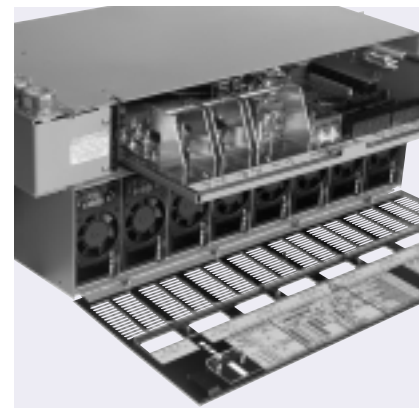


C&D TECHNOLOGIES

Power Solutions

AGM 60

-48 Vdc, 7.5 to 60 Amps
ADVANCED POWER PLANT



ADVANCED FEATURES POWER PLANT -48 VDC, 60 AMPS (MODEL #110-4202-XX)

FEATURES AT A GLANCE

- Configurable from 7.5 to 60 Amps of -48 Vdc Power
- Advanced hot-plug HFM48AC7.5 switchmode rectifiers
- -40 to +65 degrees C operation power derated up to +80 degrees C
- True Front access for AC & DC connections
- Compact size: only 5 rack spaces in 23" (58.42 cm) relay rack and 12" (30.48 cm) depth
- Pullout DC distribution shelf consisting of positions:
 - A & B buses
 - Two AM1-style circuit breakers positions per Bus — optional
- 10 GMT fuse positions per Bus
 - LVD: A, B, A & B or battery
 - Load-shedding capability
 - Two battery disconnect switches
- Optional single or dual AC line cords
- Advanced battery enhancement functions
- Advanced plant enhancement functions
- Advanced diagnostics

DESCRIPTION

C&D TECHNOLOGIES' AGM 60 POWER PLANT with its advanced features is designed to meet the needs of Outside Plant, Fiber, PBX, Microwave and General Broadband applications. Its compact size (only 5 rack spaces) is ideally suited for applications where space is at a premium. The AGM 60 can be configured from 7.5 Amps to 60 Amps using the C&D TECHNOLOGIES' -48 Vdc, 7.5 Amp Advanced Switchmode Rectifiers (HFM48AC7.5). With C&D TECHNOLOGIES' unique pullout distribution tray, the system can be expanded with circuit breakers and/or fuses without power interruption. Utilizing the AGM 60 advanced battery and plant features, AM1 circuit breakers, GMT fuses, LVD, Battery Disconnects and advanced monitor and control, a complete, truly state-of-the-art Power Board System can be configured to meet virtually any -48 Vdc power requirement up to 60 Amps in the minimum of space.

AGM 60 POWER PLANT DETAILED FEATURES AND BENEFITS:

110-4202-L1 Part Number

Supports up to 8 HFM48AC7.5 Rectifiers

- True Hot Plug
- -48 Vdc, 7.5 Amp Advanced Switchmode
- 7.5 Amp to 60 Amp

True Front-Access Pullout Distribution Tray

- A & B Buses
- 10 GMT Fuse Position per Bus

Rectifier Current Test Jacks

Plant Voltage and Current Test Jacks

Optional Battery Disconnect Breakers

- Supports up to 2 battery breakers

*Standard: Two AC line feeds

- Line 1: Rectifier Positions 1, 3, 5 and 7
- Line 2: Rectifier Positions 2, 4, 6 and 8

*Optional AC connections:

- 1 AC Line Feed
- 1 or 2 AC Feed Line Cords
- GMT Fuses ranging from .18–10 Amps
- Snap-in Breakers ranging from 1–50 Amps
- Two AM1 Snap-In Circuit Breaker Positions per Bus (optional)

Wide-Range Auto Ranging AC Input

- Detects brownouts and limits input current to prevent Unnecessary AC service circuit breaker trips

Single-Point Rectifier Output Float Voltage Adjustment

ALARMS:

- LED's Alert operator to AC fail, Fuse alarm, Minor Alarm, Major Alarm, LVD Alarm and Coded Diagnostic Alarms
- Form C Relay contacts alert operator to AC Fail, Fuse Alarm, Minor Alarm, Major Alarm, Rectifier Fail Alarm and LVD Alarm
- DIP Switch Controls:
LVD and HVSD Set Points, Delta or Absolute Temperature Alarms, Battery Temperature Compensation Range and on/off, Manual LVD on/off, Auto Equalize on/off, Test Mode, Remote Voltage Adjustment on/off, Manual Equalize on/off, Sleep Mode on/off

Advanced Battery Enhancements

- Sleep Mode — Reduces Float Current, Increasing Battery Life
- Battery Temperature Compensation — Protects Against Thermal Runaway and Increases Battery Life
- Battery Fail Detection
- Battery Temperature Alarms for Absolute or Delta

Advanced Plant Enhancements

- Single-Point Rectifier Output Float Voltage Adjustment
- Equalize: Manual and Automatic
- High-Voltage Shutdown and Restart
- LVD Control and Test Mode
- LVD Bypass Switch for Maintenance
- System Status and Alarm LED's
- System Status and Alarms Relay Contacts

Extended Plant Diagnostics Indicators

- HVSD Set Too Close to Float Setting
- Plant Voltage Clamped to Avoid Temperature Compensation Caused HVSD
- Battery Fail
- Battery Temperature > 145F
- Battery Temperature > Ambient + 36F
- Battery Temperature > Ambient + 20F while in Equalize
- Sleep Mode Active
- Low-Voltage Alarm
- High-Voltage Alarm
- Plant in Equalize Mode
- Temperature Sensor Missing or Out of Range
- Test Mode Active

Extended Rectifier Diagnostic Indicators

**See Rectifier Specifications*

Additional Models:

110-4202-L2: All Features of 110-4202-L1 Plus Low — Voltage Battery Disconnect

110-4202-L3: All Features of 110-4202-L1 Plus Low — Voltage Disconnect in Bus A

110-4202-L4: All Features of 110-4202-L1 Plus Low — Voltage Disconnect in Bus B

110-4202-L5: All Features of 110-4202-L1 Plus Low — Voltage Disconnect in Bus A/B

AGM 60 PLANT SPECIFICATIONS

PHYSICAL SPECIFICATIONS			
HEIGHT	8.75" (22.23 cm)		
WIDTH	23" (58.42 cm) Relay Rack Mount		
DEPTH	12.0" (30.48 cm)		
WEIGHT	41 lbs (91.82 kgm) without Rectifiers		
ENVIRONMENTAL SPECIFICATIONS			
OPERATING TEMPERATURE	-40C to +65C (-40F to +149F)		
STORAGE TEMPERATURE	-40C to +85C (-40F to + 185F)		
HUMIDITY	0% to 95% Noncondensing		
ALTITUDE	7,000 ft. (2,133 m)		
HEAT DISSIPATION	1,952 BTU/Hr. Maximum @ 60 Amps and 54 Vdc		
COOLING	Convection - Individual Rectifiers		
SEISMIC	BELLCORE Zone 4		
AUDIBLE NOISE	< 62 dBa @ 2 ft. in Front of Plant		
ELECTRICAL SPECIFICATIONS			
EMI	FCC Part 15, Subpart J for Class A Equipment		
LIGHTNING	ANSI/IEEE C62.41C Class B3		
ELECTRICAL NOISE: VOICE BAND	32 dbrnc		
ELECTRICAL NOISE: WIDEBAND	40 mv rms: DC to 20 MHz		
ELECTRICAL NOISE: Peak-to-Peak	250 mv Peak-to-Peak @ 20 MHz Bandwidth		
POWER SPECIFICATIONS			
INPUT VOLTAGE	106-264 Vac, Single Phase, 45-65 Hz: Auto Ranging with Input Current Limiting to Prevent AC Service Circuit Breaker Trip at Extreme AC Line Brownouts (110 Vac or 208/240 Vac Inputs) (Dual AC Line Cords for Redundancy)		
INPUT AC SERVICE CIRCUIT BREAKER REQUIREMENTS	INPUT 110 Vac, Dual Input 208/240 Vac, Dual Input 208/240 Vac, Single Input	WIRE 8 GA 10 GA 8 GA	BREAKER 30 Amps 20 Amps 30 Amps
OUTPUT MAX. POWER	3,600 Watts: 60 Amps @ -60 Vdc		
AGENCIES	UL / CSA / VDE / CE		

RECTIFIER SPECIFICATIONS (HFM48AC7.5)

PHYSICAL SPECIFICATIONS	
HEIGHT	5.00" (12.7 cm)
WIDTH	2.5" (6.35 cm)
DEPTH	11.0" (27.94 cm)
WEIGHT	3 lbs (1.4 kgm)
ENVIRONMENTAL SPECIFICATIONS	
OPERATING TEMPERATURE	-40C to +65C (-40F to +149F)
STORAGE TEMPERATURE	-40C to +85C (-40F to +185F)
HUMIDITY	0% to 95% Noncondensing
ALTITUDE	7,000 ft. (2,133 m)
HEAT DISSIPATION	244 BTU/Hr. Maximum @ 7.5 Amps and 54 Vdc
COOLING	Convection - Individual Rectifiers
SEISMIC	BELLCORE Zone 4
AUDIBLE NOISE	< 62 dBa @ 2 ft. in Front of Plant
ELECTRICAL SPECIFICATIONS	
EMI	FCC Part 15, Subpart J for Class A Equipment
LIGHTNING	ANSI/IEEE C62.41C Class B3
ELECTRICAL NOISE: VOICE BAND	32 dbrnc
ELECTRICAL NOISE: WIDEBAND	40 mv rms: DC to 20 MHz
ELECTRICAL NOISE: Peak-to-Peak	250 mv Peak-to-Peak @ 20 MHz Bandwidth
CONNECTIONS	All AC and DC Connections are made via the AGM 60. AGM Power Plant Rectifiers are Hot Plug.

POWER SPECIFICATIONS	
INPUT VOLTAGE	106-264 Vac, Single Phase, 45-65 Hz: Auto Ranging with Input Current Limiting to Prevent AC Service Circuit Breaker Trip at Extreme AC Line Brownouts (110 Vac or 208/240 Vac Inputs)
INPUT CURRENT	4.4 Amps @ 120 Vac: @ Full Load, 60 Vdc 2.6 Amps @ 208 Vac: @ Full Load, 60 Vdc 2.3 Amps @ 240 Vac: @ Full Load, 60 Vdc
OUTPUT VOLTAGE	Float: 48 to 56 Vdc Equalize: 52 to 60 Vdc
OUTPUT REGULATION	+/- 0.5% for 0% to 100% of Full Load within the Specified Input Voltage and Frequency Range
OUTPUT CURRENT	7.5 Amps Max.
OUTPUT MAX. POWER	450 Watts: 7.5 Amps @ -60 Vdc
CURRENT LIMIT	Fixed at 100% Full Load
LOAD SHARE	+/- 10% from 10% to 100% of Full Load Rating
POWER FACTOR	> .99
EFFICIENCY	> 84%
PROTECTION SPECIFICATIONS	
INPUT PROTECTION	Fuse in Each AC Input Circuit
OUTPUT PROTECTION	Diode
OUTPUT OVERVOLTAGE SHUTDOWN CHUSD	Fixed at 60 Vdc
TURN-ON	Soft-Start > 8 seconds
AGENCY LISTINGS	UL / CSA / VDE / CE
CODED LED MESSAGES	
Low Current, Overvoltage, AC Line Low, Over Temperature, Remote Float Control Out of Range, Load Share Out of Range, Thermal Shutdown, Air Flow Low, External High-Voltage Shutdown	

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