



**ESSEX ELECTRO  
ENGINEERS, INC.**

2015 Mitchell Blvd Schaumburg, IL 60193

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**TECHNICAL DATA SHEET  
MOTOR GENERATOR SET  
MODEL NO. A700A**

**COGNIZANT SERVICE: U.S.A.F.**

**NATIONAL STOCK NUMBER: 6125-01-029-5464**



**OVERALL DIMENSIONS AND WEIGHT:**

**Height: 41 Inches**

**Length: 88-3/4 Inches**

**Depth: 36-1/2 Inches**

**Weight (Dry): 3,920 Lbs.**

**FUNCTIONAL DESCRIPTION:**

Model A700A is intended for use in supplying high quality, closely regulated, 400-cycle power for hangers, maintenance shops, instructional facilities and other installations requiring precise power. The Motor Generator Set is a self-contained, forced air-cooled skid mounted unit. The unit basically consists of a motor generator, instruments, controls, and terminal board; all

mounted within a sheet metal housing. Rotating brushless exciters are supplied for both the motor and generator. A solid state voltage regulator is supplied for controlling the output of the generator. Voltage and current protective devices are furnished to protect the input and output circuits.



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PAGE 2 OF 2**

RELATION TO SIMILAR EQUIPMENT:

TECHNICAL DESCRIPTION:

|                                   |  |
|-----------------------------------|--|
| Output Rating .....               | 62.5 KVA, 0.8 power factor, 120/208 Volt, 3-phase, 4 wire, 400 Hertz,<br>175 Ampere<br>62.5 KVA, 0.8 power factor, 120 Volt, 3 phase, 3 wire, 400 Hertz,<br>Delta Connected, 303 Ampere<br>62.5 KVA, 0.8 power factor, 120 Volt, 1 phase, 2 wire, 400 Hertz,,<br>Delta Connected, 520 Ampere |
| Input Rating .....                | 220/440 Volt, 3 phase, 60 Hertz<br>154 Amperes at 220 Volts<br>77 Amperes at 440 Volts   |
| Starting Current .....            | 500 Amperes at 220 Volts<br>250 Amperes at 440 Volts   |
| Voltage- Regulation .....         | 1% no load to full load  |
| Voltage Transient .....           | 20% maximum upon full load application or rejection  |
| Voltage Modulation .....          | 1/4%   |
| Voltage Unbalance .....           | 1% maximum for balance 3 phase loads   |
| Voltage Response Time .....       | 0.2 second to within 2% of rated voltage upon application or rejection<br>of full load   |
| Harmonic Content.....             | 2% Total   |
| Frequency Response Time.....      | 3 seconds to within $\pm 1/2$ cycle upon application or rejection of full<br>load  |
| Circuit Protection.....           | A protective module which protects the unit from input overvoltage,<br>output overvoltage, and output overcurrent. Overload relays for input<br>overload protection  |
| Input Voltmeter.....              | 0-500 Volt, 2% Accuracy, 60 Hertz  |
| Output Voltmeter .....            | 0-150 Volt, 2% Accuracy, 400 Hertz   |
| Output Ammeter System .....       | 0-250 Amperes, 3% Accuracy, 400 Hertz  |
| Output Frequency Meter .....      | 390-410 Hertz, Accuracy $\pm 1.0$ Hertz at 400 Hertz and 120 Volts   |
| Running Time Meter .....          | 0-9999.99 Hours  |
| Input and Output Terminals.....   | Stud type connections for 3/8 lugs   |
| Operating Temperature Range ..... | -46°C to +55°C   |
| Optional Features .....           | Trailer Mounted; Cable Assembly - Input Cable; Output AC Cable;<br>Output DC Cable; DC Power Supply - 28 VDC - 500 Amps  |