



**ESSEX ELECTRO  
ENGINEERS, INC.**

2015 Mitchell Blvd Schaumburg, IL 60193

Phone: 847-891-4444

Fax: 847-891-9111

Web: [essexelectro.com](http://essexelectro.com)

**TECHNICAL DATA SHEET  
AIRCRAFT GROUND POWER UNIT  
MODEL NO. A934C  
PAGE 1 OF 3**

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

**NATIONAL STOCK NUMBER:**



**OVERALL DIMENSIONS AND WEIGHT:**

**Height: 60 Inches**

**Length: 96 Inches**

**Width: 68 Inches**

**Weight (Dry): 3,900 Lbs. (with D.C. Power Supply)**

**3,500 Lbs. (without D.C. Power Supply)**

**FUNCTIONAL DESCRIPTION:**

The Essex Electro Engineers, Inc., Model #A934 Ground Power Unit, is intended for use in supplying 60 KVA, 120/208 volt, 3 phase, 400 hertz (28 volts d.c. optional) electrical power for starting and servicing aircraft.

The Ground Power Unit basically consists of a diesel engine driving a 400 cycle, brushless generator. The generator will supply 400 cycle power for servicing aircraft. All the necessary electrical controls and instruments are furnished on a control panel. The diesel engine and generator, along with all necessary components are enclosed within a sheet metal enclosure for operation in inclement environments.

The enclosure has all necessary panels and doors to provide for proper ease of maintenance and/or repair. The entire unit is mounted on a four-wheel, steerable trailer.

The engine is a heavy duty diesel engine. Each engine is equipped with an oil cooler, full flow oil filter, fuel oil stainer and fuel oil filter, an air cleaner, a fan, radiator and a starting motor.

The generator is a synchronous alternating current generator of the brushless revolving-field type of single bearing construction. Generator excitation current is supplied from a direct con-



**ESSEX ELECTRO ENGINEERS, INC.**

2015 Mitchell Blvd Schaumburg, IL 60193

Phone: 847-891-4444

Fax: 847-891-9111

Web: essexelectro.com

**TECHNICAL DATA SHEET  
AIRCRAFT GROUND POWER UNIT  
MODEL NO. A934C  
PAGE 2 OF 3**

nected, brushless rotating d.c. exciter. Eyebolts installed in the generator frame enable the complete generator to be lifted with a conventional overhead hoist for repairs and/or overhaul. A heavy steel wrapper cover of drip-proof construction encloses the frame assembly.

The Voltage Regulator is an automatic, solidstate type Voltage Regulator. The Voltage Regulator output is controlled by a switching transistor which is phase angle fired. An integrated circuit voltage sensing circuit controls the relative on-off cycle of the switching transistor to control total rotating exciter field current.

The governor system consists of an actuator which controls the position of the injector rack control lever. The actuator is electrically controlled by a solid state electronic speed governor control module which receives a signal proportional to speed from a magnetic pick-up.

Various safety controls are provided to protect the Power Unit from adverse conditions. A fault system is provided which contains a solid state Generator Fault Detector and an Engine Speed and Fault Detector.

All operating controls and instrumentation necessary for proper operation of the Ground Power Unit are located on the control panel.

Illumination lighting is furnished on the control panel for night operation. Clearance lights are furnished on the trailer.

The trailer is a four-wheel, steerable type with a tow bar. The trailer has a spring leaf suspension system with pneumatic type tires.

**OPTIONS AVAILABLE;**

A 1,000 ampere, 28 volt d.c. transformer-rectifier together with a pushbutton controlled contactor and 40 feet of output cable. The power supply is inherent regulated and cable drop compensation

is provided to increase d.c. voltage in proportion to load current draw. The amount of cable drop compensation is adjustable at the control panel.

**TECHNICAL DESCRIPTION:**

AC. POWER .....	120/208 VAC, 4 wire, 400 hertz - 60 KVA at 0.8 p.f., 400 hertz
Overload .....	125% of rated load for five (5) minutes
Rated Current .....	166 amps per phase at 0.8 power factor
Excitation .....	Rotating exciter, Solid State Voltage Regulator
A.C. Voltage Regulation .....	±1% no load to full load
Cable Drop Compensation .....	Voltage Regulator contains adjustable voltage boost circuit to compensate for cable drop. 0-6 VAC
Frequency Regulation .....	±1/4% no load to full load



**ESSEX ELECTRO  
ENGINEERS, INC.**

2015 Mitchell Blvd Schaumburg, IL 60193

Phone: 847-891-4444

Fax: 847-891-9111

Web: [essexelectro.com](http://essexelectro.com)

**TECHNICAL DATA SHEET  
AIRCRAFT GROUND POWER UNIT  
MODEL NO. A934C  
PAGE 3 OF 3**

D.C. POWER OUTPUT .....	28.5 volt, 1000 amp. continuous
D.C. Power Output Overload .....	1250 amps, five (5) minute, intermittent
Cable Drop Compensator .....	Adjustable 0-10 VDC
Current Limiting .....	1500 Amp
Output Ripple .....	5% at 28 VDC
CABLES .....	(1) 40 ft. output cable with an AN3430 connector (A.C.) (1) 40 ft. output cable with an AN2551 connector (D.C.)
ENGINE .....	Compression ignition, diesel engine, liquid cooled, forced feed lubrication
STARTER .....	12 volts d.c.
BATTERY .....	12 volts d.c., lead acid, 90 AH - 20 hour rate
PROTECTION DEVICES .....	Low Oil Pressure High Coolant Temperature Overspeed Over/under Voltage Underfrequency Overload
TRAILER .....	Four wheel, two axle, leaf-spring suspension. Front axle tow bar steerable, with over-steering device.
Capacity .....	4,000 pounds
Tires .....	6:00 x 9
Brakes .....	Drum type park brake - two rear wheels.
Fuel Tank .....	50 gallon capacity
Tow Bar .....	48" long tow bar with 3 inch i.d. lunette eye
HOUSING .....	14 gauge sheet steel housing to enclose engine and gen- erator, control panel, and all control equipment. Hinged access doors for servicing. Removable center section for major engine work.