

# AMREL MFP Series

300 W - 1200 W

## Millitarized Fixed Output AC-DC Power Supply

22 V - 35 V\*

- Ultra Quiet - Convection Cooled.
- Rugged - MIL-STD 810F.
- Meets - MIL-STD 461
- Flexible - 85VAC - 250VAC, 45Hz - 440Hz, Active PFC
- Efficient - 85% Minimum
- Selectable Output or Fixed Output.
- Combat Proven in Iraq and Afghanistan.



12.5 A - 50 A

~	90 VAC	250 VAC
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\*Consult factory for other voltage output

Designed specifically to provide accurate, reliable DC power in highly hostile environments, the AMREL MFP Series Power Supplies are proven to withstand the rigor of contemporary combat missions. Recognizing war fighter need, the MFP Series is among the most versatile and rugged COTS (Commercial-Off-The-Shelf) power supplies available.

Completely enclosed in a single extrusion, the mechanical design provides cooling and enables operation in the most severe environments. MFP Series power supplies are compliant with environmental requirements of MIL-STD 810F.

Convection cooling enables silent operation from - 40°C to + 70°C. The absence of a fan significantly reduces maintenance requirements. This allows installation in enclosed equipment, at remote sites, or even in unsheltered environments exposed to the elements.

The robust mechanical design has facilitated deployment on-board vehicles, weapons platforms, portable and stationary radar systems, shipboard, and unsheltered ground environments. For installation on aircraft the MFP operates from single phase 400 Hz power.

There are three MFP models available rated at 300 W, 400 W and 1200 W. Output voltage is either fixed or can be set from 22 VDC to 35 VDC. All models share common construction for simplified installation and packaging.

Most models include a front accessible DIP switch to accurately set output voltage to compensate for cable drop or other aspects of individual installations. Front panel LED's indicate operational status.

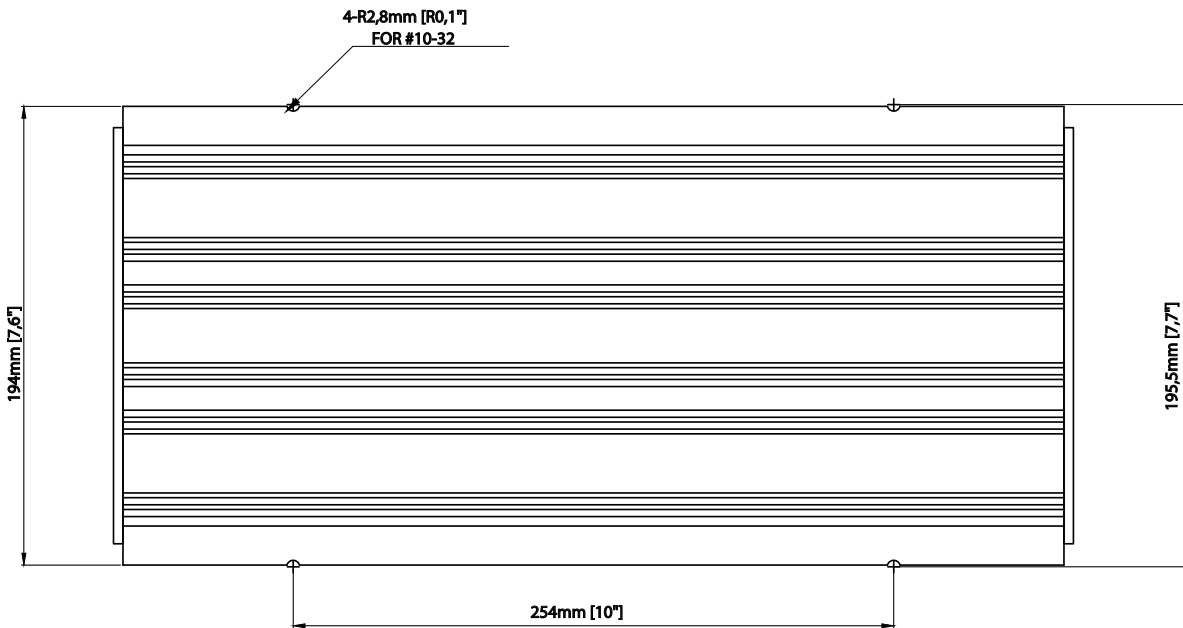
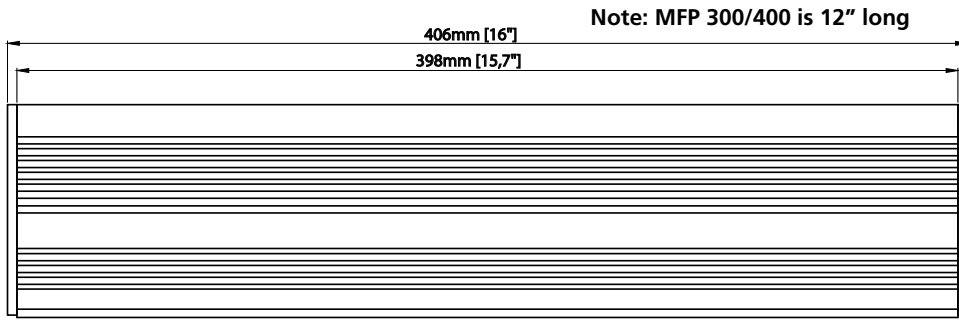
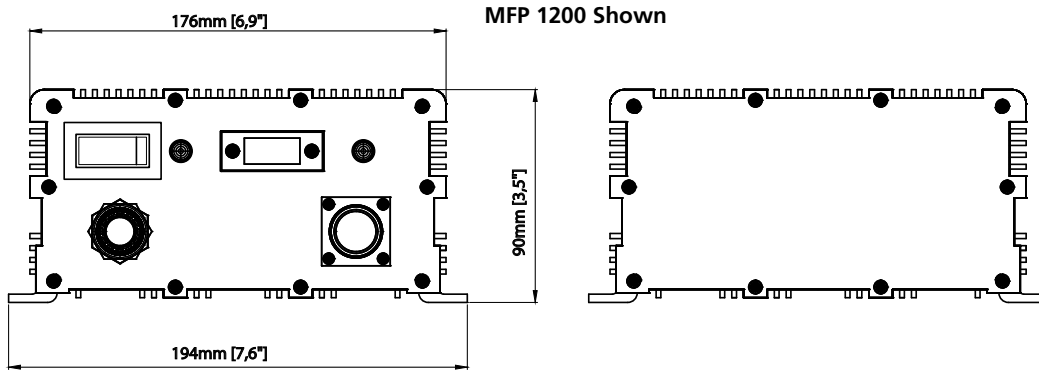
Active input power factor correction (PFC) allows operation from worldwide mains voltage as well as from any available generator or converter. Input ranges from 85 VAC to 250 VAC, 45 Hz to 440 Hz are automatically accommodated with no need for manual switch-over.

Current applications for the MFP include UAV Ground Control Power, Mobile Radar Equipment, Ground Radar installations, auxiliary 24VDC vehicle power, radio power, and battery charging for portable equipment.

**AMETEK**  
**Programmable Power**  
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# MFP Series : Product Specifications

Voltage and Current Ranges				
Model	Voltage	Maximum Current	Output Power at 50C	Output Power at 65C
MFP 300	24 VDC - 28 VDC	12.5 A	300 W	210 W
MFP 300-1	22 VDC - 35 VDC	12.5 A	300 W	210 W
MFP 400 with digital I/O	29 VDC	15 A	400 W	230 W
MFP 1200	24 VDC - 28 VDC	50 A	1200 W	840 W
MFP 1200-1	28.75 VDC	50 A	1200 W	840 W
MFP 1200-4	24 VDC - 28 VDC	50 A	1200 W	840 W
Common				
Over Current /Short Circuit	Current limit set for 150% rated output. Automatic recovery from overload.			
Remote Programming	Output voltage is settable in accordance with specific model			
Overvoltage Protection	Typical setting 5% - 10% above maximum output			
Overtemperature Protection	Set at 100°C with automatic recovery when temperature drops at least 5°C.			
Status Monitor	External LEDs indicate the status of the power supply.			
Maintenance	None required			
EMI and RFI	Meets MIL-STD-461; CE-102,CS-101, CS-114, RE-102 and RS-103.			
Reliability	Minimum MTBF: 100,000 Hours in the operational environment.			
Input				
Voltage and Frequency	85-250 VAC max, auto ranging, 45Hz - 440Hz, single phase, 2-wire plus ground			
Current	15A maximum at 120 VAC., 1200 W output. Inrush current and voltage surge / spike protection.			
Connector	IEC 320 with detachable line cord or ms connector			
Power Factor	>.95 at full load			
Output				
Line Regulation	+/- 0.05% from 90 VAC to 265 VAC at 100% load			
Load Regulation	+/- 0.5% from No load to Full load			
Transient Response	Recovers in less than 2 ms to 1% of set voltage			
Stability	±0.05% of maximum voltage or current over 8 hours after 30 minute warm-up time at fixed line, load and temperature			
Efficiency	>85% at full power rating.			
Temperature Coefficient	Change in output 0.02% / °C of maximum output voltage with constant line and load.			
Environmental				
Operating Temperature	-40°C to 65°C. Derates 2%/°C from 50°C to 65°C.			
Storage Temperature	-40°C to 75°C			
Cooling	Convection. Fully enclosed, black anodize finish. Solar Radiation; 1130 W/meter squared			
Shock	MIL-STD-810F; Procidures IV, VI			
Vibration	MIL-STD-810F; Method 514.5, Procedure II (In transit case)			
Altitude	Operational: -1000 ft. to +10,000 ft. Non-operational: 40,000 ft.			
Rain	MIL-STD-202: Method 104A, Test Condition A			
Sand & Dust	MIL-STD-202: Method 110A			
Salt Atmosphere	MIL-STD-202: Method 101E, Test Condition B			
Ice, Snow and Hail	Complies with MIL-STD 810F. Meets snow load. 20lbs / ft <sup>2</sup> Withstands hail up to 60mm.			
Fungus	MIL-STD 810F: Method 508.5			
Salt Atmosphere	MIL-STD 810F: Method 509.4			
Humidity	MIS-STD 810F: Method 507.4. 5% to 100% Condensing.			
Physical				
Model	MFP 300	MFP 400	MFP 1200	
Width	7.5" (190 mm)	7.5" (190 mm)	7.5" (190 mm)	
Height	3.5" (90 mm)	3.5" (90 mm)	3.5" (90 mm)	
Length	12.0" (305 mm)	12.0" (305 mm)	16.0" (406 mm)	
Weight	8.9 lb. (4.04 Kg)	8.9 lb. (4.04 Kg)	15.3 lb. (6.95 Kg)	
Shipping Weight	11.0 lb. (5.0 Kg)	11.0 lb. (5.0 Kg)	17.5 lb. (7.94 Kg)	



Connectors				
Model	MFP 300 / 300-1	MFP 400	MFP 1200 / 1200-4	MFP 1200-1
Input	MS3102E16-10P	MS3102E16-10P	19616 10 B1 - power cord	AIB2-20-3PS
Input Mate	MS3106E16-10S	MS3106E16-10S	NEMA 5-15	AIB6F20-3SS
Output	MS3112E10-6S	MS3112E10-6S	MS3470W14-4S	MS3470W14-4S
Output Mate	MS3116E10-6P	MS3116E10-6P	MS3470W14-4P	MS3470W14-4P

