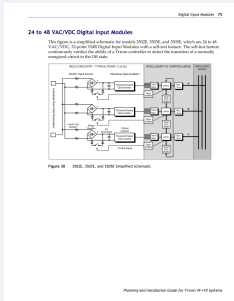


AMIKON TECHNICAL INTELLIGENCE

Product Data Sheet

Triconex 3503E

TMR Digital Input Module



SIGNALS	FIELD RANGE	ARCHITECTURE	SOURCE
32, commoned in groups of 8	20-42.5 VDC	TMR	9700077-012

Triconex 3503E acquires 32 nominal 24 VAC/VDC discrete inputs, commoned in groups of eight. Its triplicated input paths and continuous self-test support detection of a normally energized circuit changing to the off state.

01

VERIFIED PRODUCT PARAMETERS

Input points	32, commoned in groups of 8
Input frequency	DC or 47-63 Hz
Recommended DC input range	20-42.5 VDC
Maximum input voltage	42.5 VAC/VDC
Off-to-on threshold	15 VAC/VDC typical; 18 VAC/VDC worst-case
On-to-off threshold	8 VAC/VDC typical; 6 VAC/VDC worst-case
Typical hysteresis	4 VAC/VDC
Nominal turn-on current	6-9 mA
Input impedance	Greater than 1.25 kohm nominal
Input delays	Off to on: <8 ms; on to off: <15 ms

Technical values were verified against Invensys 9700077-012, February 2009.

02 ADDITIONAL TECHNICAL DATA

Optical isolation rating	1000 VAC minimum; 1500 VDC minimum
Logic power	Less than 10 W
Field power per on point	0.5 W nominal; 1.5 W at maximum field voltage
Chassis leakage at 60 Hz	0.25 mA maximum per on point
Diagnostic glitch duration	20 ms typical

03 SYSTEM ROLE AND APPLICATIONS

Match field voltage, switching thresholds and diagnostic behavior to the connected circuit. The manufacturer does not recommend 3503E with shunt-diode intrinsic safety barriers; evaluate the documented 3505E alternative through the approved system design.

- Read discrete input states through the documented 24 VAC/VDC input circuit. Check threshold margin, the common return for each group and the field supply before accepting the logic state.
- Use the self-test-supported input path for a normally energized demand circuit. Validate the off-state transition and account for the documented input delay in the complete safety-function response.
- Acquire discrete signals at 47-63 Hz within the documented voltage limits. Review smoothing, switching levels and diagnostic coupling when the field signal is shared with other equipment.

04 OFFICIAL INSTALLATION FACTS

- Verify the 3503E label, 32-point map and approved termination grouping.
- Check 24 VAC/VDC input levels and the four groups of eight commoned inputs.
- Do not use shunt-diode safety barriers without the prescribed design review.
- Review diagnostic coupling if the input signal feeds another device.

05 OFFICIAL DOCUMENTATION

Invensys 9700077-012, February 2009

AMIKON PRODUCT SUPPORT

Amikon Limited | INFO@AMIKON.CN