Triconex 3806E

TMR analog output module

VERIFIED ENGINEERING FACTS / 22 distinct technical points

Point classes
Six outputs are 4-20 mA; points 1 and 5 are 20-320 mA high-current outputs.

Loop power limit
External loop power is 24 V DC nominal; maximum 42.5 V DC. Supply is wired at the field termination assembly.

High-current range
20-320 mA normal; 20-339.2 mA overrange; less than 0.25% of stated FSR over 0-60 C.

Fault switch time
10 ms typical and 20 ms maximum on a channel fault.

Loop power interpretation
PWR1 and PWR2 indicate loop-power presence, not proof of sufficient supply for the attached load.

Channel fault interpretation
FAULT identifies a channel diagnostic fault; it does not by itself establish complete module failure.

Before removal
Record chassis version, slot, module label, termination assembly, point map, field supply and current fault log.

Lifecycle
A current manufacturer phase for this exact 3806E was not established from the reviewed original planning guide.

Control architecture
Triplicated I/O data is voted and a healthy channel selected to drive the field output. Two current-loopback circuits per point support diagnostics.

Standard output range
4-20 mA normal, 2-21.2 mA overrange, less than 0.25% of stated FSR over 0-60 C.

High-current load at 24 V
Maximum 25 ohms; 15 at 20 V, 40 at 28 V and 50 at 32 V.

Front identification
Light-green stripe; PASS, FAULT, ACTIVE, LOAD, PWR1 and PWR2 indicators.

Open-load indication
LOAD can be asserted when an output cannot drive current, including open load or missing field power.

TMR hot spare
The analog-output family supports online hot-spare replacement in configured systems. Follow the site-approved safety procedure and proof test.

Functional safety
Preserve the approved application, bypass controls, change record and proof-test coverage when exchanging a component in a safety system.

Resolution
12 bits in the original 3806E table.

Recommended loop supply
24-32 V DC, 3 A minimum. Extended operating range 20-36 V DC, 3 A minimum.

Standard load at 24 V
Maximum 475 ohms at the external loop supply; 275 at 20 V, 650 at 28 V and 825 at 32 V.

Logic power
Less than 15 W in the planning guide.

Field boundary
The module needs a separate field termination assembly and cable interface to the Tricon backplane; confirm both in the supply scope.

Temperature interaction
The guide tabulates total output current, loop voltage and ambient derating. Evaluate the actual worst-case point demand.

Loop verification
Measure each output class at the termination under commanded operating conditions; verify wiring and load against the appropriate voltage table.

Manufacturer references: Triconex Planning and Installation Guide for Tricon v9-v10 Systems, Assembly 9700077-012

Technical enquiry

sales13@apterpower.com | +86 18030235313