

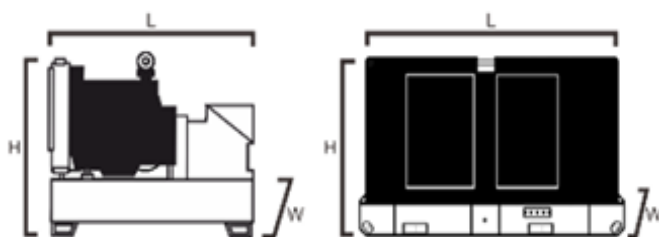
Technical Data

Engine		Alternator				Generator Model	
Quanchai N490D		Tide FPA18-166				PC24X-QC / Silent	
Frequency	Phase		Power Factor			Emissions	
60Hz/1800rpm	3-Phase		Factor Cos Φ = 0.8			N/A	
RATINGS	Prime Power		Standby Power		Rated Current	Fuel Consumption @ 100% Load	
	(PRP)		(ESP)		Amps		
Voltage (V)	kWe	kVA	kWe	kVA	(A)	L/h	
380/220	19	24	21	26	36,1	5,4	
440/254	19	24	21	26	31,2	5,4	
220/127	19	24	21	26	62,3	5,4	
230/132	19	24	21	26	59,6	5,4	



Key Features:

- High efficient water cooled diesel engine.
- Single bearing with brushless alternators (Class H, with AVR).
- Radiator with pressure cap and drain point.
- Fully guarded engine-driven fan.
- Fully welded steel skid base with lifting holes and fork lift legs.
- Integral fuel tank with filler cap and gauge ($\leq 650\text{kVA}$).
- Heavy duty rubber anti-vibration mountings.
- 12V or 24V maintenance free starter battery and connecting cables.
- Separate engine-driven battery charging alternator.
- Spin on oil and fuel filters and dry type air filter element.
- Industrial silencer (15dBA reduction) supplied loose.
- Auto start control system with LCD show.
- Battery charger provided.
- Main line 3P circuit breaker.
- Rigorous factory test wiring with IEC standard.
- Operation & Maintenance manual & Wiring diagrams.
- Wide range of optional extra features available.



Dimensions & Weights	Silent
Length (L)-mm:	2150
Width (W)-mm:	950
Height (H)-mm:	1150
Dry Weight-kg:	720
Fuel tank-h	12
(dBA)@7m no load	≤ 85

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.

(1)PRP (Prime Power):

Available continuously at variable load in lieu of commercially purchased power for an unlimited number of hours per year 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.



(2)ESP (Standby Power):

Emergency Standby Power in variable load applications in accordance with ISO8528-1 in the event of a utility power failure.

(3)STD:Standard Alternator.

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



 Engine	Quanchai N490D			
General Performance	Frequency	Hz	60	
	Engine Speed	r/min	1800	
	Cylinders / Type	4 cyl / in line / 4-stroke		
	Aspiration	Natural		
	Governor Type	Mechanical		
	Bore / Stroke	mm	90 / 100	
	Displacement	Litres	2,544	
	Compression Ratio	18:1		
	Piston Speed	m/s	6	
	Engine Power	kWm	24	27
Fuel System	Fuel Consumption at 110% Prime Power	Litres/hour	6,0	
	Fuel Consumption at 100% Prime Power	Litres/hour	5,4	
	Fuel Consumption at 75% Prime Power	Litres/hour	4,2	
	Fuel Consumption at 50% Prime Power	Litres/hour	3,5	
	Fuel Consumption at 25% Prime Power	Litres/hour	2,1	
	Standard Fuel Tank Capacity	Hours	12	
Oil System	Total Oil System Capacity	Litres	6,5	
	Low Oil Pressure Warning	kPa	650	
	Low Oil Pressure Shutdown	kPa	100	
	Max. Permissible Oil Temperature	°C	115	
Cooling System	Coolant Capacity - Engine Only	Litres	4,1	
	Coolant Capacity for Radiator	Litres	6,5	
	Max. Permissible Temperature	°C	95	
	Max. Coolant Warning Temperature	°C	100	
	Standard Thermostat (Modulating) Range	°C	70-82	
Intake & Exhaust System	Max. Intake Restriction	kPa	≤4	
	Max. Exhaust Back Pressure	kPa	≤10	
	Max. Exhaust Temperature (Before Turbo)	°C	≤550	
Electric System	Electrical System Voltage	V	12	
	Battery	Maintenance-free		
 Alternator	60Hz/1800rpm			
General Data	Manufacture / Brand	Tide		
	Model	FPA18-166		
	Coupling / No. of Bearings	Direct / Single Bearing		
	Phase / Poles	3-Phase / 4-Pole		
	Power Factor	Cos Φ = 0.8		
	AVR Regulation	Yes		
	Voltage Regulation	±1 %		
	Insulation Class	H		
	Drip Proof	IP23		
	Voltage Regulator	AVR		



Tide Power Easycon Function Summary

SMARTGEN HGM420N



HGM420N: used for automation of single unit, between genset and mains controls generator to start/stop by remote start signal. AMF (Auto Mains Failure) and Mains/Gens automatic transfer control functions.

Main characteristics are as below:

132x64 LCD with backlight, selectable language interface (Chinese, English, Spanish, Turkish, Russian and French), push-button operation;

Improved LCD wear-resistance and scratch resistance due to hard screen acrylic;

Silicon panel and pushbuttons for better operation in high/low temperature environment;

Suitable for 3-phase 4-wire, 3-phase 3-wire, single phase 2-wire, and 2-phase 3-wire systems with voltage 120/240V and frequency 50/60Hz;

Collects and shows 3-phase voltage, 3-phase current, power parameter and frequency of generator or mains.

For Mains, controller has over voltage, under voltage and loss of phase detection functions; For generator, controller has over voltage, under voltage, over frequency, under frequency, over current and over power detection functions;

Precisely collect and display all parameters of engine;

Control and protection function: automatic start/stop of the genset, ATS (Auto Transfer Switch) control and perfect fault indication and protection function;

ETS (Energize To Stop), idle control, pre-heat control, speed raise control and speed drop control functions, and all output ports are relay outputs;

Parameter setting function: allows users to modify and set the parameters and meanwhile will be stored in internal FLASH and won't be lost even in case of power outage; all controller parameters can be adjusted on front panel of the controller or via USB interface on PC.

Multiplex input port 3 and 4 can be used in various occasions: input 3 can be used as auxiliary input port or fuel level sensor, while input 4 can be used as auxiliary input port or configurable sensor.

Multiple temperature, oil pressure, and fuel level sensors can be used directly, and parameters can be users-defined.

One configurable sensor: can be set to temperature sensor, oil pressure sensor or fuel level sensor, which enables the detection of double temperatures, double oil-pressures and double fuel levels.

Multiple crank disconnect conditions (magnetic pickup, oil pressure, generator) are optional;

Emergency start function;

Fly teeth auto-recognition function;

Wide power supply range: DC(8~35)V, which suitable for different starter battery voltage environments.

All parameters apply digital adjustment, instead of conventional analog modulation with normal potentiometer, improving the wholesome reliability and stability;

Maintenance function: types can be set to date or running time. Actions (warning, alarm shutdown) can also be set when maintenance time is out;

Event log function (max. 99 pieces of records), real-time clock, and schedule to start/stop generator function (start once monthly/weekly/daily on/off load can be set).

IP55 waterproofness with rubber-ring gasket between enclosure and screen;

Metal fixing clips are used to fix the controller;

Modular design, self-extinguished ABS plastic enclosure, pluggable connection terminals and embedded installation way; compact structure with easy mounting.