

60Hz/1800 r.p.m-P.F.0.8					Prime Power	Standby Power	Rated Current
Genset	Engine	Alternator	Voltage (V)	PH	kW/kVA	kW/kVA	Amps
FC210X-F	R6110ZLDS2	LSA46.2M5 UCI274G FPA27-1508	380/220	3	168/210	184/230	303.9
		LSA46.2M3 UCI274G FPA27-1407	208/120	3	168/210	184/230	555.2
		LSA46.2M3 UCI274G FPA27-1407	220/127	3	168/210	184/230	524.9
		LSA44.2L12 UCI274G FPA27-1407	230/132	3	168/210	184/230	502.1
		LSA44.2L12 UCI274F FPA27-1407	480/277	3	168/210	184/230	240.6

Ratings:

All three Phase generator sets are rated at 0.8 power factor. All single-phase generator sets are rated at 0.8 or 1.0 power factor. POWERGEN reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

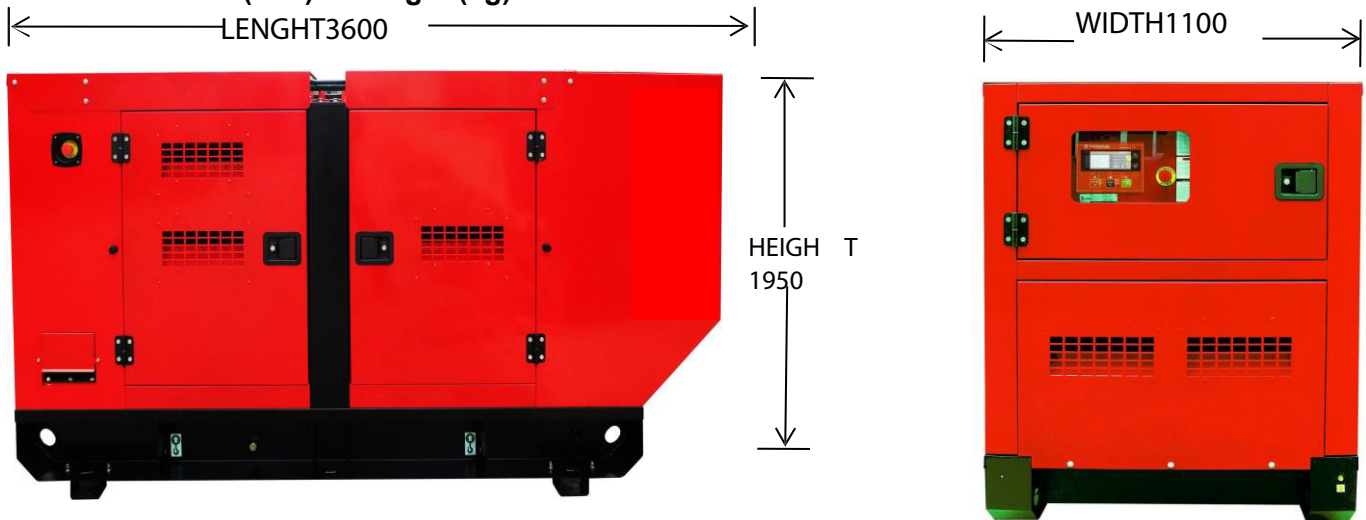
Prime Power:

Available continuously at variable load in lieu of commercially purchased power for an unlimited number of hours per year in accordance with ISO8528-1, and an overload of 10% permitted for one hour in every twelve hours of operation in accordance with ISO 3046-1.

Standby Power:

Emergency Standby Power in variable load applications in accordance with ISO8528-1 in the event of a utility power failure. No overload available for this service as relevant alternators are peak continuous rated at 27°C.

Overall Dimensions (mm) & Weight (kg)



Weight (kg): 2450

Standard and Optional Accessories

System	Standard ●	Optional ○
Air Intake System	<ul style="list-style-type: none"> ● Standard air filter ● Air filter overload alarm 	<ul style="list-style-type: none"> ○ Air prefilter ○ Heavy air filter
Cooling System	<ul style="list-style-type: none"> ● 50°C radiator ● Low water level alarm ① ● Fan and belt guard ● Discharge valve 	<ul style="list-style-type: none"> ○ Antifreeze ○ Water jacket heater
Exhaust System	<ul style="list-style-type: none"> ● Stainless steel bellow ● Residential silencer ● Complete exhaust pipe ● Rain cap 	<ul style="list-style-type: none"> ○ Stainless steel silencer ○ Stainless steel exhaust pipe
Fuel System	<ul style="list-style-type: none"> ● 8 Hours integrated base fuel tank ● Standard fuel filter ● Fuel level gauge ● Fuel filling cap ● Fuel hose 	<ul style="list-style-type: none"> ○ 6 Hours double wall base fuel tank ○ Fuel-water separator ○ Oil level sensor ② ③ ○ Automatic fuel top up system ②
Lubrication System	<ul style="list-style-type: none"> ● Standard oil filter ● Manual oil pump and drain 	<ul style="list-style-type: none"> ○ Oil heater ○ Lube oil level indicator ○ Oil temperature indicator ②
Alternator and Electric Switch	<ul style="list-style-type: none"> ● Shunt or self excited ● Class H insulation ● H class temperature rise ● DELIXI MCCB ● Terminal connection lugs (L1, L2, L3, LN) 	<ul style="list-style-type: none"> ○ PMG or AREP (Leroy-Somer only) ○ Alternator space heaters ○ PT100 winding temperature sensors ○ Weaver AVR ○ Weaver prolapse transformer ○ F class temperature rise ○ 4 Pole circuit breaker with leakage protection ○ Circuit breaker - 4 pole ○ ABB MCCB ○ MCCB auxiliary contact and shunt tripping device
Control System	<ul style="list-style-type: none"> ● Comap Nano Plus for 4 cylinders engine ● Comap IntelliLite AMF20 for 6 cylinders or ECU engine 	<ul style="list-style-type: none"> ○ Panel lighting
Silent / Base	<ul style="list-style-type: none"> ● 67-72 db(A) @ 3 meters ● 4mm -6mm Steel base ● Transportation support leg ● Single hook ● Power coating enclosure ● Anti-vibration mounting between engine /alternator and baseframe ● Emergency stop mounted outside the canopy ● Standard color: Ral 3020 	<ul style="list-style-type: none"> ○ Forklift holes ○ Enclosure color: ○ Trailer for off road or on road
Start / Charge	<ul style="list-style-type: none"> ● Battery with bracket and cables ● Engine battery charger ● 3A Mains charger 	<ul style="list-style-type: none"> Low temperature starting batteries Battery switch High current charger (10A, 20A)

Remark:

- ① Not available for Perkins 400 series engines
- ② When you need the automatic oil top up system, you have to use the electrical oil level sensor.
- ③ You can choose either electrical oil level sensor or oil temperature sensor.

Engine

Engine specifications		Fuel System	
Manufacture	Kofo	Type injection system	Indirect Injection
Engine model	R6110ZLDS2	Fuel consumption at 100% standby power	56.8 Litres/hour
Engine type	4 cycle, in-line	Fuel consumption at 100% prime power	51.6 Litres/hour
Engine speed	1800 r.p.m	Fuel consumption at 75% prime power	41.3 Litres/hour
Prime power	190 kW	Fuel consumption at 50% prime power	31.0 Litres/hour
Standby power	209 kW	Fuel consumption at 25% prime power	15.5 Litres/hour
Governor type	Mechanical	Fuel tank capacity	8-12 hours
Steady speed adjusting ratio at rated condition	≤5	Lubrication System	
Aspiration:	Turbocharged, air-to-air charge cooling	Oil sump capacity	18 Litres
Displacement	7.69 L	Oil pressure	0.3-0.5 Mpa
Bore * Stroke	110 x135 mm	Oil pressure at idle speed	≥0.1 Mpa
NO. of cylinders	6	Lubricating method	Pressure lubrication
Compression ratio	16.0:1	Oil consumption rate	1.63 g/kW.h
Engine idle speed	≤650 rpm	Max continuous oil temperature	105°C
Fring order	1-5-3-6-2-4	Cooling system	
Flywheel ring gear teeth number	130	Total system capacity	23 Litres
Noise level @7m	74 dBA	Thermostat operation range	76-85 °C
Exhaust system		Maximum top tank temperature	96°C
Exhaust gas temperature	≤600°C	Electric System	
Exhaust outlet size	66 mm	Starting method	Electric motor start
Air intake system		Electrical system voltage	24V
Maximum air intake restriction		Battery	Maintenance-free
- Standard filter	≤2.5 kPa	Connecting cables	Available
- Air filter type	Dry		

Alternator

60Hz/1800R.P.M

General data		Insulation class	
Power factor	Cos φ =0.8	Bearing	Single
Excitation	Shunt / Brushless	Altitude	≤ 1000 m

Ratings

					Prime Power	Standby Power	
Brand	Alternator	Number of wires	AVR Model	PH	Voltage (V)	kW/kVA	kW/kVA
Leroy-Somer	N/A					N/A	N/A
Stamford	UCI274G	4	AS440	1	240	120/150	N/A
Tide	N/A				(220-240)	N/A	N/A
Leroy-Somer	LSA46.2M5		R250			164/205	182/227
Stamford	UCI274G	12	AS440	3	380/220	160/200	170/215
Tide	FPA27-1508		SX460			165/206	182/227.5
Leroy-Somer	LSA46.2M3		R250			164/205	180/225
Stamford	UCI274G	12	AS440	3	208/120	164/205	174.8/218.5
Tide	FPA27-1407		SX460			168/210	185/231
Leroy-Somer	LSA46.2M3		R250			176/220	190/237
Stamford	UCI274G	12	AS440	3	220/127	174.8/218.5	187.2/234
Tide	FPA27-1407		SX460			168/210	185/231
Leroy-Somer	LSA44.2L12		R250			158/198	174/217
Stamford	UCI274G	12	AS440	3	230/132	174.8/218.5	187.2/234
Tide	FPA27-1407		SX460			168/210	185/231
Leroy-Somer	LSA44.2L12		R250			164.8/206	180/225
Stamford	UCI274F	12	AS440	3	480/277	165/206.3	175/218.8
Tide	FPA27-1407		SX460			168/210	185/231

Control System



Comap Nano Plus



Comap IntelliLite AMF20



Comap IntelliLite AMF25

Viewable parameters	Phase voltage	3	3	3
	Wire voltage	3	3	3
	Current	Instrument	3	3
	Frequency	●	●	●
	Active power	×	●	●
	Reactive power	×	●	●
	Apparent power	×	●	●
	Power factor	×	●	●
	Electric energy metering	×	×	●
Generator protection	Abnormal voltage	●	●	●
	Over-current warning	×	●	●
	Over current protection	×	●	●
	Over Frequency protection	●	●	●
	Short circuit protection	MCCB	MCCB+○	MCCB+○
Engine figure	Oil pressure	●	●	●
	Water temperature	●	●	●
	Fuel level	○	○	○
	Speed	●	●	●
	Battery voltage	●	●	●
	Elapsed time	●	●	●
Engine protection	Low oil pressure warning	●	●	●
	Low oil pressure protection	●	●	●
	High temperature warning	●	●	●
	High temperature protection	●	●	●
	Overspeed warning	●	●	●
	Overspeed protection	●	●	●
	Charge fault	●	●	●
Function	Remote start-stop	●	●	●
	AMF	●	●	●
	Programmable input	3	7	7
	Programmable output	6	7	7
	Port extension	USB	○	○
	Remote monitoring	×	○	○
	Communication port	×	○	○
	CAN	●	○	●
	Start/Stop time control	×	×	●
	Maintenance tips	×	×	●
	Fault record	×	×	●
	Multi-language function	×	●	●

Remark: ● Standard

○ Optional

× NA

(Safety Installation: Detect - Control – Switch System)

POWERGEN offers not only a changeover switch but also an integrated mains detection and switch system for your 24 Hour Power Protection. The system enables automatic start-up and operation of the generating set in the event of a mains power failure, overvoltage or loss of phase; and also mains automatic re-transfer once it come back. The system has a wide application such as hospital, bank, telecom, air port, broadcasting station and hotels.

System Advantages

- Automatically transfer and re-transfer load from main power to gen-power without operator intervention.operation. (Both automatic and manual)
- ATS Controller (AMF function), seamless integration with Intelligent 5.0
- Available from 32 – 3200A, better protection for 4 pole switch.
- Available in standard, bypass isolation and service-entrance configurations.
- Configurable in open, closed and programmed transition operating modes.
- Designed to interface seamlessly with POWERGEN generators and switchgear.
- Drip Proof IP23 Enclosure.
- Easy Installation: Wall-mounted & Floor standing
- Comes fully loaded with the technology to do the job.



Rated Current	Breaker Type			
	A	Chinese	ABB	Socomec
32	x		B	x
63		A		B
80	x		x	B
100		A		B
125	x		B	B
160		B		B
200	x		B	x
250		C		B
300	x		x	x
315	x		C	x
400		C		C
630		C		D
800		D		D
1000		D		D
1250		D		D
1600		D		E
2000		E		E
2500		E		E
3200		E		E

Dimensions : mm

A: 400x200x500

B: 500x300x650

C: 600x400x1200

D: 800x600x1400

E: 1000x800x1600