

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

TRICONEX

3000106-010

HART INTERFACE ASSEMBLY

Used with the applicable Triconex safety system configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Tricon Technical Product Guide

Product Specifications

HART Interface Modules

Highway Addressable Remote Transducer (HART) is an industry standard field bus protocol that superimposes a Frequency Key Shifted (FSK) signal onto the 4-20 mA loop. The Tricon Model 2071H HART Multiplexer Module that is incorporated into each of the HART Interface Modules capacitively couples the HART signal to the AI or AO signals. The HART signals are approximately ± 0.5 mA at 1,200

and 2,200 Hz. These frequencies are high enough that the low-bandwidth loop is unaffected and the HART electronics can impose and extract the HART signals easily.

HART communication through the HART multiplexer is separate from the Tricon system and is certified not to interfere with the 4-20 mA safety signals of the Analog Input and Analog Output Modules.

Only Tricon v10.4.x and later systems can use HART Interface Modules; earlier Tricon systems must upgrade to Tricon v10.4.x. The chassis requirements for using HART Interface Modules in a system upgraded to Tricon v10.4.x differ depending on the original system version, as described in the Tricon Chassis Usage for HART Communication table.

HART Interface Module Specifications

Model Number	2770H	2870H
Type	HART Analog Input Interface	HART Analog Output Interface
Compatible Modules	3700A, 3721	3805E, 3805H
Number of signals	32 input	8 output
Input/Output type	4-20 mA, 0-5 VDC input	4-20 mA, 0-5 VDC output
HART MUX module	2071H (includes the Triconex 4850 HART Multiplexer)	2071H (includes the Triconex 4850 HART Multiplexer)
Status indicator: HART MUX module	PWR, FAULT, HOST, HART	PWR, FAULT, HOST, HART
HART protocol	HART Field Communication Protocol, Revision 5.0–7.0	HART Field Communication Protocol, Revision 5.0–7.0
Logic power	< 5 Watts	< 5 Watts

Tricon Chassis Usage for HART Communication

If Your Original System Version is...	Upgrade to...	Install HART Interface Modules in Chassis...
Tricon v10.4.x or later (High-Density)	n/a	Model 8121 Enhanced Low-Density Expansion Chassis
Tricon v10.0.x – 10.3.x (High-Density)	Tricon v10.4.x	Model 8121 Enhanced Low-Density Expansion Chassis
Tricon v9.x (High-Density)	Tricon v10.4.x	Model 8121 Enhanced Low-Density Expansion Chassis
Tricon v6.x – v10.x (Low-Density)	Tricon v10.4.x	- Model 8100-x Main Chassis - Model 8101 Low-Density Expansion Chassis - Model 8102 Low-Density RXM Chassis - Model 8121 Enhanced Low-Density Expansion Chassis

dule number in the first column with termination options on the right. An I/O module can be wired to a maximum of two termination be of two different types—for example, commoned and non-commoned.

scription	Commoned Term Panels	Non-Common. Term Panels	Basic Term Panels	Nonincendive Term Panels	RG 1.180 Term Panels	Fanned-out Cables	Bypass Panels	ERT Loop-Back Cables/Panels
/VDC, 32 pts.	9561-810F	9561-110F	9551-110F	n/a	n/a	9101-010F	n/a	9141-010F
VDC, 32 pts.	9562-810F	n/a	9552-610F	n/a	n/a	9101-010F	n/a	9142-010F
VDC, 32 pts.	9563-810F	n/a	9553-610F	9572-610F	n/a	9101-010F	BP9228-010F	9143-010F
XC, 64 pts.	9566-810F, 24V	n/a	9750-310F, 24V	9570-610F, 24V	n/a	n/a	BP9229-010F	n/a
low threshold,	9565-810F, 48V	n/a	9750-410F, 48V	n/a	n/a	n/a	n/a	n/a
	9563-810F	n/a	9553-610F	9572-610F	n/a	9101-010F	BP9228-010F	9143-010F
	9563-910F							
Hz, 8 pts.	n/a	n/a	9753-110F	n/a	n/a	n/a	n/a	n/a
Hz, 8 pts.	n/a	n/a	9753-110F	9793-110F	9794-110F	n/a	n/a	n/a
Hz, 24 VDC,	n/a	n/a	9753-110F	9572-610F	n/a	n/a	n/a	n/a
single, 64 pts.	9566-710F	n/a	9553-610F	9571-610F	n/a	9101-010F	n/a	n/a
16 pts.	9661-610F	9661-110F	9651-110F	n/a	n/a	9101-010F	n/a	9670-110F
	9663-610F	9664-110F						9670-610F
16 pts.	9663-610F	9664-110F	n/a	n/a	n/a	n/a	n/a	n/a
C, 16 pts.	n/a	9251-210	n/a	n/a	n/a	n/a	n/a	n/a
C, 16 pts.	9661-910F ^a	n/a	9651-110F	n/a	n/a	9101-010F	n/a	9673-810F ^a
	9664-810F ^a							
C, 16 pts.	9664-810F ^a	n/a	n/a	n/a	n/a	n/a	n/a	9673-810F ^a
16 pts.	9662-810F	9662-110F	9653-610F	9671-610F	n/a	9101-010F	n/a	9671-810F
16 pts.	9667-810F	9667-110F	9652-610F	n/a	n/a	9101-010F	n/a	9672-810F
8 pts.	9661-510F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
C, 8 pts.	9661-810F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
8 pts.	9662-810F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
low power,	9662-710F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
8 pts.	9667-910F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
C, 16 pts.	9661-910F	n/a	9651-110F	n/a	n/a	9101-010F	n/a	n/a
C, 16 pts.	9664-810F	n/a	n/a	n/a	n/a	n/a	n/a	n/a
self-protected,	9662-610F	n/a	9653-610F	9671-610F	n/a	9101-010F	n/a	n/a
self-protected,	9662-610F	n/a	9653-610F	9671-610F	n/a	9101-010F	n/a	9671-810F ^b
ed), 32 pts.	n/a	9668-110F	9651-110F	n/a	n/a	9101-010F	n/a	n/a
VDC, self-protected,	9662-610F	n/a	9653-610F	9671-610F	n/a	9101-010F	n/a	9671-810F ^b

