

## FEATURES

- **Armstrong provides one-source responsibility** for the generator system and its accessories.
- All units and components are factory tested during prototype and manufacturing stages assuring long product life.
- Generator set accepts one-step 100% of full load per NFPA 110.
- A **one-year limited warranty** covers all systems and components. Extended warranties are available.
- Rugged 4 cycle heavy-duty diesel engine, with direct fuel injection system and swirl intake ports combine for a low fuel consumption and excellent transient response.
- **Generator features:**
  - Unique Volts per Hertz compensated electronic AVR excitation system delivers reliable voltage response for in rush loads.
  - Brushless, rotating-field generator has low reactance, 2/3 pitch, class H insulation, minimizes voltage distortion when powering non-linear loads.
- **More features:**
  - Controllers are available to meet your most demanding applications.
  - In the event of low oil pressure or high coolant temperature the self-protecting system will automatically stop the engine.

## GENERATOR SET RATINGS

Model	Volt Code	Voltage	Winding Connection	Phase	Power Factor	Hz	Amps Standby	Standby kW / kVA	Prime kW / kVA
A1001CU	51	415 / 240	12 – HI WYE	3	0.8	50	1563	900 (1125)	805 (1006)
A1001CU	53	380 / 220	12 – HI WYE	3	0.8	50	1711	900 (1125)	805 (1006)
A1001CU	55	220 / 127	12 – LOW WYE	3	0.8	50	2956	900 (1125)	805 (1006)
A1001CU	57	220 / 110	12 – 2 DELTA	1	1.0	50	4091	900 (900)	805 (805)

Stand-By ratings are continuous electrical service during the interruption of normal power. No overload capacity is specified at these ratings. Prime ratings available with variable loads are continuous, 10% overload capacity for one hour in twelve hours periods. Both ratings per BS 5514, DIN 6271, ISO-3046  
Many industrial, commercial and residential voltages are available

## ALTERNATOR SPECIFICATIONS

Type	Four pole, revolving field
Rotor Insulation	Class H
Temperature Rise	150°C Standby
Material	Epoxy resin
Line-To-Line Harmonic Factor (Max)	5%
Telephone Interference Factor (Tif)	1%
Voltage Regulator	Solid State
Cooling	Self-ventilated and drip proof
Bearing	1 each, pre-lubed
Coupling	Direct, Flexible Disc
Load Capacity (Standby)	100%
Overload Capacity (Prime)	110%
Voltage Regulation	
No Load To Full Load	±1 %
One Step Load Acceptance	
Per NFPA 110	100%

- ❑ Four pole, revolving field, direct coupled to engine flywheel, provides excellent alignment.
- ❑ Insulation is of class H, ready to be used on harsh environments where sea spray, sand and chemical corrosion are existing factors.
- ❑ Voltage regulator provides Volts/Hertz compensation to improve the motor starting capabilities, therefore support the engine handling transient loads.
- ❑ Dynamically balanced rotor, with damper winding, help dissipate transient voltage interference during load variations.
- ❑ The windings have a 2/3 pitch in order to reduce the harmonic content of voltage.
- ❑ Robust mechanical structure permits easy access to connections.

## ENGINE SPECIFICATIONS

Manufacturer	CUMMINS
Model	QST30-G4
Bore	5.51 in. (140 mm)
Stroke	6.50 in. (165 mm)
Number Of Cylinders	12
Piston Displacement	1860 in. <sup>3</sup> (30.48 L)
Compression Ratio	14.7:1
Combustion System	BOSCH P8500 LLA Direct Injection
Engine Type	4 Cycle, 50 Vee
Aspiration	Turbocharged and low Temperature
Engine Crankcase Vent System	Open
Cylinder	Replaceable Wet Liners
Crankshaft Material	Forged Steel
Speed Governor	Electronic
Frequency Regulation,	
No Load To Full Load	.5 %
Air Cleaner	Dry Element

- ❑ Robust industrial grade CUMMINS diesel engine, for reliable endurance.
- ❑ Direct fuel injection system and swirl intake ports combine for a low fuel consumption and excellent transient response.
- ❑ Cylinder Head provides superior airflow through specially designed intake manifold ports, large valves and seats resulting in superior engine performance in torque reserve, fuel consumption and emissions.
- ❑ Replaceable Wet-Type Cylinder Liners, provide excellent heat dissipation. Precision machined for long life.
- ❑ Dynamically Balanced Crankshaft, with induction-hardened journal surfaces significantly increases wear life.
- ❑ Multi V Belt Fan Drive provides superior noise and vibration reduction.

Powered by:



## STANDARD EQUIPMENT

### ENGINE

- Air Cleaner
- Fuel Pump
- Fuel Filter
- Oil Pump
- Full Flow Oil Filter
- Jacket Water Pump
- Thermostat and Housing
- Exhaust Manifold Dry
- Oil Cooler
- Blower Fan & Fan Drive
- Radiator - Unit Mounted
- Electric Starting Motor 24v

- Turbocharged
- Housing & Flywheel
- Charging Alternator - 24v
- Battery Kit & Battery Rack

### GENERATOR

- Synchronous, Brush-less
- Four Pole
- Single Bearing
- Direct Coupled With Flex
- Class H Insulation
- Drip-Proof Construction

### CONTROL PANEL

- Digital controller, Automatic

- Mains Failure module provides engine and electrical metering facilities via the LCD display, accessed via the SRCOLL pushbutton
- Ac Voltmeter
  - Ac Ammeter
  - Frequency Meter
  - Vibration Shock Mounts
  - Engine Shutdowns
  - \* High Water Temperature
  - \* Low Oil Pressure

- \* Battery Voltmeter
- \* Water Temperature
- \* Oil Pressure
- \* Running Time Meter
- LED and LCD alarm indication

### GENERAL

- Industrial Muffler
- Rain Cap
- Lifting Points
- Acrylic Enamel Paint

## INSTALLATION AND APPLICATION DATA

	Item	Units	Type of Operation and Application	
			50 Hz	
			Prime	Standby
<b>Engine</b>	Rated Speed	rpm	1500	
	Gross Engine Output	bhp (kWm)	1180 (880)	1300 (970)
	BMEP	psi (kPa)	334.8 (2307)	369 (2541)
	Mean Piston Speed	Ft/s (m/s)	27.2 (8.3)	
<b>Cooling System</b>	Ambient Air Temperature	°F (°C)	122 (50)	
	Coolant Capacity engine only	Gal (l)	21 (79)	
	Cooling system		Liquid (water + 50% Paraflu 11)	
	Coolant pump flow	Gal/min (l/min)	225 (852)	
	Minimum Pression cap setting	Psi (kPa)	10 (69)	
<b>Fuel System</b>	Fuel Type		Diesel N°2	
	Fuel Consumption @ 25% Power	Gal/h (l/h)	13.42 (50.8)	14.79 (55.9)
	Fuel Consumption @ 50% Power	Gal/h (l/h)	26.84 (101.6)	29.57 (112)
	Fuel Consumption @ 75% Power	Gal/h (l/h)	40.26 (152.4)	44.36 (168)
	Fuel Consumption @ 100% Power	Gal/h (l/h)	53.68 (203.2)	59.14 (223.8)
<b>Air Requirement</b>	Air consumption at 100% of load	Ft <sup>3</sup> /min (L/s)	2005 (945)	2130 (1005)
	Air Flow Restriction-Clean AirFilter	In.H <sub>2</sub> O (kPa)	15 (3.73)	
	Air Flow Restriction-Dirty Air Filter	In.H <sub>2</sub> O (kPa)	25 (6.2)	
<b>Exhaust System</b>	Exhaust Gas Flow	Ft <sup>3</sup> /min (L/s)	5820 (2750)	6310 (2980)
	Exhaust Temperature	°F (°C)	1050 (565)	1070 (575)
	Maximun Allowable Back Pressure	In.H <sub>2</sub> O (kPa)	27.2 (6.7)	
<b>Lubrication System</b>	Total Engine Oil Cap. w/ Filter(s)	Gal (l)	40.7 (154)	
	Oil Filter Type		Cartridge	
	Oil Cooler		Water Cooled	
	Lube oil specifications grade		SAE 10W – 40	
	Lube oil consumption		< 0.1% of fuel consumption	
<b>Engine Electricals</b>	Battery Charging Alternator	Volts, Ground	24VCC, Negative	
	Battery Charging Alternator	Rated amps	35	
	Starter Motor	Volts, Ground	24VCC, Negative	
	Recommended Battery Cold Crank	CCA amps	1800 / -0 °F (-18 °C)	
<b>Ambient Deration</b>	Altitude Deration	Ft (m)	Consult with the factory	

## OPTIONAL EQUIPMENT

### Cooling System

- Remote Radiator
- Jacket Water Heater
- Crankcase Oil Heater

### Fuel System

- Fuel/Water Separator
- Day Tank
- Above Ground Fuel Tank
- Auxiliary Fuel Pump
- Sub-Base Fuel Tank
  - Double Wall
  - UL Listed

### Exhaust System

- Industrial Grade Muffler
- Residential Grade Muffler
- Critical Grade Muffler
- Super Critical Grade Muffler

### Start System

- Battery Nicad
- Battery Warmer Plate
- Battery Charger
  - Automatic Float Equalizing
  - Trickle

### Switchgear

- Main Line Circuit Breaker
  - Shunt trip
  - Auxiliary switch
- Automatic Transfer Switch
- Paralleling
- Protective Relays

### Generator

- Permanent Magnet Excitation
- Space Heaters
- Temperature Rise Detectors

### Control Panel

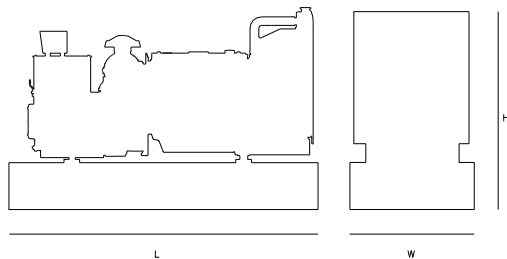
- Emergency stop button

- Microprocessor Control Panel
- NFPA 110 Ready
- Remote Annunciation Panel
- Audible Alarm

### General

- Spring vibration isolators
- Automatic Transfer Switch
- Aluminum Enclosure
  - Weather Resistant
  - Sound Attenuated
- Interior lights AC or DC
- Trailer
- Export Packaging
- Special Testing
- Warranties
  - \_\_\_\_ Year

For Other Options Consult



## DIMENSIONS AND WEIGHT

	Units	Open Unit	Enclosed Unit	Sound Att. Unit
Length	In. (mm)	138 (3505)	173 (4394)	230 (5842)
Width	In. (mm)	65 (1651)	73 (1854)	73 (1854)
Height	In. (mm)	77 (1955)	102 (2591)	102 (2591)
Weight	Lbs (kg)	12518 (5678)	13118 (5950)	13218 (5995)

General configuration for reference only, do not use these dimensions for installation purposes. Contact your local dealer for certified drawings.

All Specifications and Materials are subject to change without prior notice.

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