

Triconex 3503E Manual

Brand	Triconex
Product Series	Triconex
Product Type	TMR with Self-Test

Description

Triconex

TMR Digital Input Modules

Each TMR digital input (DI) module has three isolated input channels which independently process all data input to the module. A microprocessor on each channel scans each input point, compiles data, and transmits it to the main processors upon demand. Then input data is voted at the main processors just prior to processing to ensure the highest integrity. All critical signal paths are 100 percent triplicated for guaranteed safety and maximum availability. Each channel conditions signals independently and provides optical isolation between the field and the Tricon.

All TMR digital input modules sustain complete, ongoing diagnostics for each channel. Failure of any diagnostic on any channel activates the module Fault indicator which in turn activates the chassis alarm signal. The module Fault indicator points to a channel fault, not a module failure. The module is guaranteed to operate properly in the presence of a single fault and may continue to operate properly with certain kinds of multiple faults.

Models 3502E, 3503E, and 3505E can self-test to detect stuck-ON conditions where the circuitry cannot tell whether a point has gone to the OFF state. Since most safety systems are set up with a de-energize-to-trip capability, the ability to detect OFF points is an important feature. To test for stuck-ON inputs, a switch within the input circuitry is closed to allow a zero input (OFF) to be read by the optical isolation circuitry. The last data reading is frozen in the I/O communication processor

while the test is running.

All TMR digital input modules support

hot-spare capability, and require a separate external termination panel (ETP)

with a cable interface to the Tricon

backplane. Each module is mechanically keyed to prevent improper installation in a configured chassis.

Manufacturer : Triconex

Product No. : 3503E

Model : Digital Input Module

Model 3503EN2 (EDI 5909) is a 24 VAC/DC digital input module with 32 inputs, commoned in groups of 8.

Input frequency range DC or 47.63Hz

Recommended input range : 20-42.5 VDC

maximum voltage : 42.5VAC/VDC

Color Code : Dark red

Model Number: .3503E

Type : TMR with Self-Test

Voltage :24 VAC/VDC

Points: 32, commoned in groups of 8

AC Range/DC Range: 20-42.5 VAC/VDC

Frequency Range :DC or 47-63 Hz

Maximum Voltage : 42.5 VAC/VDC

Switching Level

Off to On :> 18 VAC/VDC

On to Off:< 6 VAC/VDC

Nominal Turn-On: 6-9 mA

Typical Hysteresis :4 VAC/VDC

Input Delay

OFF to ON/ON to OFF :< 8 ms/< 15 ms

Point Isolation:1,500 VDC

Nominal Input Impedance :> 1.25 KΩ

Nominal Field Power Load

Per On point : 0.5 watts

@ max.field voltage : 1.5 watts

Diagnostic Indicators

Input Status : 1 per point

Module Status : PASS, FAULT, ACTIVE

Stuck Test : On

Color Code : Dark Red

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