Fault Managed Power
Indoor Receiver

Application

The Clearfield Fault Managed Power High Voltage 4000 Receiver delivers 240–350 VDC to equipment designed to accept high-voltage DC directly. Paired with a compatible Clearfield FMP transmitter, it completes a supervised Class 4 circuit between the transmitter and receiver. If the system detects a fault along that circuit, the transmitter disconnects power to help protect personnel, equipment, and infrastructure.

The receiver provides up to 4,000 W across two output connections without converting the power to a fixed low-voltage output. This makes it well suited for equipment with an integrated DC/DC conversion stage or applications where final voltage conversion occurs downstream.

Designed for control cabinets and equipment bays, the compact 2.13 lb receiver mounts vertically on a standard 35 mm DIN rail. Its fanless, convection-cooled enclosure measures 7.00 × 4.02 × 3.55 inches and operates from -40°C to 70°C, subject to cold-start and high-temperature derating requirements.

Description

The Fault Managed Power High Voltage 4000 Receiver accepts power from four independent Fault Managed Power channels through an 8-position pluggable input terminal block. Each input channel supports up to 5 A, with a combined input-current limit of 12 A. The 240–350 VDC input must be supplied by a compatible UL Recognized or Listed Clearfield FMP transmitter shelf to form the supervised Class 4 circuit.

Two output connections provide 240–350 VDC for equipment designed to accept high-voltage DC directly. Each connection supports up to 12 A, subject to a combined maximum output current of 12 A. The 6-position screw-type output terminal block accepts 12–18 AWG wiring, with a minimum of 14 AWG required when delivering full load through a single output pair.

Because the receiver does not convert the output to a fixed low-voltage rail, final DC/DC conversion can take place within the connected equipment or through a separate downstream conversion stage.

- Output power: Up to 4,000 W
- Output voltage: 240–350 VDC
- Output current: 12 A maximum total
- Mounting: Standard 35 mm DIN rail
- Weight: 2.13 lb

Compact, cabinet-ready design

Measuring 7.00 × 4.02 × 3.55 inches and weighing 2.13 lb, the receiver is designed for integration into control cabinets and equipment bays. It mounts vertically on a standard 35 mm DIN rail, with the input connector positioned at the top and the output connector at the bottom.

The fanless design uses natural convection for cooling. Adequate clearance must be maintained above and below the receiver, and the ventilation openings must remain unobstructed.

The receiver operates from -40°C to 70°C, with cold starts limited to -20°C and output derating above 40°C.

Grounding and bonding

The receiver must share the same ground reference as the transmitter supplying it unless over-voltage protection has been incorporated in accordance with Clearfield FMP system design guidance.

When installed inside a metal, non-insulated enclosure, a 14 AWG green-and-yellow bonding conductor must connect the enclosure to one of the receiver's output ground terminals. The connected load must be grounded through the other output ground terminal.

Important: *the output circuit is not a protected FMP / Class 4 circuit, and output terminals can carry up to 350 VDC. Due to internal capacitance, it can take up to one minute after power removal for the unit to reach a safe voltage — always confirm de-energization before contacting output terminals.*

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Features and Benefits

Safety by design

- Input circuit is a listed Class 4 system per NFPA 70 Article 726, supervised end to end by the paired transmitter
- Compatible only with matched Clearfield FMP transmitters
- Output terminals can carry up to 350 VDC; the unit must be de-energized, and up to a minute allowed for internal capacitance to discharge, before any output terminal is touched
- Rated for Restricted Access Area installation per IEC 62368-1

Compact, cabinet-friendly form factor

- Standard 35 mm DIN rail mount — drops into an existing control cabinet or equipment bay alongside other rail-mount gear
- 2.13 lb, fanless, convection-cooled enclosure with top/bottom vents
- -40°C to 70°C operating range with documented high-temperature derating
- Pluggable input terminal block and screw-type output terminal block simplify field wiring and swaps

Flexible system design

- Pass-through 240–350 VDC output lets the downstream device own the final DC/DC conversion, instead of fixing it at the receiver
- Up to 4,000 W across two output connections, 12 A max each
- Grounding shared with the source transmitter simplifies bonding across a single power domain; OVP guidance available where that's not practical

Fast field diagnostics

- Four dedicated fault LEDs — Load, Environmental, Internal, Input/Other — plus a per-channel status column, give an on-site technician an immediate read without a laptop
- Each fault code maps to a documented troubleshooting path (wiring check, load reduction, added transmitter pairs, or a call to support)
- Labeled, keyed connectors reduce mis-termination risk during install

Technical Specifications

INPUT

Parameter	Specification	Notes
Input Voltage	240–350 VDC	Must be supplied by a compatible UL Recognized or Listed FMP transmitter shelf
Number of Channels	4	—
Current per Input Channel	5.0 A maximum	—
Current, total	12.0 A max	—
Input wiring size	12–18 AWG	—

EFFICIENCY

Parameter	Specification	Notes
Typical Efficiency	95%	At full load

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CLEARFIELD

Technical Specifications

OUTPUT		
Parameter	**Specification**	**Notes**
Output Voltage	240–350 VDC	Pass-through, not stepped down
Number of connections	2	—
Current per Output Channel	12.0 A max	—
Total Output Current	12.0 A max	—
Output wiring size	12–18 AWG	14 AWG minimum if running full load on a single pair

ENVIRONMENT AND MECHANICAL		
Parameter	**Specification**	**Notes**
Operating temperature	-40°C to 70°C (-40°F to 158°F)	Cold start limited to -20°C; see derating curve above 40°C
Altitude	Up to 2,000 m	—
Dimensions	7.00" × 4.02" × 3.55" (177.8 × 102.0 × 90.1 mm)	—
Weight	2.132 lb	—
Mounting	35 mm DIN rail	Vertical, input connector up, output connector down