

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

TRICONEX

3625C1

TMR DIGITAL OUTPUT MODULE

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

Model Number	Description	See This Standard Model
3805HC	AO, 4–20 mA, current loop, DC-coupled, TMR, 8 pts.	3805H
3505EC	DI, 24 VDC, low threshold, 32 pts.	3505E
3503EC	DI, 24 VAC/VDC, commoned in groups of 8, self-test, TMR, 32 pts.	3503E
3564C	DI, 0–5 VDC, single-ended, high-density, TMR, 64 pts.	3564
3664C	DO, 24 VDC, commoned, opto-isolated, self-protected, dual, 32 pts.	3664
3625C	DO, 24 VDC, supervised/non-supervised, commoned, TMR, 32 pts.	3625
3625AC	DO, 24 VDC, supervised/non-supervised, commoned, TMR, 32 pts.	3625A
3511C	Pulse Input, differential, AC-coupled, TMR, 8 pts.	3511
3636TC	Relay Output, normally open, non-triplicated, 32 pts.	3636T
External Termination Panels and FT4 Interface Cables^b		
9563-810FC	Term panel with cable 4000187-310; for use with 3503EC and 3505EC	9563-810F
9566-710FC	Term panel with cable 4000187-310; for use with 3564C	9566-710F
9662-610FC	Term panel with cable 4000188-310; for use with 3625C, 3625AC, and 3664C	9662-610F
9668-110FC	Term panel with cable 4000188-110 ^c ; for use with 3636TC	9668-110F
9753-110FC	Term panel with cable 4000189-510; for use with 3511C	9753-110F
9765-210FC	Term panel with cable 4000206-510; for use with 3720C	9765-210F
9771-210FC	Term panel with cable 4000189-510; for use with 3700AC, 3703EC, and 3721C	9771-210F
9853-610FC	Term panel with cable 4000190-510; for use with 3805HC	9853-610F

a. For information about modules and chassis, see the *Planning and Installation Guide for Tricon v9–v10 Systems*.

b. For information about external termination panels and interface cables, see the *Field Terminations Guide for Tricon v9–v10 Systems*.

c. A low smoke zero halogen (LSZH) cable is also certified for use with the external termination assembly (ETA) that is included with model 9668-110FC. If you need the LSZH cable, order ETA 3000590-110C and LSZH cable 4000141-110, separately.

8-Point Supervised Digital Output Modules

Designed for the most critical applications, Supervised Digital Output (SDO) modules meet the needs of systems whose outputs remain in a single state for extended periods of time (in some applications, for years). An SDO module receives output signals from the Main Processors on each of three channels. Each set of three signals is then voted upon by a fully fault-tolerant quadruplicated output switch whose elements are mechanical power relays, so that one voted output signal is passed to the field termination.

Each SDO module has voltage and current loopback circuitry coupled with

sophisticated online diagnostics that verify the operation of each output switch, the field circuit and the presence of a load. This design provides complete fault coverage without the need to influence the output signal.

The modules are called “supervised” because fault coverage is extended to include potential field problems. In other words, the field circuit is *supervised* by the SDO module so that the following field faults can be detected:

- Loss of power or blown fuse
- Open or missing load
- A field short resulting in the load being energized in error

- A shorted load in the de-energized state

Failure to detect field voltage on any output point energizes the power alarm indicator. Failure to detect the presence of a load energizes the load alarm indicator. When an optional secondary power supply is used, shorted loads in the Off state can be detected. (This feature is not provided on Model 3611E, an AC module.)

All SDO modules support hot-spare capability, and they require separate external termination panels (ETP) with a cable interface to the Tricon controller backplane.

8-Point Supervised Digital Output Module Specifications

Model Number	3611E	3617E
Nominal Voltage	115 VAC	48 VDC
Type	TMR, Supervised DO	TMR, Supervised DO
Points	8, commoned	8, commoned
Voltage Range	90-155 VAC	36-72 VDC
Frequency Range	47-63 Hz	n/a
Maximum Switching Power	2,000 VA (resistive)	150 W (resistive)
On State Voltage Drop ^a	< 2V, typical	< 2V, typical
Current Ratings, Maximum	2A per point 10A/AC cycle	1A per point 5A/10 ms
Minimum Required Load	50 mA	100 mA
Voltage Range of Secondary Power Supply	n/a	5.00 VDC ±.25 VDC
Chassis Leakage	1mA max. @ 60 Hz	n/a
Load Leakage	4 mA max.	4 mA max.
Fuses (on Field Termination)	1 per output (2.5A fast-acting)	1 per output (1.25A fast-acting)
Point Isolation	1,500 VDC, min.	1,500 VDC, min.
Diagnostic Indicators		
Output Status	POINT, PWR, LOAD,	POINT, PWR, LOAD,
Module Status	PASS, FAULT, ACTIVE	PASS, FAULT, ACTIVE
Color Code	Deep green	Mint green

a. **WARNING:** The voltage drop may be significantly higher in some applications.

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 9563-910F	n/a	9553-610F	9572-610F	n/a	9101-010F	BP9228-010F	9143-010F
XC, 64 pts.	9566-810F, 24V 9565-810F, 48V	n/a	9750-310F, 24V 9750-410F, 48V	9570-610F, 24V n/a	n/a	n/a	BP9229-010F n/a	n/a
low threshold,	9563-810F 9563-910F	n/a	9553-610F	9572-610F	n/a	9101-010F	BP9228-010F	9143-010F
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
π, 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 9663-610F	9661-110F 9664-110F	9651-110F	n/a	n/a	9101-010F	n/a	9670-110F 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 9664-810F ^a	n/a	9651-110F	n/a	n/a	9101-010F	n/a	9673-810F ^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