
RUGGED MOBILE POWER (RMP)

Mobile Power for Tactical Environments 30 kW 50/60 Hz 400 Hz

DESCRIPTION

This Cummins® Rugged Mobile Power (RMP) platform is a fully integrated power generation system utilizing state of the art technology that results in optimum performance, reliability, and versatility for Standby and Prime Power applications in tactical environments and beyond.

FEATURES

Heavy Duty Engine - Rugged 4-Cycle industrial diesel delivers reliable power and fast response to load changes.

Alternator - Best motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Control System - The RMP Advanced Digital Control System (AdvDCS) makes it possible to create a microgrid of paralleled RMP generator sets without any external control devices.

Cooling System - The generator set cooling system is equipped with electric variable speed fans to minimize noise signature and enhance low load engine thermal management.

Warranty and Service - Backed by comprehensive warranty and worldwide distributor network.



CRITICAL MILITARY FEATURES

- Designed to MIL DTL 32496
- Multi-fuel (JP-8, JP-4, DF-1, DF-2, DF-A)
- Operate at all environmental extremes -50°F to 135°F (-45°C to 57°C)
- Excellent power quality
- High reliability
- Battlefield mobility
- Ruggedized
- 24 volts starting with NATO slave connection
- Nuclear, biological and chemical contamination survivability
- Enhanced battlefield survivability
- Low infrared signature
- Low noise signature
- Ability to withstand high-altitude electromagnetic pulse
- Electromagnetic compatibility to U.S. MILSTD 461F
- Rated power at altitude
- Automatic synchronization with two-button paralleling
- Built-in diagnostics/prognostics
- Networking and automatic start/stop capability with the Advanced Digital Control System (ADCS)
- 8 hours fuel tank with Auxiliary fuel connections.
- Low Velocity Air Drop (LVAD) capable
- Overload capability
- Battle short mode



RUGGED MOBILE POWER (RMP) SPEC SHEET

Model	Voltage connection (60 Hz/400 Hz)	Voltage connection (50 Hz)	50 Hz	60 Hz	400 Hz	Sound Level Full load @7m
30RMP-1060A	120/208V 3φ @104A	120/208V 3φ @86A	31 kVA	30 kVA	30 kVA	70 dB(A)
30RMP-1061A	240/416V 3φ @52A	240/416V 3φ @43A				

* Genset is capable of operating between 0.8 lagging and 1.0 power factor. All fuel consumption and heat balance data is at 1.0 power factor.

Alternator Model	
UC224	MARATHON 30 KW 400 Hz

GENERATOR SET SPECIFICATIONS

Radio frequency emissions compliance	MIL-STD-2169
Voltage regulation, no load to full load	± 3% of rated voltage for all loads
Frequency regulation	60 Hz: ± 3% of rated frequency for all loads. 50 Hz: ± .5% of rated frequency for all loads. 400 Hz: ± 3% of rated frequency for all loads.

GENERATOR SET SPECIFICATIONS

Engine Model QSB3.3	QSB3.3
Design 4-cycle, In-Line	4-cycle, In-Line
Bore 94.996 mm	94.996 mm
Stroke	115.062 mm
Displacement	3.3 L
Cylinder block	Cast iron
Battery charging alternator	35 Amps
Starting voltage	24 volts negative ground
Fuel system	Bosch Electronic Fuel Injection
Air cleaner type	Dry replaceable element or Paper element
Lube oil filter type(s)	Spin-on full flow filter
Breather	Closed type
Tier rating	Tier 3

ALTERNATOR SPECIFICATIONS

Design	Brushless, 4 pole synchronous aux winding type
Stator	2/3 pitch
Rotor	Two bearing
Insulation system	Class F and H see ADS (Alternator Data Sheet) for details
Standard temperature rise	105 °C (221 °F) Continuous @ 40 °C (104 °F) ambient
Exciter type	Permanent Magnet Generator (PMG)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform Total Harmonic Distortion (THDV)	< 5% no load to full linear load, < 3% for any single harmonic
Telephone Influence Factor (TIF)	< 50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF) < 3	< 3

RMP ADVANCED DIGITAL CONTROL SYSTEM

The RMP Advanced Digital Control System (AdvDCS) with Masterless Load Demand (MLD) provides more capability and flexibility than the standard DCS. The AdvDCS makes it possible to create a microgrid of paralleled RMP generators without any external control devices.

- The MLD automatically switches the generator sets on and off as needed, according to either a fixed or programmable priority, without requiring an external master controller
- When the AdvDCS is not in MLD AUTO mode, the control can also be used for remote control applications, starting and stopping the generator sets in response to commands communicated via the Controller Area Network (CAN) interface.
- The AdvDCS is capable of interfacing with external, microprocessor-controlled equipment, enabling integration with alternative and hybrid solutions, including solar panels and battery systems.

ADVDCS WITH MLD CAN BE CONFIGURED FOR EITHER NETWORKED OR REMOTE APPLICATIONS

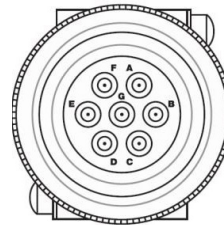
MLD eliminates the need for an external control or paralleling device. MLD is proven technology already being used on commercial Cummins generator sets.

The MLD communicates using industry-standard CAN protocols to monitor the network and report on the status of each generator set. When the AdvDCS is not in MLD mode, the CAN interface is able to send Start and Stop commands to remote generator sets. AdvDCS enhancement include:

- AUTO Start/Stop, and Load Add functions
- Remote communication and control
- Compatibility with external, non-RMP microprocessor-controlled equipment

J1939 CAN

All connections are made with a fully terminated (120 ohms at both ends) cable that meets the SAE J1939 standards. Connections to the RMP Control Box use the 7 pin connection labelled NETWORK, with a 7 pin MIL-STD connector MS3106F162-1P.



FUNCTION	RMP
CAN Hi	E
CAN Lo	D
Shield	C

RMP MICROGRID NETWORKING KIT

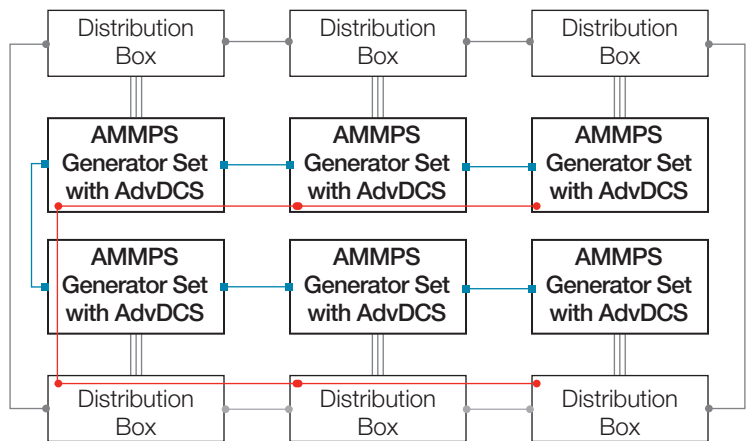
The RMP AdvDCS is available in a kit for microgrid networking applications. Including:

- Digital Control System control panel
- 7-pin MIL-STD connector cable
- CD with InPower RMP
- Remote Monitoring Tool

Kit components are sized to retrofit to existing RMP generator sets.

RMP NETWORK

This schematic shows a typical microgrid application. The AdvDCS can handle up to six 30 kW or 60 kW 50/60 Hz RMP generator sets.



- CAN cable for communication network
- Paralleling cable for load sharing
- Electrical ring bus

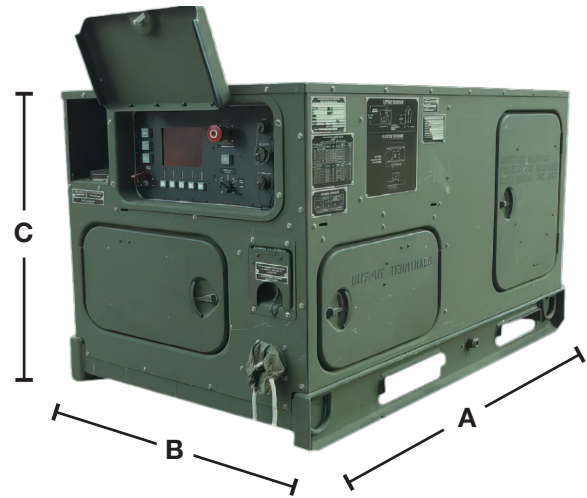
PRIME (UNLIMITED RUNNING TIME DEFINITION)

Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514).

This outline drawing is to provide representative configuration details for model series only.

See respective model data sheet for specific model outline drawing number.

Do not use for installation design



GENERATOR SET SPECIFICATIONS

Model	Dim 'A' (mm (.in))	Dim 'B' (mm (.in))	Dim 'C' (mm (.in))	Weight* dry kg (lbs)
30RMP-1060A	1913 (75)	18 (36)	1352 (53)	1005 (2215)
30RMP-1061A				1061 (2340)

* Weights represent a set with standard features. See outline drawings for weights of other configurations.

CODES AND STANDARDS



This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.

MIL-DTL-32496

Meets the general requirements for Rugged Mobile Power (RMP) generator sets, skid mounted, trailer mounted, tactical, diesel fuel driven, alternating current.

NATO STANAG 4135

A STANAG is a normative document that records an agreement among all NATO member states. Electrical characteristics of rotating alternating current generator sets.



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