MTL 8920-PS-DC

Engineering Installation, Diagnostic and Acceptance Guide

MTL 8920-PS-DC is a mtl8000 intrinsically safe i/o power-supply module for the MTL8000 Process I/O platform. The complete marking must be matched to the installed hardware, wiring and configuration before replacement.

01 Work package

Complete model	8920-PS-DC
Product type	MTL8000 intrinsically safe I/O power-supply module
Manufacturer	MTL
Technical source	Eaton MTL 8000 2/x power supplies overview datasheet

Field decisions

1 Establish identity

Capture the full marking, installed companion components and baseline before disconnection.

2 Inspect interfaces

Verify mounting, cable, connector, armor, approval and environmental boundaries.

3 Fit the exact chain

Preserve the documented probe-cable-Proximitor or sensor-monitor relationship.

4 Prove response

Use the approved stopped-machine and operating acceptance procedure.

5 Record as left

Save markings, configuration, test values and operating observations.

Pre-work evidence

Installed drawing	Record the drawing, machine location and channel designation that govern 8920-PS-DC.
Probe marking	Capture the complete order identity and any tag or revision visible on the delivered item.
Mechanical reference	Record thread or sleeve datum, insertion depth, lock position and expected target travel.
Cable identity	Confirm lead construction, connector condition, routing, strain relief and electrical-length relationship.
Companion electronics	Record the matching extension cable, Proximitor or signal conditioner and monitor channel.

02 Interface and configuration map

Nominal input	24 V DC
Regulated output	12 V DC
Output current	5 A
Supported I/O quantity	Typically 6 to 20 MTL8000 I/O modules, dependent on module mix
Dedicated carrier	8724-CA-PS
Node-services carrier support	8711-CA-NS or 8712-CA-NS
Power-supply carrier support	8717-CA-PS
Redundancy	Additional module supported in n+1 arrangement
Load sharing	Multiple 8920-PS-DC modules can share node load
Failure indication	Power-supply failure signalled to the Bus Interface Module
Field application	Powers MTL8000 modules serving intrinsically safe field wiring
Conversion function	24 V DC node supply to 12 V DC I/O-module supply

Chain controls

Target condition	Confirm target material, width, runout surface and clearance from nearby conductive material.
Static baseline	Record stopped-machine gap or bias and compare it with the approved maintenance baseline.
Operating baseline	Record monitor indication and expected response after the complete channel is returned to service.

03 Installation workflow

Confirm the complete identity

Match every field of 8920-PS-DC with the approved spare-parts record before installation.

Control electrostatic exposure

Use grounded handling, antistatic packaging and protected work surfaces for exposed electronics.

Verify the host interface

Confirm connector keying, slot assignment, supply and companion hardware before energizing.

Preserve configuration evidence

Record switches, firmware, parameters, terminal assignments and as-found diagnostics before removal.

Inspect environmental condition

Check contamination, corrosion, ventilation, vibration and cabinet temperature before fitting the replacement.

Prove the installed function

Complete the manufacturer and site acceptance procedure, then retain the as-left result with the maintenance record.

Application checks

MTL8000 IS node supply

Power I/O modules connected to intrinsically safe field circuits.

Redundant node power

Use an additional supply in an approved n+1 arrangement.

Load-shared expansion

Distribute the calculated 12 V load across multiple power modules.

Node-services integration

Mount on compatible MTL8000 carrier positions and report failure to the BIM.

Controlled sequence

01 Isolate	Place the monitored machine and channel in the approved maintenance state; prove the required isolation.
02 Photograph	Capture 8920-PS-DC, the installed datum, connector, route and companion-component markings.
03 Measure	Record mechanical position and the applicable stopped-machine electrical reading before removal.
04 Compare	Check delivered identity, interfaces and evidence against the approved drawing and spare-parts record.
05 Install	Fit without twisting the lead; preserve thread engagement, target clearance, bend radius and strain relief.
06 Set point	Establish the operating gap or datum only with the approved stopped-machine procedure.
07 Prove	Compare local reading, monitor indication and controlled operating response with the accepted baseline.
08 Handover	Record as-left values, photographs, deviations, responsible technician and release approval.

04 Diagnostic decision table

How should the load budget for 8920-PS-DC be calculated?	Sum the documented 12 V demand of every installed I/O module, include operating margin and verify the result against each supply and the required redundancy state.
What should be checked if 8920-PS-DC reports failure but 24 V DC is present?	Measure input at the carrier, inspect carrier contacts, confirm 12 V output and load, then review Bus Interface Module diagnostics.
How is n+1 redundancy of 8920-PS-DC proved?	Under the approved process condition, remove or isolate one supply, verify the remaining modules carry the load and confirm the failure indication reaches the BIM.
Why can the number of modules powered by 8920-PS-DC vary?	MTL8000 I/O types have different current demands, so the 5 A capacity supports a module count determined by the actual mix.
What evidence should be recorded before replacing 8920-PS-DC?	Capture the complete nameplate, installed slot or mounting position, companion hardware, wiring identifiers and the accepted operating baseline for the mtl8000 intrinsically safe i/o power-supply module.
How should an intermittent fault around 8920-PS-DC be isolated?	Separate field wiring, connector, supply, grounding, configuration and host-system causes. Reproduce the symptom under a controlled test and change only one variable at a time.
What configuration evidence should be retained after commissioning 8920-PS-DC?	Retain the hardware identity, firmware or parameter record where applicable, channel assignment, as-left measurements, alarm or diagnostic state and the approved functional-test result.
When should 8920-PS-DC be rejected during incoming inspection?	Quarantine the item if the complete marking, connector keying, board revision, protective coating, terminal condition or required companion hardware differs from the approved replacement record.

Release review

Installation relationship	Install only on the approved MTL8000 carrier and preserve node polarity and protective devices.

Capacity boundary	The 5 A output must be checked against the actual I/O-module mix and required redundancy margin.
Technical reference	Eaton MTL 8000 2/x power supplies overview datasheet.

Engineering questions

How should the load budget for 8920-PS-DC be calculated?	Sum the documented 12 V demand of every installed I/O module, include operating margin and verify the result against each supply and the required redundancy state.
What should be checked if 8920-PS-DC reports failure but 24 V DC is present?	Measure input at the carrier, inspect carrier contacts, confirm 12 V output and load, then review Bus Interface Module diagnostics.
How is n+1 redundancy of 8920-PS-DC proved?	Under the approved process condition, remove or isolate one supply, verify the remaining modules carry the load and confirm the failure indication reaches the BIM.
Why can the number of modules powered by 8920-PS-DC vary?	MTL8000 I/O types have different current demands, so the 5 A capacity supports a module count determined by the actual mix.
What evidence should be recorded before replacing 8920-PS-DC?	Capture the complete nameplate, installed slot or mounting position, companion hardware, wiring identifiers and the accepted operating baseline for the mtl8000 intrinsically safe i/o power-supply module.
How should an intermittent fault around 8920-PS-DC be isolated?	Separate field wiring, connector, supply, grounding, configuration and host-system causes. Reproduce the symptom under a controlled test and change only one variable at a time.
What configuration evidence should be retained after commissioning 8920-PS-DC?	Retain the hardware identity, firmware or parameter record where applicable, channel assignment, as-left measurements, alarm or diagnostic state and the approved functional-test result.
When should 8920-PS-DC be rejected during incoming inspection?	Quarantine the item if the complete marking, connector keying, board revision, protective coating, terminal condition or required companion hardware differs from the approved replacement record.

Acceptance and support

Retain the full marking, installed-chain identities, test readings and approved machine configuration. Confirm the exact offered item and included scope in the written quotation.

Discuss the exact marking and installed application with Apter Power.
sales13@apterpower.com | +86 18030235313

Verified related product references

Related product	1756-IF6I
Related product	IS420ESWBH3AX
Related product	6ES7153-2BA10-0XB0
Related product	CI858K01 3BSE018135R1

Commissioning record template

Installed asset	Machine, bearing, channel or cabinet reference
Companion identities	Probe, cable, sensor, interface or monitor markings
Mechanical datum	Mounting reference, reach, alignment or sealing condition
Electrical datum	Chain length, connector, shield, supply or input assignment
Before-work baseline	Gap, bias, vibration, continuity or channel observation
As-left result	Final measured value and functional proof
Approval basis	Applicable drawing, control requirement or site procedure
Handover	Technician, date, revision and maintenance-record location

Escalation triggers

Identity conflict	Stop if the complete marking, suffix, revision or approval identity differs from the approved record.

Host mismatch	Escalate if the rack, carrier, backplane, terminal unit or controller assignment is not documented for 8920-PS-DC.
Interface damage	Do not energize with bent contacts, damaged insulation, loose retainers, contamination or heat discoloration.
Environmental breach	Review any exposure beyond the documented temperature, vibration, humidity, contamination or enclosure boundary.
Unapproved substitution	Do not transfer ratings or compatibility from an adjacent order code without manufacturer evidence.
Configuration conflict	Stop if hardware settings, firmware, channel assignment or project configuration disagree with the installed record.
Unstable measurement	Investigate noise, drift, intermittent status or inconsistent readings before replacing another component.
Failed functional proof	Keep the asset in the approved maintenance state until the complete acceptance sequence is passed and recorded.

Evidence package

Nameplate evidence	Overall and close photographs showing 8920-PS-DC, revision, approval and serial details where present.
Installation evidence	Views of the rack position, mechanical datum, terminal assignment, cable route and strain relief.
Configuration evidence	Export or screenshots identifying the approved hardware assignment and parameters without exposing credentials.
Baseline evidence	As-found readings with units, test conditions, machine state and the instrument used.
Inspection evidence	Connector, contact, insulation, fastener, contamination and heat-condition observations.
Functional evidence	As-left readings and the controlled input, output or channel response used for acceptance.
Change evidence	Any wiring, setting, firmware or mechanical change linked to its approved work reference.
Release evidence	Technician, reviewer, date, asset reference and the maintenance-record location for traceability.

Evidence quality controls

Traceability	Each value is tied to 8920-PS-DC, the asset location, test state, instrument and date.
Repeatability	The same approved method and comparable operating state are used for before-and-after readings.
Resolution	Recorded precision does not exceed the capability of the instrument or source document.
Reference state	Stopped, energized, loaded and process-running observations are clearly distinguished.
Change control	Every changed setting, connection or mechanical datum has an approved reason and reviewer.
Retention	Evidence remains accessible with the maintenance record for future troubleshooting and replacement review.