

INDUSTRIAL AUTOMATION PRODUCT

3700A

32-Point 0-5 VDC Analog Input Module

Triconex 3700A is a thirty-two-point differential TMR analog input module. It digitizes 0-5 VDC process signals with overrange measurement and voted channel selection.

IDENTITY	VERIFIED VALUE
Manufacturer	Triconex
System family	Tricon analog input
Part number	3700A
Country	USA
HS code	8537101190

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Technical Specifications

Technical values below are limited to the named Triconex product record.

PARAMETER	TECHNICAL VALUE
Module type	TMR analog input
Input points	32 differential; DC coupled
Input range	0 to 5 VDC plus 6% overrange
Isolated points	No
Input update rate	55 ms
Resolution	12 bit
Accuracy	<0.15% FSR, 0 to 60 degC
Input resistance	30 MOhm DC minimum
Power-off resistance	30 kOhm DC typical
Common-mode rejection	-80 dB DC to 100 Hz typical
Common-mode range	-12 to +12 V peak
Leg-to-leg isolation	200 kOhm typical
Normal-mode rejection	-3 dB at 8 Hz; -17 dB at 60 Hz; -23 dB at 120 Hz
Input overrange protection	150 VDC / 115 VAC continuous
Current-input option	0-20 mA with 250 Ohm shunt
Indicators	PASS; FAULT; ACTIVE
2-wire current panel	9761-210
User-configurable current panel	9771-210

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System Role and Architecture

Triconex 3700A is a thirty-two-point differential TMR analog input module. It digitizes 0-5 VDC process signals with overrange measurement and voted channel selection.

FUNCTION 1

Samples thirty-two differential analog inputs through three independent channels

FUNCTION 2

Converts field voltage to digital values and performs mid-value selection each scan

FUNCTION 3

Measures a six-percent extension above the nominal 0-5 V range

FUNCTION 4

Supports online hot-spare replacement through a separate termination panel

Matched system components

- 9761-210, 9771-210, or other listed termination panel
- 0-5 V differential transmitters
- Tricon I/O chassis and hot spare
- shielded analog field wiring

SYSTEM INTEGRATION RECORD

INTEGRATION ITEM	DOCUMENTED ROLE
Installed host / carrier	9761-210, 9771-210, or other listed termination panel
Companion hardware	0-5 V differential transmitters
Field connection	Tricon I/O chassis and hot spare
Primary system function	Samples thirty-two differential analog inputs through three independent channels
Controlled acceptance duty	Safety transmitter 4-20 mA conversion

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Applications and Engineering Context

Safety transmitter 4-20 mA conversion

Samples thirty-two differential analog inputs through three independent channels

Differential 0-5 V process measurement

Converts field voltage to digital values and performs mid-value selection each scan

Shared transmitter integration through 9771-210

Measures a six-percent extension above the nominal 0-5 V range

Hot-spare analog-input maintenance

Supports online hot-spare replacement through a separate termination panel

TECHNICAL NOTE

Match the panel and shunt arrangement to voltage or current service, preserve differential polarity and common-mode limits, then prove scaling and mid-value channel agreement.

MODEL-SPECIFIC ACCEPTANCE EVIDENCE

CHECK	ACCEPTANCE CONDITION
Identity	3700A / 3700A recorded
Physical interface	9761-210, 9771-210, or other listed termination panel
Companion check	0-5 V differential transmitters
Functional proof	Samples thirty-two differential analog inputs through three independent channels
Application test	Safety transmitter 4-20 mA conversion

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Engineering Precautions

1

Verify 3700A and the thirty-two-point differential input assignment before work.

2

Place affected analog safety functions in the approved maintenance condition.

3

Isolate transmitter supplies and record polarity, shielding, and channel scaling.

4

Confirm any 250-ohm shunt and termination-panel jumper arrangement.

5

Keep common-mode voltage and input overrange inside the published limits.

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

MANUFACTURER SOURCE RECORD

Tricon Systems Technical Product Guide

9791007-013

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