



Generator Set Ratings

50Hz/1500 r.p.m-P.F.0.8					Prime Power	Standby Power	Rated Current
Genset	Engine	Alternator	Voltage (V)	PH	kW/kVA	kW/kVA	Amps
FC9-P	403D-11G	LSA 40 VS2 PI 044G TPA184S5	230 (220-240)	1	7/9	8/10	39.1
		LSA 40 VS1 PI 044E TPA164VS2	380-415	3	7/9	8/10	13.7 (380V) 13.0 (400V) 12.5 (415V)
		LSA 40 VS1 PI 044E TPA164VS2	440	3	7/9	8/10	11.8

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. TIDE Power reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

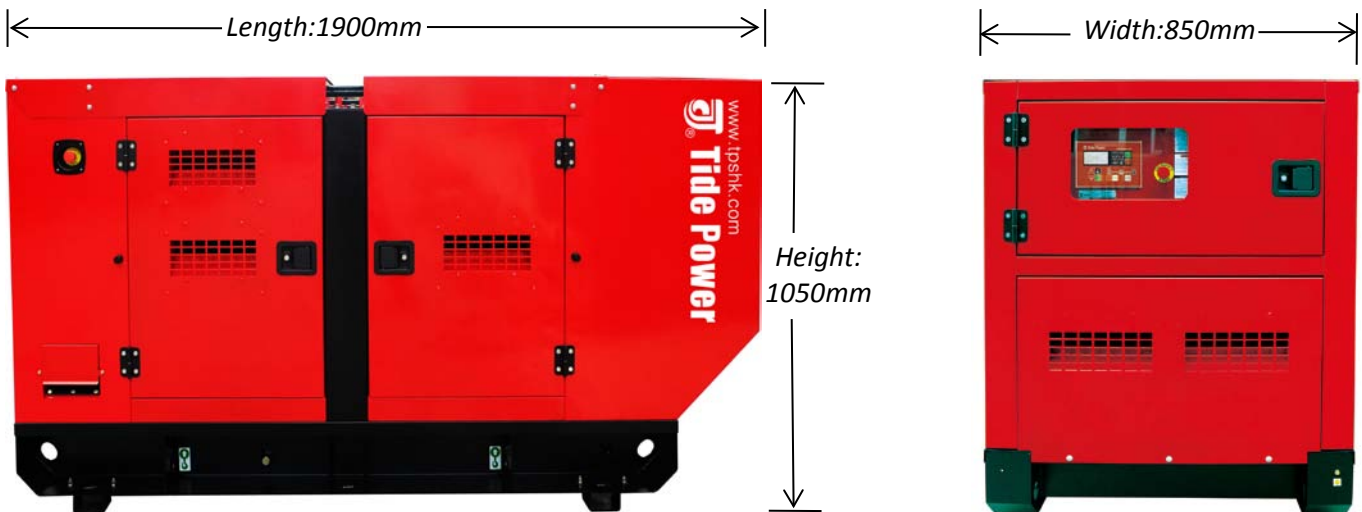
Prime Power:

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): 580

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: Ral:2011 ■ Ral:9016 ■ Ral:5002 ■ ○ 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	
Manufacture	Perkins
Engine model	403D-11G
Engine type	4 stroke, vertical, In-line, 3-cylinder
Engine speed	1500 r.p.m
Prime power	8.4 kW
Standby power	9.3 kW
Governor Type	Mechanical
Air intake way	Naturally aspirated
Displacement	1.131L
Cylinder bore x stroke	77mm x 81mm
NO. of cylinders	3
Compression ratio	23:1
Brake mean effective pressure	610-672 kPa
Mean piston speed	4.1 m/s
Combustion air flow	0.7 m ³ /min
Engine coolant flow	27.3 L/min
Exhaust system	
Exhaust gas flow	1.66 m ³ /min
Exhaust gas temperature	368 - 420°C
Maximum back pressure	10.2 kPa
Exhaust outlet size	34 mm (horizontal)/40mm (vertical)
Induction system	
Maximum air intake restriction	
- Clean filter	3.0 kPa
- Dirty filter	6.4 kPa
- Air filter type	Dry

Lubrication system	
Maximum sump capacity	4.4 Litres
Total lubrication system capacity	4.9 Litres
Normal oil temperature	125°C
Oil flow at rated speed	6.6 Litres/min
Fuel system	
Type of injection	Indirect injection
Fuel lift pump-flow/hour	63 Litres/hour
Fuel consumption at 100% standby power	2.9 Litres/hour
Fuel consumption at 100% prime power	2.6 Litres/hour
Fuel consumption at 75% prime power	2.0 Litres/hour
Fuel consumption at 50% prime power	1.5 Litres/hour
Fuel tank capacity	8-12 hours
Cooling system	
Total system capacity	
- With radiator	5.2 Litres
- Without radiator	1.9 Litres
Thermostat operation range	75-87 °C
Maximum top tank temperature	112°C
Electric system	
Electrical system voltage	12V
Battery	Maintenance-free
Connecting cables	Available
Energy balance	
Energy to coolant and lubricating oil	8.3-9.5 kW
Energy to exhaust	7.3-8.0 kW
Energy to radiation	1.7-2.5 kW

Alternator

General data	
Power factor	Cos ϕ = 0.8
Excitation	Shunt / Brushless

50HZ/1500R.P.M

Insulation class	H
Bearing	Single
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 40 VS2	12	R220	1	230 (220-240)	7.2/9	8/10
Stamford	PI 044G		AS480			7.2/9	7.9/9.9
Tide	TPA184S5		SX460			8.7/10.9	9.6/12
Leroy-somer	LSA 40 VS1	12	R220	3	380-415	8/10	8.8/11
Stamford	PI 044E		AS480			8/10	8.8/11
Tide	TPA164VS2		SX460			8/10	8.8/11
Leroy-somer	LSA 40 VS1	12	R220	3	440	7.2/9	8/10
Stamford	PI 044E		AS480			7.6/9.5	8.4/10.5
Tide	TPA164VS2		SX460			8/10	8.6/10.8

Control System



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	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)

Tide Power 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 TIDE POWER 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