

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
FC230X-K	P086TI	LSA46.2L6 UCI 274H FPA27-18010	380/220	3	184/230	200/250	349.5
		LSA46.2L6 UCI 274H FPA27-1508	208/120	3	184/230	200/250	638.4
		LSA46.2M5 UCI 274H FPA27-1508	220/127	3	184/230	200/250	603.6
		LSA46.2M5 UCI 274H FPA27-1508	230/132	3	184/230	200/250	577.4
		LSA46.2M3 UCI 274G FPA27-1508	480/277	3	184/230	200/250	276.7

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.

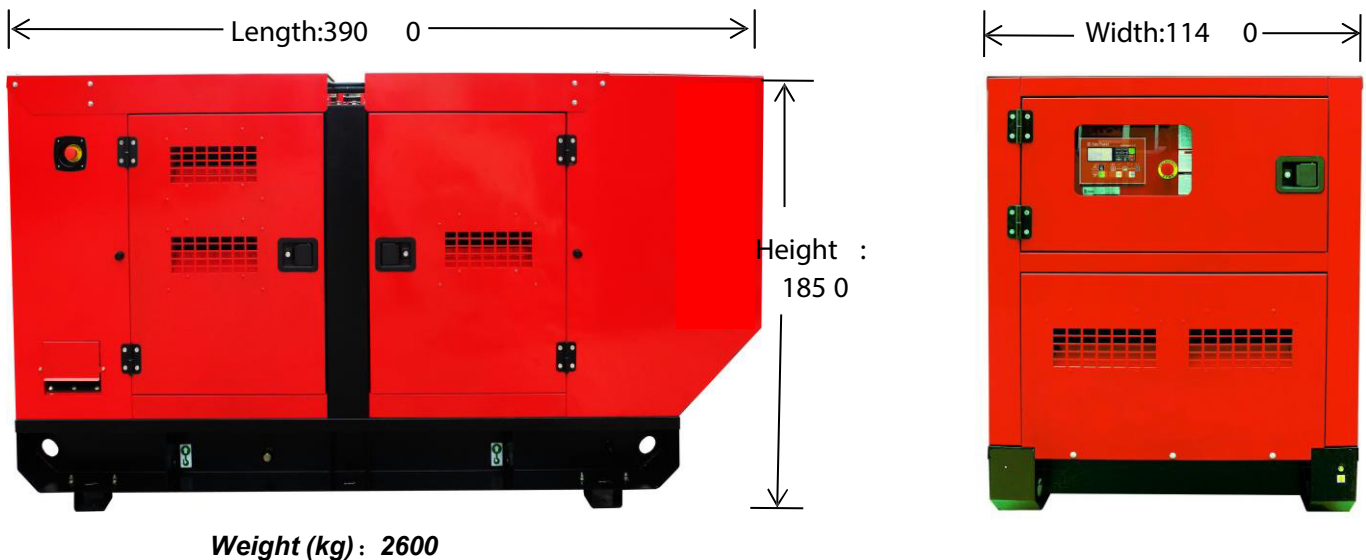
Prime Power:

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)



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 ● 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 ① ② ○ Automatic fuel top up system ①
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 ①
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 When you need the automatic oil top up system, you have to use the electrical oil level sensor.
- ② You can choose either electrical oil level sensor or oil temperature sensor.

Engine

Engine specifications		Lubrication System	
Manufacture	DOOSAN DAEWOO	Oil Capacity (Max.- Min.)	15.5-12 Litres
Engine Model	P086TI	Lubrication Method	Fully forced pressure feed type
Engine Type	4 cycle, in-line	Oil Pump	Gear Type Driven by Crank-shaft Gear
Engine Speed	1800 r.p.m	Maximum oil temperature	120°C
Prime Power	205kW	Fuel System	
Standby Power	223kW	Type Injection System	Direct Injection
Governor Type	Electronic	Fuel feed pump Capacity	175 liters / hr
Aspiration	Turbo charged & intercooled	Fuel Consumption at 100% Standby Power	56.8 Litres/hour
Displacement	8.071 L	Fuel Consumption at 100% Prime Power	50.6 Litres/hour
Bore * Stroke	111mm x 139mm	Fuel Consumption at 75% Prime Power	37.7 Litres/hour
NO. of Cylinders	6	Fuel Consumption at 50% Prime Power	25.1 Litres/hour
Compression Ratio	16.4:1	Fuel Consumption at 25% Prime Power	13.8 Litres/hour
Intake Air Flow	22.33 m3/min	Fuel Tank Capacity	8 hours
Rotation	Counter clockwise viewed from flywheel	Cooling System	
Mean Piston Speed	8.34 m/s	Coolant Capacity- Engine Only	14 Litres
Noise Level @3m	67-72 dBA	Coolant Capacity - with Radiator	44 Litres
Exhaust System		Standard Thermostat (Modulating) Range	71-85°C
Exhaust Gas Flow	40.9 m3/min	Maximum for Standby and Prime	103°C
Exhaust Gas Temperature	509°C	Coolant Flow Rate	166 liters / min
Maximum Back Pressure	5.9 kPa	Electric System	
Exhaust Pipe Size	N/A	Electrical System Voltage	24V
Air Intake System		Battery	Maintenance-free
Max. static pressure after Radiator	0.125 kPa	Connecting Cables	Available
Maximum Intake Air Restriction		Thermal Data	
. With Clean Filter Element	2.16 kPa	Radiated Heat to Ambient	18.1-20.3 kW
. With Dirty Filter Element	6.23 kPa	Heat Rejection to Coolant	77.5-87.0 kW
		Heat Rejection to Exhaust	178.3-200.2 kW

Alternator

General Data	
Power Factor	$\cos \phi = 0.8$
Excitation	Shunt / Brushless

60Hz/1800R.P.M	
Insulation Class	H
Bearing	Single
Altitude	≤ 1000 m

						Prime Power	Standby Power
Brand	Alternator	Number of wires	AVR Model	PH	Voltage (V)	kW/kVA	kW/kVA
Leroy-Somer	LSA46.2L6	12	R250	3	380/220	206/257	228/285
Stamford	UCI 274H		AS440			190/237.5	205/256.3
Tide	FPA27-18010		SX440			200/250	220/275
Leroy-Somer	LSA46.2L6	12	R250	3	208/120	221/276	243/304
Stamford	UCI 274H		AS440			190/237.5	205/256.3
Tide	FPA27-1508		SX440			180/225	200/250
Leroy-Somer	LSA46.2M5	12	R250	3	220/127	184/230	202/252
Stamford	UCI 274H		AS440			196/245	212/265
Tide	FPA27-1508		SX440			180/225	200/250
Leroy-Somer	LSA46.2M5	12	R250	3	230/132	192/240	210/263
Stamford	UCI 274H		AS440			196/245	212/265
Tide	FPA27-1508		SX440			180/225	200/250
Leroy-Somer	LSA46.2M3	12	R250	3	480/277	182/228	204/255
Stamford	UCI 274G		AS440			185.1/231.4	202.6/253.3
Tide	FPA27-1508		SX440			180/225	200/250

ControlSystem



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

Dimensions : mm

A: 400x200x500

B: 500x300x650

C: 600x400x1200

D: 800x600x1400

E: 1000x800x1600



Controller

StandardParameters

- Gen phase voltage
- Generator frequency
- Engine speed
- Battery voltage
- Engine running hours counter
- Engine temperature
- Oil pressure



WarningandShutdownAlarms

- Low oil pressure
- High engine temperature
- Over speed
- Under speed
- Start failure
- Stop failure
- Emergency stop
- High/low battery voltage
- Aux. shutdown alarm
- Aux. Warning