Triconex 8311

01 Identity, function and installed-system path

Triconex 8311 is a 24 VDC input power module for the Tricon controller chassis. It converts the external dc supply into a regulated 6.5 VDC logic output for the controller assembly.

How this product fits into the system

1. 24 VDC source
2. 8311 power module
3. 6.5 VDC logic
4. Tricon chassis

Chassis supply

The preferred input remains within 24 VDC -15% to +20%. The wider 19.2–36 VDC range is an extended, short-term operating condition and should not be treated as the normal cabinet supply setting.

Input boundary

Each source needs at least 240 W capacity. The module output is 6.5 VDC ±1%, with a published maximum of 27 A and 175 W at a 60°C ambient measured at the bottom of the chassis. This rating must be assessed against the fitted controller load.

Load boundary

A redundant power arrangement can support controlled module replacement only under the approved Tricon site procedure. Before service, document both source voltages, fuse types, load distribution and temperature, then verify the restored supply and diagnostics.

Evidence boundary

The electrical limits are exact-model 8311 values; extended input is for short-term operation, not the normal setpoint.

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02 Ratings, interfaces and applicable limits

Verified technical specifications

Nominal input	24 V DC
Recommended input	24 V DC, -15% / +20%
Extended input	19.2–36 V DC, short-term
Input isolation	1000 V AC / 1500 V DC
Source capacity	240 W minimum per source
Input fuse	15 A time-delay
Output voltage	6.5 V DC ±1%
Maximum output current	27 A at 60°C chassis-bottom ambient
Output power	175 W at 60°C chassis-bottom ambient
Steady input current	5 A typical / 10 A maximum
Input overvoltage clamp	40 V DC

Applying these values

Normal input, short-term extended input and thermally qualified output limits are different operating conditions. Assess each independently in the installed cabinet.

Technical boundary

The electrical limits are exact-model 8311 values; extended input is for short-term operation, not the normal setpoint.

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03 Application decisions and compatibility

Where the product is used

01 Tricon chassis power

Provide logic power for a controller chassis with the documented 24 VDC power architecture.

02 Redundant supply design

Review both source capacities and the controller load before planning an online module exchange.

03 Legacy cabinet maintenance

Match the exact 8311 module and its input-fuse arrangement to the installed chassis.

04 Load growth review

Compare the configured module population with the 6.5 VDC output current limit at the cabinet temperature.

Compatibility decisions before use

Measure both dc feeds:
Confirm normal input voltage at each source.

Check source capacity:
Verify at least 240 W is available per source.

Confirm fuse type:
Use the specified 15 A time-delay input protection.

Review load and heat:
Check chassis-bottom ambient against the output rating.

Observe redundancy procedure:
Use the site-approved isolation sequence.

Validate diagnostics:
Confirm regulated output and supply status after service.

Engineering decision record

Source budget	Retain measured voltage and available capacity for each independent dc supply.
Chassis demand	Compare the installed module load and cabinet temperature with the qualified output limit.
Acceptance evidence	Record output voltage, supply status and approved redundancy test results.

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04 Eight engineering questions beyond the table

01 Why is 19.2–36 VDC unsuitable as a normal target for 8311?

The original guide marks this as an extended range for short periods; use the recommended 24 VDC tolerance in normal service.

02 How is source capacity assessed for 8311?

Check each source can provide the stated 240 W minimum under the configured chassis load.

03 Where is ambient measured for 8311 output ratings?

The 27 A and 175 W values apply at 60°C air temperature measured at the bottom of the chassis.

04 What should be checked if 8311 drops out during load changes?

Measure supply transient voltage at the module, inspect wiring losses and source response, and compare with the minimum input limit.

05 Why does 8311 use a time-delay input fuse?

The published table specifies 15 A time-delay protection; match the installed fuse type to manage normal input transients.

06 How is a redundant 8311 arrangement accepted?

Check both power sources independently and confirm controller diagnostics remain stable under the approved failover procedure.

07 Can a different Tricon power module replace 8311?

Only after input voltage, output capacity, chassis slot and controller compatibility are approved.

08 What data should be recorded after 8311 service?

Record input voltage, output indication, fuse identity, chassis temperature and diagnostic status.

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05 Selection boundary and service handover

Identify the offered assembly

Compare the full 8311 marking, visible revision and physical interfaces with the installed item. Request current overall, label and connector photographs, and retain the exact quoted reference in the maintenance record.

Lifecycle and replacement assessment

Confirm current manufacturer support and replacement status for the complete marking and revision. Seller stock and dispatch availability are separate quotation matters; approve interchangeability against the actual host, software and site drawings.

Companion equipment and supply scope

Record the host, cables, mating connectors, accessories and documents needed for the installed arrangement. Confirm the delivered items individually in the quotation; a compatible companion shown in the system path is not automatically included.

Engineering handover

Keep the as-found hardware identities, approved configuration, before-and-after measurements, diagnostic results and completed acceptance record together. Validate the affected process or communication path before returning the equipment to service.

Related product references

These are other catalogue references, not confirmed substitutes. Assess fit independently.

Triconex 3706A

Triconex 4329

Triconex 3008

Discuss the exact product and installed configuration

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Technical basis: Triconex Planning and Installation Guide for Tricon v9–v11 Systems, Model 8311 power-module specifications.

Order review record

Before release: confirm both dc input sources, chassis load, 15 A time-delay protection and the installed 8311 revision.