAC/VDC discrete trip contacts in a fault-tolerant Tricon safety architecture.

BURNER-MANAGEMENT PERMISSIVES

Monitor documented field switches that participate in approved burner safety logic.

FIRE-AND-GAS DISCRETE SIGNALS

Bring approved alarm and trip contacts into a voted Tricon input path.

CRITICAL MACHINERY PROTECTION

Monitor documented discrete protective states where TMR input integrity is required.

INTEGRATION BOUNDARY

The module requires a matched external termination panel and interface cabling. Mechanical slot keying uses top key 004 and bottom key 005, and the official guide lists field-point toggling for normally Off points at the documented maintenance interval.

Verified related ApterPower product pages

These links support portfolio navigation only and do not establish compatibility or substitution.

Invensys Triconex 3008

Invensys Triconex 3006

Engineering decisions

Q1 What is Invensys Triconex 3502E?

It is a 32-point, 48 VAC/VDC TMR digital-input module with a circuit stuck-On self-test.

Q2 How are Invensys Triconex 3502E points grouped?

The 32 input points are commoned in four groups of eight.

Q3 What input range is recommended for Invensys Triconex 3502E?

The manufacturer table lists 35-95 VAC/VDC with a 95 VAC/VDC maximum.

Q4 How does Invensys Triconex 3502E process input data?

Three independent channels condition and scan the points, and the Main Processors vote the resulting input tables.

STEP 1

Record the complete 3502E identity, chassis and logical slot.

STEP 2

Apply the approved safe-work procedure and isolate field energy.

STEP 3

Verify top key 004 and bottom key 005 before insertion.

STEP 4

Confirm the ETP, both interface cables and group commoning.

Verified related product portfolio

PORTFOLIO NAVIGATION

The catalog links below are verified ApterPower product pages selected to help engineers continue a controlled parts search. They are navigation aids and do not establish compatibility or substitution.

SELECTION BOUNDARY

Confirm the complete 3502E identity, slot keys, ETP, interface cables, field-voltage range and approved maintenance record before installation or replacement.

Verified related ApterPower product pages

These links support portfolio navigation only and do not establish compatibility or substitution.

- Invensys Triconex 4351B
- Invensys Triconex 8312
- Invensys Triconex 4000188-320
- Invensys Triconex 3706A
- Invensys Foxboro DM900WT
- Invensys Foxboro P0972AJ FBI10E
- Invensys Foxboro P0922YU FPS400-24
- Invensys Foxboro FBM201 P0916AA

Sources, portfolio and contact

SOURCE 1

Invensys Planning and Installation Guide for Tricon v9-v11 Systems, 9720077-019, June 2014, pp. 108-114 and installation/maintenance sections.

SOURCE 2

Invensys Planning and Installation Guide for Tricon v9-v11 Systems, Table 83 slot keys and Table 94 field-point toggle requirements.

SOURCE 3

Schneider Electric EcoStruxure Triconex Safety Systems product information for TMR diagnostics and online module replacement context.

Verified related ApterPower product pages

These links support portfolio navigation only and do not establish compatibility or substitution.

Invensys Foxboro FBM4/39/44

Invensys Foxboro FBM3A/33A

Invensys Foxboro FBM2/36

Invensys Foxboro FBM1/37/43

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3502E