Triconex 3806E Analog Output Module

IDENTITY, COMMERCIAL FACTS AND SPECIFICATION

PRODUCT ROLE

Triconex 3806E is an eight-point triple-modular-redundant analog output module for applicable Tricon v9-v10 systems. Six outputs are 4-20 mA and two are 20-320 mA. Engineering selection must match the installed chassis, termination assembly, loop supply and safety application.

OFFERED PRODUCT

Manufacturer part number 3806E	**Shipping** Swift global dispatch	**Condition** New, original product
Shipping size (est.) 2.1cm x 40.8cm x 39.8cm	**Country of Origin** USA	**Ship from** Xiamen, Fujian, China

PUBLISHED TECHNICAL SPECIFICATIONS

Manufacturer	Invensys
Product Category	DCS Systems
Spare Part Number	3806E
Weight	2.8 kg
Tariff Code	8537101190
System	Tricon v9-v10; verify installed chassis version
Module function	TMR analog output
Output count	8 total
Standard outputs	6 outputs, 4-20 mA
High-current outputs	2 outputs, 20-320 mA
Point mapping	Points 1 and 5 high-current; points 2-4 and 6-8 standard
Output coupling	DC-coupled with commoned return
Resolution	12 bits
Recommended loop supply	24-32 V DC, 3 A minimum
Extended loop supply	20-36 V DC, 3 A minimum
External loop power	24 V DC nominal; 42.5 V DC maximum

4-20 mA overrange	2-21.2 mA
20-320 mA overrange	20-339.2 mA
Output accuracy	Less than 0.25% of stated full-scale range, 0-60 C
Standard-loop max load at 24 V	475 ohms
High-current max load at 24 V	25 ohms
Standard-loop max load at 32 V	825 ohms
High-current max load at 32 V	50 ohms
Logic power	Less than 15 W
Fault switch time	10 ms typical; 20 ms maximum
Front indicators	PASS, FAULT, ACTIVE, LOAD, PWR1, PWR2
Stripe code	Light green
Field interface	Separate termination assembly and cable to chassis backplane
Hot spare	Analog output family supports online replacement per Tricon guide; follow approved safety procedure
Shipping package	2.1cm x 40.8cm x 39.8cm; 2.8kg

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BUYER INFORMATION AND SERVICE CONTEXT

OVERVIEW

Triconex 3806E is a TMR analog output module with six 4-20 mA points and two 20-320 mA high-current points for applicable Tricon v9-v10 systems.
Module type: TMR analog output
Point classes: Six standard; two high-current
Resolution: 12 bits
The original Triconex planning guide maps points 1 and 5 to 20-320 mA and points 2-4 and 6-8 to 4-20 mA. All eight outputs are DC-coupled with a commoned return. Confirm the installed point map, termination assembly and safety application before replacement.

External loop power is wired at the termination assembly. The recommended supply is 24-32 V DC at 3 A minimum, with an extended 20-36 V DC operating range. Maximum field load depends on loop voltage and output class; at 24 V the guide lists 475 ohms for standard points and 25 ohms for high-current points.

The TMR output architecture uses voted triplicated channel data and current loopback diagnostics. PASS, FAULT, ACTIVE, LOAD, PWR1 and PWR2 indicators help isolate faults, but a lit power LED confirms voltage presence rather than adequate current capability.
Assess the temperature and total-current derating table under real demand.
Controller platform reference: Tricon v9-v10 safety system. Confirm chassis version, field termination and approved proof-test procedure.

APPLICATIONS / COMPATIBILITY

System fit: 3806E is documented for applicable Tricon v9-v10 TMR analog-output configurations.

Application boundary: Confirm the safety application, mixed output ranges, termination assembly, field supply and site proof-test plan.

Standard current loops
Use six 4-20 mA points for suitable field devices after checking load and supply voltage at the termination.

High-current actuators
Assign points 1 and 5 to documented 20-320 mA loads. Assess thermal derating and supply current at maximum demand.

Redundant loop supply
The termination can accept redundant field loop power sources. Interpret PWR1/PWR2 as voltage-presence indications only.

Safety maintenance
Use the configured hot-spare feature and approved replacement/proof-test procedure to preserve the safety function.

LIFECYCLE STATUS

Triconex 3806E: A current manufacturer lifecycle phase for this complete model was not established from the reviewed original planning guide. Request current support, repair and replacement guidance for the installed Tricon system.

Safety planning: Preserve the approved application, point map, field termination and proof-test procedure. A module exchange requires the site safety lifecycle controls.

Supply: Apter Power stock and dispatch are separate from manufacturer lifecycle status.

PRODUCT PRECAUTIONS

Handle 3806E within the approved Tricon safety lifecycle. Verify the mixed output map, external loop supply and termination before replacement.

Protect the safety function
Follow the plant bypass, change-control and proof-test procedure before work on the TMR output module.

Check the correct point class
Do not wire a high-current load to a standard output or swap points 1 and 5 with the six 4-20 mA points.

Confirm field termination
Match the separate termination assembly, cable, connector and configured chassis slot before installation.

Size loop power under load
Measure voltage and current at the termination under the worst combined demand; PWR LEDs show presence only.

Apply thermal derating
Evaluate total output current and ambient temperature against the original guide table for the installed loop voltage.

Record diagnostic evidence
Capture PASS/FAULT/ACTIVE/LOAD indications, controller events and loopback measurements before removing the module.

DOWNLOADS

An applicable original manufacturer technical reference or an Apter Power technical reference is listed in Downloads, followed by the Apter Power engineering technical data PDF. The View PDF control opens this complete product information dossier.

AVAILABLE UNIT DETAILS

Identity: Triconex 3806E has six 4-20 mA and two 20-320 mA outputs. The source front-panel figure shows a light-green stripe; confirm the full label and chassis match.

Shipping: User-supplied package 2.1cm x 40.8cm x 39.8cm, 2.8kg. Country of origin: USA.
Condition: New, original product.

Scope: Field termination assembly, cable and loop power must be confirmed separately in the quotation.

ALTERNATIVE NAMES

Tricon 3806E TMR analog output
3806E high-current analog output module

TECHNICAL NOTES

Output mapping: Points 1 and 5 are 20-320 mA; points 2-4 and 6-8 are 4-20 mA. Match the actual Tricon configuration and field termination.

Loop power: External field power is required. Verify voltage and current under the combined output load; PWR LEDs indicate presence rather than adequate capacity.

Technical source: Triconex Planning and Installation Guide for Tricon v9-v10 Systems, Assembly 9700077-012.

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ENGINEERING FAQ AND ORDERING CHECKS

ENGINEERING QUESTIONS

Q01 How should the 4-20 mA and 20-320 mA channels of Triconex 3806E be mapped during migration?

Trace each of eight configured output points to the physical termination. Points 1 and 5 are high-current; confirm field-device loads, controller project and termination drawing before transfer.

Q02 Why can the LOAD indication on Triconex 3806E appear while loop power LEDs are lit?

PWR1/PWR2 detect the presence of loop voltage, not sufficient current capability for every connected load. Check commanded current, load wiring and supply under actual demand.

Q03 What should be investigated when one Triconex 3806E output does not reach its commanded current?

Measure loop voltage at the termination assembly, wiring resistance and load impedance; compare the selected output class and supply-dependent load limit.

Q04 How is a channel diagnostic fault on Triconex 3806E distinguished from whole-module failure?

Review the FAULT indication, controller diagnostics and both loopback circuits for the affected point. The source notes a channel fault can light FAULT without establishing total module failure.

Q05 What must be verified before using the hot-spare behavior of Triconex 3806E?

Confirm the installed chassis configuration, spare slot, termination compatibility and approved maintenance procedure; plan a controlled proof test for the safety function.

Q06 How should loop supply sizing for Triconex 3806E be checked at maximum demand?

Sum the required current for all commanded outputs, consider the guide temperature-derating table and measure voltage at the termination during the worst operating case.

Q07 What does the light-green stripe on Triconex 3806E help verify?

It supports front-panel identity against the Tricon planning guide, but the full model label, point configuration and termination assembly must still be matched.

Q08 Which evidence should accompany a replacement enquiry for Triconex 3806E?

Send module marking, chassis and termination identifiers, loop-power drawing, point map, diagnostic log and maintenance/proof-test procedure for review.

WHAT HAPPENS AFTER YOU ENQUIRE / ORDERING VERIFICATION

Review your reference

Share the complete 3806E marking and installed Tricon chassis reference for an identity check.

Match the complete marking

Include 3806E and every visible revision or assembly marking on the enquiry and quotation.

Confirm the offer

We confirm the offered 3806E revision, included items and quantity in the written quotation.

Check the offered item before ordering

Request available label and connector photographs. Have maintenance compare the offered 3806E with the installed chassis, field termination and applicable Triconex documentation before ordering.

Arrange dispatch

After quotation approval, we confirm protective packing and shipment details for the agreed 3806E quantity.

Technical enquiry

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