

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
PGPLS45	1103A-33TG1	LSA 44.3 S3 UCI224F TPA224M4	240 (220-240)	1	40/50	45/56	208.3
		LSA42.3M8 PI144K TPA224S1	380/220	3	40/50	45/56	76
		LSA42.3M7 PI144K TPA224S1	208/120	3	40/50	45/56	138.8
		LSA42.3M7 PI144K TPA224S1	220/127	3	40/50	45/56	131.2
		LSA42.3M7 PI144K TPA224S1	230/132	3	40/50	45/56	125.5
		LSA42.3S5 PI144J TPA184L11	480/277	3	40/50	45/56	60.1

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.

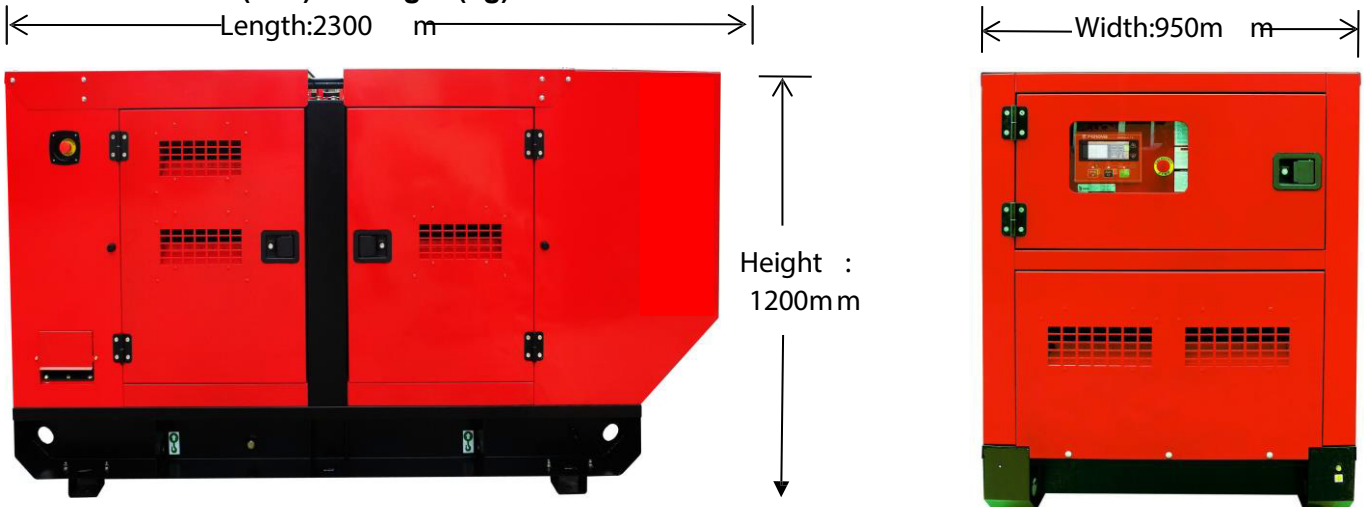
Prime Power:

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): 1150

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"> ● Intelligent 1.0 for 4 cylinders engine ● Intelligent 3.0 for 6 cylinders engine ● Intelligent 5.0 for 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		Lubrication system	
Manufacture	Perkins	Total Lubrication system capacity	8.3 Litres
Engine model	1103A-33TG1	Minimum sump capacity	6.2 Litres
Engine type	4 stroke, Vertical in-line, 3-cylinder	Maximum sump capacity	7.8 Litres
Engine speed	1800 r.p.m	Max continuous oil temperature	125°C
Prime power	49 kW	Fuel system	
Standby power	54 kW	Type of injection	Direct injection
Governor type	Mechanical	Fuel lift pump-flow/hour	120 - 150 Litres/hour
Air intake way	Turbocharged	Fuel consumption at 100% standby power	14.3 Litres/hour
Displacement	3.3 L	Fuel consumption at 100% prime power	12.9 Litres/hour
Cylinder bore * stroke	105mm x 127mm	Fuel consumption at 75% prime power	9.9 Litres/hour
NO. of cylinders	3	Fuel consumption at 50% prime power	7.1 Litres/hour
Compression ratio	17.25:1	Fuel tank capacity	8-12 hours
Brake mean effective pressure	1020-1124 kPa	Cooling system	
Mean piston speed	7.62 m/s	Total system capacity	
Combustion air flow	3.7 m ³ /min	- With radiator	10.2 Litres
Engine coolant flow	151 Litres/min	- Without radiator	4.4 Litres
		Thermostat operation range	82-93 °C
		Maximum top tank temperature	110°C
Exhaust system		Electric system	
Exhaust gas flow	8.8 m ³ /min	Electrical system voltage	12V
Exhaust gas temperature	510-551°C	Battery	Maintenance-free
Maximum back pressure	15 kPa	Connecting cables	Available
Exhaust outlet size	56 mm	Energy balance	
Air intake system		Energy to coolant and lubricating oil	31-34 kW
Maximum air intake restriction		Energy to exhaust	39-43 kW
- Clean filter	5 kPa	Energy to radiation	8-9 kW
- Dirty filter	8 kPa		
- 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

Brand	Alternator	Number of wires	AVR Model	PH	Voltage (V)	Prime Power	Standby Power
						kW/kVA	kW/kVA
Leroy-somer	LSA 44.3 S3	12	R250	1	240 (220-240)	42/52	46/57
Stamford	UCI224F		AS440			44.8/56	N/A
Tide	TPA224M4		SX460			40.8/51	44/55
Leroy-somer	LSA42.3M8	12	R220	3	380/220	41.2/51.5	45.3/56.7
Stamford	PI144K		AS480			44/55	48/60
Tide	TPA224S1		SX460			38/47.5	42/52.5
Leroy-somer	LSA42.3M7	12	R220	3	208/120	40/50	44/55
Stamford	PI144K		AS480			40/50	44/55
Tide	TPA224S1		SX460			40/50	43/54
Leroy-somer	LSA42.3M7	12	R220	3	220/127	42.8/53.5	47.1/58.9
Stamford	PI144K		AS480			42/52.5	45/56.3
Tide	TPA224S1		SX460			42/52.5	45/56
Leroy-somer	LSA42.3M7	12	R220	3	230/132	42.8/53.5	47.1/58.9
Stamford	PI144K		AS480			42.5/2.5	45/56.3
Tide	TPA224S1		SX460			42/52.5	45/56
Leroy-somer	LSA42.3S5	12	R220	3	480/277	40/50	44/55
Stamford	PI144J		AS480			40/50	45/56.3
Tide	TPA184L11		SX460			40/50	44/55

ControlSystem



Intelligent

Intelligent

Intelligent

1.0

3.0

5.0

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

Automatic Transfer Switch

(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, airport, 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	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 count
- 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