

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
FC18X-P	403A-15G2	LSA42.3VS1 PI144F TPA184M7	240 (220-240)	1	14/18	16/20	75.0
		LSA40M5 PI044G TPA184S5	380/220	3	14/18	16/20	26.6
		LSA40S4 PI044H TPA164S4	208/120	3	14/18	16/20	48.6
		LSA40S4 PI044H TPA164S4	220/127	3	14/18	16/20	45.9
		LSA40S3 PI044G TPA164S4	230/132	3	14/18	16/20	43.9
		LSA40S3 PI044G TPA164S4	480/277	3	14/18	16/20	21.0

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.

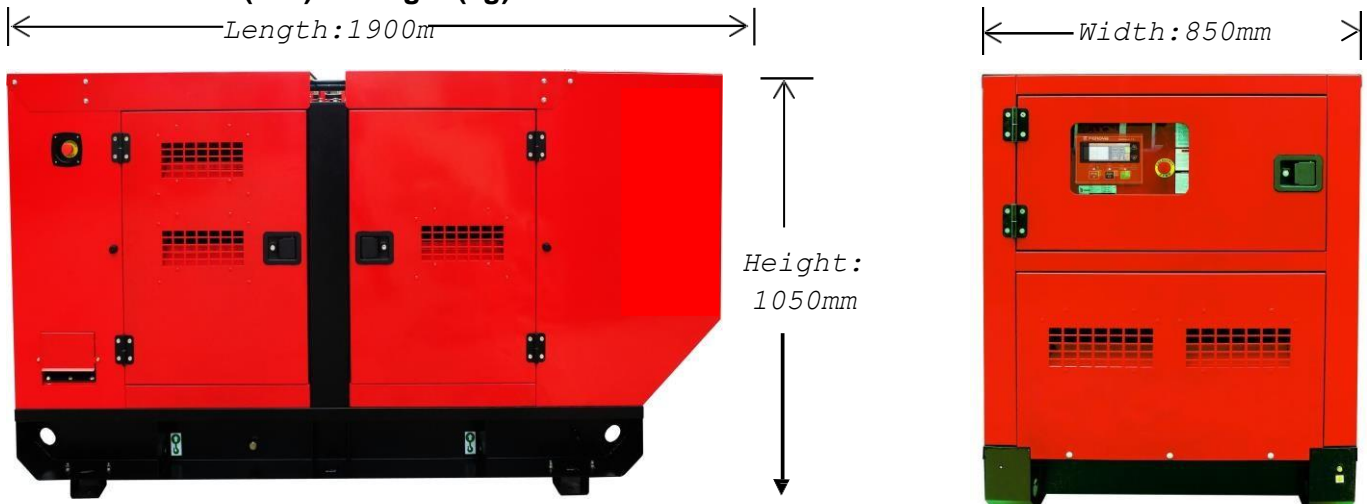
Prime Power:

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) : 700

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 ②③ ○ 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	Maximum sump capacity	4.5 Litre
Engine model	403A-15G2	Total lubrication system capacity	6.0 Litre
Engine type	4 stroke, Vertical in-line, 3-cylinder	Max. oil temperature - continuous operation	125 °C
Engine speed	1800 r.p.m	Max. oil temperature - intermittent operation	135°C
Prime power	16 kW	Fuel system	
Standby power	18 kW	Type of injection	Direct injection
Governor type	Mechanical	Fuel lift pump-flow/hour	63 Litres/hour
Air intake way	Naturally aspirated	Fuel consumption at 100% standby power	5.12 Litres/hour
Displacement	1.496 L	Fuel consumption at 100% prime power	4.32 Litres/hour
Cylinder bore * stroke	84mm x 90mm	Fuel consumption at 75% prime power	3.10 Litres/hour
NO. of cylinders	3	Fuel consumption at 50% prime power	2.25 Litres/hour
Compression ratio	22.5:1	Fuel tank capacity	8-12 hours
Brake mean effective pressure	728-800 kPa	Cooling system	
Mean piston speed	N/A	Total system capacity	
Combustion air flow	1.2 m³/min	- With radiator	6.0 Litres
Engine coolant flow	55.2 L/min	- Without radiator	2.6 Litre
Exhaust system		Thermostat operation range	82-95
Exhaust gas flow	2.6 m³/min	Maximum top tank temperature	112°C
Exhaust gas temperature	480 - 590°C	Electric system	
Maximum back pressure	10.2 kPa	Electrical system voltage	12V
Exhaust outlet size	42 mm	Battery	Maintenance-free
Air intake system		Connecting cables	Available
Maximum air intake restriction		Energy balance	
- Clean filter	3.0 kPa	Energy to coolant and lubricating oil	15.6-17.2 kW
- Dirty filter	6.4 kPa	Energy to exhaust	12.5-13.7 kW
- Air filter type	Dry	Energy to radiation	4.1-4.7 kW

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	LSA42.3VS1		R220			15.1/18.9	16.6/20.8
Stamford	PI144F	12	AS480	1	240	14.6/18.2	16/20
Tide	TPA184M7		SX460		(220-240)	14.4/18	16/20
Leroy-somer	LSA40M5		R220			16/20	17.6/22
Stamford	PI044G	12	AS480	3	380/220	15/18.8	16.4/20.5
Tide	TPA184S5		SX460			15.2/19	16.7/20.8
Leroy-somer	LSA40S4		R220			15.2/19	16.8/21
Stamford	PI044H	12	AS480	3	208/120	16.4/19.3	17/21.2
Tide	TPA164S4		SX460			14/17	15.1/18.8
Leroy-somer	LSA40S4		R220			16/20	17.6/22
Stamford	PI044H	12	AS480	3	220/127	16.5/20.6	18.1/22.6
Tide	TPA164S4		SX460			15.2/19	16.3/20.4
Leroy-somer	LSA40S3		R220			14.6/18.2	16/20
Stamford	PI044G	12	AS480	3	230/132	14.6/18.2	16/20
Tide	TPA164S4		SX460			15.2/19	16.3/20.4
Leroy-somer	LSA40S3		R220			15.2/19	16.8/21
Stamford	PI044G	12	AS480	3	480/277	15/18.8	16.5/20.6
Tide	TPA164S4		SX460			15.2/19	16.3/20.4



Intelligent 1.0



Intelligent 3.0



Intelligent 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 <i>Remark:</i> ● Standard	Oil pressure	●	●	●
	Water temperature	●	●	●
	Fuel level	○	○	○
	Speed ○ Optional	×NA	●	●
	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	×	●	●

Automatic Transfer Switch

A.T.S - 4 Poles

(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: W all-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
 C : 600x400x1200
 E : 1000x800x1600

B : 500x300x650
 D : 800x600x1400

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