

3664

32-Point Dual 24 VDC Digital Output Module

Triconex 3664 is a thirty-two-point dual 24 VDC digital output module. It produces voted source outputs and supervises field-voltage agreement for safety-related control duties.

PRODUCT SNAPSHOT

BRAND

Triconex

FAMILY

Tricon dual digital output

PART

3664

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PRODUCT OVERVIEW

Triconex 3664 is a thirty-two-point dual 24 VDC digital output module. It produces voted source outputs and supervises field-voltage agreement for safety-related control duties.

1 Applies two-out-of-three voting to each of thirty-two output switches

2 Sources 24 VDC current to commoned field loads through dual output circuitry

3 Uses voltage loopback to compare commanded state with detected field voltage

4 Supports online hot-spare replacement with continuous channel diagnostics

SYSTEM COMPONENTS

Tricon I/O chassis and hot-spare position

9662-610 or compatible termination panel

16-30 VDC field supply

solenoids, relays, or other protected DC loads

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
Triconex 9662-610	24 VDC Digital Output Termination Panel	Open product page
Triconex 3008	Main Processor Module	Open product page
Triconex 8312	230 VAC Power Module	Open product page

TECHNICAL DATA

PARAMETER	VALUE
Module type	Dual serial digital output
Nominal voltage	24 VDC
Output signals	32 commoned
Voltage range	16 to 30 VDC
Maximum voltage	36 VDC
Typical voltage drop	<1.5 VDC
Power-module load	<10 W
Maximum point current	2 A
Surge current	10 A for 10 ms

PARAMETER	VALUE
Load leakage	2 mA maximum
Output protection	Self-protecting; no field-termination fuses
Point isolation	1500 VDC minimum
Status indicators	1 per point; PASS; FAULT; ACTIVE; LOAD/FUSE
Color code	Dark blue
Compatible commoned panel	9662-610
Compatible basic panel	9653-610
Compatible nonincendive panel	9671-610
Compatible ERT loop-back	9671-810

TECHNICAL NOTE

Wire field power to every used output through the approved panel, confirm per-point and surge loading, and exercise loopback plus LOAD/FUSE diagnostics before enabling safety commands.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

De-energize-to-trip solenoid output banks

Applies two-out-of-three voting to each of thirty-two output switches

Safety shutdown actuator commands

Sources 24 VDC current to commoned field loads through dual output circuitry

Dual-output valve manifold control

Uses voltage loopback to compare commanded state with detected field voltage

Online hot-spare DO module maintenance

Supports online hot-spare replacement with continuous channel diagnostics

PRODUCT PRECAUTIONS

- 1 Verify 3664 and the de-energize-to-trip application before module replacement.
- 2 Place all commanded equipment in the approved safe state and isolate field power.
- 3 Record thirty-two channel assignments, common supply, and expected de-energized states.
- 4 Confirm each load stays within the two-amp point and ten-amp surge limits.
- 5 Use a listed termination panel and preserve the sourced-output wiring arrangement.
- 6 Use ESD controls and check module keying plus the hot-spare position.
- 7 Command outputs individually and compare field voltage with LOAD/FUSE indication.
- 8 Test hot-spare transfer and the final shutdown function before production release.

ENGINEER FAQ

Q1 Which installation error is most important to prevent on 3664?

Do not interchange 3664 with an adjacent execution or alter its matched Tricon I/O chassis and hot-spare position; the exact electrical, channel, and connector arrangement must be retained.

Q3 Which diagnostics should be reviewed after installing 3664?

Review the applicable point, module, power, communication, or load indicators for 3664, then confirm the intended role: applies two-out-of-three voting to each of thirty-two output switches.

Q5 What evidence should be retained after 3664 hot-spare transfer testing on 3664?

Retain the full 3664 identity, as-left connections or settings, final diagnostics, measured functional-test result, and authorization to return the affected process function to service.

Q7 How should an engineer verify two-out-of-three output voting for 3664?

Use the approved connection drawing and the model-specific values in Tricon Systems Technical Product Guide; preserve the as-found terminal, connector, polarity, shield, and channel identity.

Q2 How is LOAD/FUSE loopback diagnosis handled during a 3664 replacement?

Record the installed state first, isolate the associated process function, reproduce only the approved model-specific arrangement, and verify it before energization.

Q4 Can 3664 be substituted for a similar Triconex model without a configuration review?

No. Confirm the exact model, companion hardware, signal execution, system version, and approved configuration before any substitution.

Q6 Which installed hardware must be matched before fitting 3664?

Match 3664 to Tricon I/O chassis and hot-spare position and 9662-610 or compatible termination panel, then confirm the complete physical marking and assigned Tricon dual digital output position.

Q8 What check is required for self-protected sourced outputs when commissioning 3664?

Apply a controlled signal or command within the documented range and compare the field result, controller indication, and product diagnostics before normal operation.