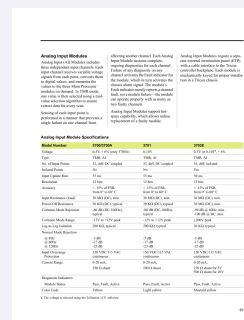


FIELD INSTALLATION QUICK GUIDE

Installation Instructions

HCU3700/3703E

HART communication unit



PRODUCT	HCU3700/3703E
FAMILY	Triconex safety system
FUNCTION	HART communication unit
STATUS	Verify exact installed equipment

Prepared by Amikon Limited from Triconex documentation. This guide supplements the complete manufacturer manual and site procedure.

01

CONFIRM THE ORDERED CONFIGURATION

Component Type	HART communication unit
Order Reference	HCU3700/3703E
System Platform	Triconex safety control system
Primary Function	Couples HART data to analog inputs
Channel or Port Capacity	Supported 3700 and 3703E channels
Electrical Classification	HART over analog field loops

02

PREPARATION AND CONNECTION

- Confirm the complete HCU3700/3703E article number and installed revision.
- Isolate applicable electrical and process energy using the approved site procedure.
- Record every connector, cable, terminal, shield and protective-earth connection before removal.
- Install without forcing keyed parts, then secure terminals, latches, fasteners and cable supports.

Analog Input Modules

Analog Input (AI) Modules includes three independent input channels. Each input channel receives variable voltage signals from each point, converts them to digital values, and transmits the values to the three Main Processor modules on demand. In TMR mode, one value is then selected using a mid-value selection algorithm to ensure correct data for every scan.

Sensing of each input point is performed in a manner that prevents a single failure on one channel from

affecting another channel. Each Analog Input Module sustains complete, ongoing diagnostics for each channel. Failure of any diagnostic on any channel activates the Fault indicator for the module, which in turn activates the chassis alarm signal. The module's Fault indicator merely reports a channel fault, *not* a module failure—the module can operate properly with as many as two faulty channels.

Analog Input Modules support hot-spare capability, which allows online replacement of a faulty module.

Analog Input Modules require a separate external termination panel (ETP) with a cable interface to the Tricon controller backplane. Each module is mechanically keyed for proper installation in a Tricon chassis.

Analog Input Module Specifications

Model Number	3700/3700A	3701	3703E
Voltage	0-5V, + 6% (only 3700A)	0-10V	0-5V or 0-10V ^a , + 6%
Type	TMR, AI	TMR, AI	TMR, AI
No. of Input Points	32, diff, DC coupled	32, diff, DC coupled	16, diff, isolated
Isolated Points	No	No	Yes
Input Update Rate	55 ms	55 ms	50 ms
Resolution	12 bits	12 bits	12 bits
Accuracy	< .15% of FSR, from 0° to 60° C	< .15% of FSR, from 0° to 60° C	< .15% of FSR, from 0° to 60° C
Input Resistance (load)	30 M Ω (DC), min.	30 M Ω (DC), min.	30 M Ω (DC), min.
Power-Off Resistance	30 K Ω (DC), typical	30 K Ω (DC), typical	30 M Ω (DC), min.
Common Mode Rejection	-80 dB (DC-100Hz), typical	-80 dB (DC-100Hz), typical	-90 dB @ 60Hz, min. -100 dB @ DC, min.
Common Mode Range	-12V to +12V peak	-12V to +12V peak	$\pm$ 200V peak
Leg-to-Leg Isolation	200 K Ω , typical	200 K Ω , typical	20 K Ω , typical
Normal Mode Rejection			
@ 8Hz	-3 dB	-3 dB	-3 dB
@ 60Hz	-17 dB	-17 dB	-17 dB
@ 120Hz	-23 dB	-23 dB	-23 dB
Input Overrange Protection	150 VDC/115 VAC continuous	150 VDC/115 VAC continuous	150 VDC/115 VAC continuous
Current Range	0-20 mA, 250 Ω shunt	0-20 mA, 500 Ω shunt	0-20 mA, 250 Ω shunt for 5V 500 Ω shunt for 10V
Diagnostic Indicators			
Module Status	Pass, Fault, Active	Pass, Fault, Active	Pass, Fault, Active
Color Code	Yellow	Light yellow	Mustard yellow

a. The voltage is selected using the TriStation 1131 software.

04 COMMISSIONING CHECKS

- 01 Confirm product identity and mechanical seating.
- 02 Verify the documented supply before energising.
- 03 Inspect polarity, shielding and protective-earth connections.
- 04 Restore power in the approved sequence and observe status indications.
- 05 Test each connected input, output or communication path.
- 06 Record diagnostics and functional-test results before return to service.

05 CONTROLLED DOCUMENT

Official source	Tricon Technical Product Guide
Product record	HCU3700/3703E
Manufacturer	Triconex
Warranty	12 months from AMIKON
Support	INFO@AMIKON.CN

AMIKON PRODUCT SUPPORT

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