

Table 1-1. Performance Characteristics of Mobile Electric Power Plant

ITEM	CHARACTERISTIC	
AC Input	220/440V, 3-phase, 60 Hz	
AC Output	120/208V, 3-phase, 400 Hz, 175 amperes, 4-wire Wye 120V, 3-phase, 400 Hz, 303 Amperes, 3-wire, Delta 120V, 1-phase, 400 Hz, 520 Amperes, Delta	
Power Factor	0.5 Lagging	
AC Voltage Regulation	± 1%	
Voltage Modulation	± 1%	
Voltage Transient	Less than 35%	
Recovery Time	0.2 second to within ± 2% Rated Voltage	
Motor	1200 rpm, 3 phase, 60 Hz, synchronous, 3-wire	
Starting Current	250A at 440V 500A at 220V	
Harmonic Content	2% total	
Voltage Balance	± 3% with full rated current in one phase only.	
Operating Temperature Range	-29°C to +49°C	
Weight		
Skid Mounted	4,885 pounds	
Trailer Mounted	6,150 pounds	
Overall Dimensions	Skid Mounted	Trailer Mounted
Height	46 inches	62 inches
Width	48-¼ inches	70 inches
Length	89 inches	117 inches (towbar down)
Road Clearance		8 inches
Towing Speed (trailer-mounted units)	5 mph	

1-15. FUNCTIONAL DESCRIPTION.

1-16. Figure 1-6 is a schematic diagram of the power plant. Input voltage (220V ac or 440V ac, 3-phase) is applied through input power cable W1 to the normally open contacts of relays K1, K2, and K5, INPUT VOLTMETER M5 and to a portion of voltage input change board TB1. Input voltage is applied from TB1, to transformer T1. Transformer T1 steps the input voltage down to 115 Vac for operation of the relay control circuits. Voltage at the secondary of T1 is also applied to utility outlet J1.

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1-17. Relay K8 is energized whenever power is applied to transformer T1. This relay senses the voltage at the secondary of T1. If the input voltage is too low or too high for safe operation, relay K8 is de-energized and opens the circuit between transformer T1 and the control relays. This prevents operation of the power plant.

1-18. When the motor START switch is pressed, it applies power to ac start/run contactor K5 and ac start contactor K1. When contactor K5 is energized, its normally-open contacts close and electrically latch the contactor in the energized