BELL & POWER SYSTEMS

Model: A65PE3

Diesel Generator Set

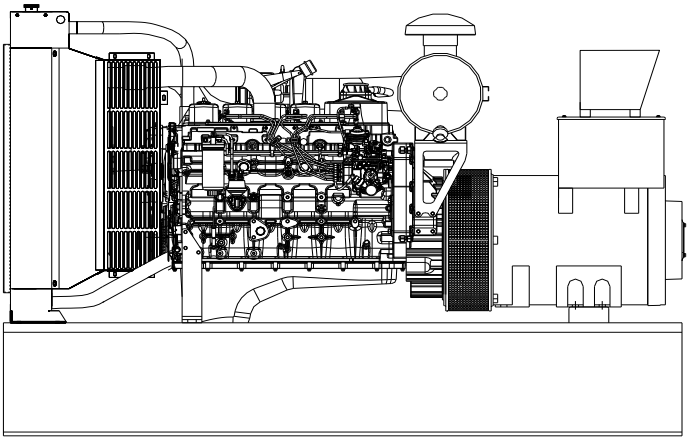
FEATURES

- Bell & Power Systems 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 swirl intake ports 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.

TIER III SERIES



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
A65PE3	61	480 / 277	HI WYE	3	0.8	60	98	65 (81)	58 (73)
A65PE3	62	460 /266	HI WYE	3	0.8	60	102	65 (81)	58 (73)
A65PE3	63	440 / 254	HI WYE	3	0.8	60	107	65 (81)	58 (73)
A65PE3	64	240 / 139	LOW WYE	3	0.8	60	196	65 (81)	58 (73)
A65PE3	65	220 / 127	LOW WYE	3	0.8	60	213	65 (81)	58 (73)
A65PE3	66	208 / 120	LOW WYE	3	0.8	60	226	65 (81)	58 (73)
A65PE3	67	240 / 120	2 DELTA	1	1.0	60	271	65 (81)	58 (73)
A65PE3	51	415 / 240	HI WYE	3	0.8	50	-	-	-
A65PE3	53	380 / 220	HI WYE	3	0.8	50	-	-	-
A65PE3	55	220 / 127	LOW WYE	3	0.8	50	-	-	-
A65PE3	57	220 / 110	2 DELTA	1	1.0	50	-	-	-

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 ESPECIFICATIONS A65PE3

Type	**Four pole, revolving field**
Rotor Insulation	**Class H**
7Temperature 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 ESPECIFICATIONS

Manufacturer	**PERKINS**
Model	**1104D-E44TG1**
Bore	**4.1 in (105 mm)**
Stroke	**5.0 in (127 mm)**
Number Of Cylinders	**4**
Piston Displacement	**268.5 in3 (4.4L)**
Compression Ratio	**16.2:1**
Cooling System Type	**Liquid**
Engine Type	**In-Line – 4 Cycle**
Aspiration	**Turbocharged after cooled**
Engine Crankcase Vent System	**Closed**
Cylinder	**Replaceable Liner**
EPA Tier	**3**
Governor Type	**Electronic**
Frequency Regulation	
No Load To Full Load	**0.5%**
Air Cleaner	**Dry Element**

- ❑ Robust industrial grade PERKINS 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. .
- ❑ Dynamically Balanced Crankshaft, with induction-hardened journal surfaces significantly increases wear life.
- ❑ Belt Fan Drive provides superior noise and vibration reduction.

Powered by : Perkins

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 12VDC
- Turbocharged
- Housing & Flywheel
- Charging Alternator 12VDC
- 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 type
- Automatic Mains Failure module provides engine and electrical metering facilities via the LCD display, accessed via the SCROLL push button
- Ac Voltmeter
- Ac Ammeter
- Frequency Meter
- Vibration Shock Mounts
- Engine Shutdowns
  * High Water Temperature
  * Low Oil Pressure
- Engine Gauges
  * Battery Voltmeter
  * Water Temperature
  * Oil Pressure
  * Running Time Meter
  * LED and LCD alarm indication

GENERAL
- Steel Skid Base Frame
- Industrial Muffler
- Rain Cap
- Lifting Points
- Acrylic Enamel Paint

	Item	Units	Type of Operation and Application	
			60 Hz	
			Prime	Standby
Engine	Rated Speed	rpm	1800	1800
	Gross Engine Output	bhp (kWm)	88.7 (66.2)	97.67 (72.8)
	BMEP	psi (kPa)	145.3 (1002)	159.8 (1102)
	Mean Piston Speed	Ft/s (m/s)	25.0 (7.62)	
Cooling System	Ambient Air Temperature	°F (°C)	131 (55)	
	Coolant Capacity engine only	gal (L)	-	
	Coolant Capacity engine + radiator	gal (L)	4.3 (16.5)	
	Cooling system		Liquiid (50% water + 50% coolanat)	
	Pusher Fan Air Flow	ft^3/min (m^3/min)	8828 (250)	
	Heat rejection to coolant	BTU (kWh)	159347 (46.7)	169242 (49.6)
	Heat rejection to air (intercooler)	BTU (kWh)	-	-
Fuel system	Fuel Type		Diesel No.2	
	Fuel Consumption @ 50% Power	gal/hr (L/hr)	3.2 (12.2)	-
	Fuel Consumption @ 75% Power	gal/hr (L/hr)	4.3 (16.5)	-
	Fuel Consumption @ 100% Power	gal/hr (L/hr)	4.9 (18.7)	5.3 (20.1)
Air Requirement	Combustion Air Flow	ft^3/min (m^3/min)	12501 (5.9)	12501 (5.9)
	Air Intake Restriction	In.H_2O (kPa)	20.0 (5)	
	Maximun Allowable Restriction	In.H_2O (kPa)	32.1 (8) - Dirty air filter	
Exhaust System	Exhaust Gas Flow	ft^3/min (m^3/min)	250.7 (7.1)	254.2 (7.2)
	Max temperature, after turbo	°F (°C)	977.0 (525.0)	1016.6 (547.0)
	Connection Outlet Size Diameter	In. (mm)	2.5 (76.2)	
Lubrication System	Total Engine Oil Cap. w/ Filter(s)	gal (L)	2.1 (8)	
	Oil Filter Type		Cartridge	
	Oil Cooler		Water Cooled	
	Lube oil specifications		API-CC/SE - SAE 15W – 40	
	Lube oil consumption		< 0.15 % of full load fuel consumption	
	Oil and filters interval for replacement	hours	Check your engine operators book	
Engine Electricals	Battery Charging Alternator	Volts, Ground	12VDC, Negative	
	Baterry Charging Alternator	Rated amps	65	
	Recommended Battery Cold Crank	CCA amps	760 (0°F / -18°C)	
	Starter Motor	Volts, Ground	12DC, Negative	
Ambient Deration	temperature	%	Consult Factory	
	altitude >	%	Consult Factory	
	altitude >	%	Consult Factory	

OPTIONAL EQUIPMENT

A65PE3

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

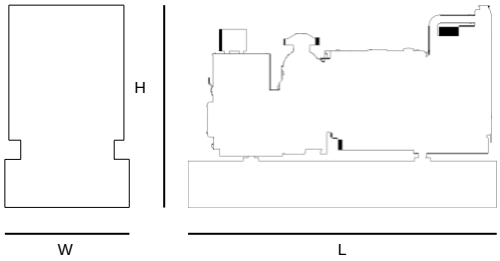
Switchgear
- ❑ Main Line Circuit Breaker
  - ❑ Shunt trip
  - ❑ Auxiliary switch
- ❑ Automatic Transfer Switch
- ❑ Paralleling
- ❑ Protective Relays

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
- ❑ Metal Enclosure
- ❑ Interior lights AC or DC
- ❑ Trailer
- ❑ Export Packaging
- ❑ Special Testing
- ❑ Warranties

DIMENSIONS AND WEIGHT



	Units	Open Unit	Sound Att. Unit
Length	In. (mm)	78 (1981)	110 (2794)
Width	In. (mm)	37 (940)	37 (940)
Height	In. (mm)	53 (1346)	72 (1828)
Weight	Lbs (kg)	2206 (999)	2556 (1162)

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