

3704E

64-Point 0-5/0-10 VDC Analog Input Module

CONTROLLED ENGINEERING COPY

Set the voltage range in TriStation, match the corresponding panel and shunt value, preserve commoned-channel wiring, and prove accuracy plus voted channel agreement after installation.

INSTALLATION IDENTITY	REQUIRED VALUE
Complete model	3704E
Manufacturer part	3704E
Hardware type	TMR analog input
System family	Tricon high-density analog input



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01 PRE-INSTALLATION PLAN

- 1

Verify 3704E and the configured 0-5 or 0-10 V range before replacement.
- 2

Place all affected analog safety functions in the approved maintenance state.
- 3

Isolate field signals and record sixty-four channel assignments plus scaling.
- 4

Match 250-ohm shunts to 0-5 V current service and 500-ohm shunts to 0-10 V service.
- 5

Keep input overrange inside the published continuous protection limit.

MATCHED HARDWARE

- Tricon I/O chassis and hot spare
- range-matched external termination panel
- 0-5 or 0-10 V field circuits
- 250- or 500-ohm current-conversion shunts

INSTALLATION CONTROL RECORD

CONTROL ITEM	REQUIRED RECORD
Identity	3704E / 3704E recorded
Physical interface	Tricon I/O chassis and hot spare
Companion check	range-matched external termination panel
Functional proof	Samples sixty-four commoned analog inputs through three TMR channels
Application test	High-density safety transmitter acquisition

02 WIRING & INTERFACE CHECKS

CHECK ITEM	REQUIRED VALUE
Module type	TMR analog input
Input points	64 commoned
Configured range	0-5 VDC or 0-10 VDC plus 6%
Isolated points	No
Input update rate	75 ms
Resolution	12 bit
Accuracy	<0.25% FSR, 0 to 60 degC
Input resistance	30 MOhm DC minimum
Power-off resistance	30 kOhm DC typical
Leg-to-leg isolation	200 kOhm typical
Normal-mode rejection	-1 dB at 8 Hz; -12 dB at 60 Hz; -18 dB at 120 Hz
Input overrange protection	150 VDC / 115 VAC continuous
0-5 V current option	0-20 mA with 250 Ohm shunt
0-10 V current option	0-20 mA with 500 Ohm shunt

FIELD NOTE

Set the voltage range in TriStation, match the corresponding panel and shunt value, preserve commoned-channel wiring, and prove accuracy plus voted channel agreement after installation.

03 COMMISSIONING WORKFLOW



COMMISSIONING ACCEPTANCE EVIDENCE

EVIDENCE ITEM	ACCEPTANCE CONDITION
Identity	3704E / 3704E recorded
Physical interface	Tricon I/O chassis and hot spare
Companion check	range-matched external termination panel
Functional proof	Samples sixty-four commoned analog inputs through three TMR channels
Application test	High-density safety transmitter acquisition

04 RETURN-TO-SERVICE RECORD

- ☐
- Use ESD controls and verify the module keying and hot-spare position.

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VERIFICATION RECORD

TECHNICIAN

DATE

CABINET / POSITION

FINAL DIAGNOSTIC STATE

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
Triconex 3504E	High-Density Digital Input Module	Open product 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

SOURCE IDENTIFIERS

Tricon Systems Technical Product Guide
9791007-013

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