

Triconex 3806E Manual

Brand	Triconex
Product Series	Triconex
Product Type	TMR

Description

Triconex | 3806E| Analog Output Module

Analog Output Modules

An analog output (AO) module receives output signals from the main processor module on each of three channels. Each set of data is then voted and a healthy channel is selected to drive the eight outputs. The module monitors its own current outputs (as input voltages) and maintains an internal voltage reference to provide self-calibration and module health information.

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Each channel on the module has a current loopback circuit which verifies the accuracy and presence of analog signals independently of load presence or channel selection. The module's design prevents a non-selected channel from driving an analog signal to the field. In addition, ongoing diagnostics are performed on each channel and circuit of the module. Failure of any diagnostic deactivates the faulty channel and activates the Fault indicator, which in turn activates the chassis alarm. The module Fault indicator merely indicates a channel fault, not a module failure. The module continues to operate properly with as many as two channels failed. Open loop detection is provided by a LOAD indicator which activates if the module is unable to drive current to one or more outputs. The module provides for redundant loop power sources with individual power and fuse indicators called PWR1 and PWR2. External loop power supplies for analog outputs must be provided by the user. Each analog

output module requires up to 1 amp @ 24-42.5 volts. A LOAD indicator activates if an open loop is detected on one or more output points. PWR1 and PWR2 are on if loop power is present.

The 3806E High Current (AO) module is optimized for turbomachinery applications.

Analog output modules support hotspare capability which allows online replacement of a faulty module.

The analog output module requires a separate external termination panel (ETP) with a cable interface to the Tricon backplane. Each module is mechanically keyed to prevent improper installation in a configured chassis.

Type: TMR

Output current range: 4-20 mA and 20-320 mA

Number of output points: 6 points at 4-20 mA and 2 points at 20-320 mA

Isolated points: No, commoned return, DC coupled

Resolution: 12 bits

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Output Accuracy: Less than 0.25% (in range of 4-20 mA) of FSR (0-21.2 mA and 0-339.2 mA), measured from 32° to 140° F (0° to 60° C)

External loop power: +42.5 VDC maximum, with a nominal value of +24 VDC (reverse voltage protected)

Max load Vx external loop voltage (4-20 mA):

20 VDC: ≤ 275 Ohms

24 VDC: ≤ 475 Ohms

28 VDC: ≤ 650 Ohms

32 VDC: ≤ 825 Ohms

Max load Vx external loop voltage (16-320 mA):

20 VDC: ≤ 15 Ohms

24 VDC: ≤ 25 Ohms

28 VDC: ≤ 40 Ohms

32 VDC: ≤ 50 Ohms

Over-range protection: Less than +42.5 VDC

Switch time on leg failure: Less than 10 ms, typical

Diagnostic Indicators: One each per module for PASS, FAULT, ACTIVE, LOAD, PWR1, and PWR2

Color code: Light Green

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