

# TP438LS

60Hz POWERED BY PERKINS SERIES



## TECHNICAL SPECIFICATIONS

### DIESEL GENERATING SET 380/220V-60Hz-3Phase

Model	TP438LS	
Power(ESP)	kVA/kw	438/350
Power(PRP)	kVA/kw	400/320
Starter Voltage	V	24
Rated Current	A	665
Rated rotation speed	r/min	1800
Power Factor		0.8
Fuel Consumption	L / h	84L / h
Fuel Tank Capacity	L	Open Type :380 / Silent Type:686
Noise level	dB(A)@7m	≤80

## WEIGHT AND DIMENSIONS

GEN-Set	Dimension ( L*W*H )	Weight
Open Type	3200mm*1150mm*2000mm	2038 Kg
Silent Type	4786mm*1556mm*2537mm	3213 Kg

## STANDARDS:

**Genset:** GB/T2820—2009,ISO8528

**Alternator:** LEROY SOMER, TAL-A47-A

**Diesel Engine:** PERKINS , 2206C-E13TAG2

**Standby Power:** Continues running at variable load for duration of an emergency. No overload is permitted on these ratings.

**Prime Power:** Continues running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period.

## CONFIGURATION:

**Standard:** Engine, alternator, cooling system, Base frame (excluding fuel tank), shock absorber, air inlet system, control box (including mains floating charge), plastic fan blades (when the engine and water tank do not bring).

**Optional:** Base frame (including fuel tank), water jacket heater, fuel water separator, fuel heater, fuel level sensor (only supporting underframe tank), switch box (with switch), power switch, the water level sensor, motor anti condensation heater, automatic fueling system (only supporting base frame including fuel tank), battery frame.

**Accessories:** Silencer, bellow, exhaust silencing system accessories (with the matching engine), regular battery, starting cord assembly, data of gen-set, random tool (with the matching engine).




# ENGINE Specification

## Manufacturer: PERKINS

Model	2206C-E13TAG2
Engine speed Rated	1800 RPM
Cylinder /Arrangement	6/ L
Displacement	12.5L
Bore and Stroke	130 mm × 157 mm
Compression ratio	16.3: 1
Max. stand by power at rated RPM	406.5KW
Frequency regulation , steady state	± 0.25%
Governor : type	Electronic

## Exhaust System

Exhaust gas flow	74.4L/min
Exhaust temperature	680 ℃
Max back pressure	10 kPa

## Fuel System

Fuel consumption100% (of the Prime Power)	84L / h
Fuel consumption75% (of the Prime Power)	65L / h
Fuel consumption50% (of the Prime Power)	46L / h
Fuel consumption110% (of the Prime Power)	92L / h

## Oil system

Total oil capacity w/filters	40L
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## Air intake

Engine air flow	29.6L/min
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## Coolant System

Radiator & engine capacity	51.4 L
Max water temperature	104 ℃
Thermostat	87-98 ℃



- Perkins engines with fast and reliable cold boost.
- Advanced technology on burning Combustion optimization, low fuel consumption and low noise, emission meets German TALuft standard.
- Reasonable coupling creates best compounding function, provides reliable and high-performance power products.
- Integrated structure of generator with fuel tank and base frame and internal high-efficiency anti-vibration.

Note: All data sheets are for reference only and subject to change without prior notice.



# ALTERNATOR Specification

## Manufacturer: LEROY SOMER

Type	TAL-A47-A
Number of phase power	3
Factor (Cos Phi)	0.8
Pole	4
Bearing	1
Coupling	Direct
Exciter type	SHUNT
Insulation : class , temperature rise	H / H
Degree of protection	IP23
AVR model	R150
Altitude	≤1000m
Winding Pitch	2/3
Winding Leads	6/12

### FEATURES

- Tight control of procedures right from the initial sales offering through to delivery to the customer, including the design process, manufacturing start-up and production.
- A total quality policy based on making continuous progress in improving operational procedures, involving all departments in the company in order to give customer satisfaction as regards delivery times, conformity and cost.
- Indicators used to monitor process performance.
- Corrective actions and advancements with tools such as FMECA, QFD, MAVP,
- MSP/MSQ and Hoshin type improvement workshops on flows, process re-engineering, plus Lean Manufacturing and Lean Office.
- Annual surveys, opinion polls and regular visits to customers in order to ascertain and detect their expectations.

### STANDARDS

IEC 60034, NEMA MG 1.32 - 33, ISO 8528/3, CSA, UL 1446, UL 1004 on request and depending on voltages, marine.

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# Control Panel

**Model:** SGC 420

**SINGLE GENSET CONTROLLERS.**

## DIMENSIONS

### OVERALL

**233mm x 173mm x 38.5mm**

### PANEL CUTOUT

**219mm x 158mm**



### KEY FEATURES

- Auto, manual and remote start/stop modes with night restriction option
- 17 inputs, configurable
- 5 resistive
- 2 analogue I/V
- 1 differential
- 9 digital
- 7 digital outputs, configurable
- Modbus over RS-485
- Manually configurable from the controller front buttons or from a PC using DEIF Smart Connect utility software
- Backlit full graphics LCD with power saving feature for extended battery lifetime
- Supports the battery charging alternator I/O interface
- Supports Auto mode (site battery monitoring, AMF, remote start/stop, auto exercise and cyclic) and manual running modes
- Magnetic Pickup Unit (MPU) interface for engine speed measurement
- Auto exercise mode (2 events) to start and stop the genset for a preconfigured time
- Monitors 1-phase/3-phase voltage, frequency, load current and power factor for generator
- All output ports are relay-out
- Logon wallpaper and display time are user-defined
- With maintenance function. Actions (warning or shutdown) can be set when maintenance time out
- Waterproof security level IP55 due to rubber seal installed between the controller enclosure and front panel
- Monitors engine safety parameters like lube oil pressure, engine temperature, fuel level and more
- Monitors telecom site battery backup level and shelter temperature to reduce engine running and fuel consumption at telecom tower sites
- Controls start relay, fuel relay, alarm horn and more as digital outputs
- Event log for 100 events with real time clock (RTC) stamps and engine running hours information
- Counters for engine starts, engine trips, engine running hours, genset and Mains kWh, kVAh, kvarh
- Measures mains kW, kVA
- CANbus for engine communication with support for Stage 5/ Tier 4 Final

### KEY FUNCTIONS

- LCD display
- True RMS voltage and current monitoring
- RS-485 base communication
- Monitoring of engine and alternator parameters
- Fully configurable inputs and outputs for a wide range of functions
- Can be used on pumping units and as an indicating instrument (indicate and alarm are enable only, relay is inhibited)
- Accumulation of total run time and total electric energy of A and B. Users can reset it for convenience
- Metal fixing clips enable perfect in high temperature



environment

➤ **KEY FUNCTIONS**

- Protection: automatic start/stop of the genset, ATS (Auto Transfer Switch) control with failure indication and protection function
- All output ports are relay-out
- Curves of temperature, oil pressure, fuel level can be used directly and users can define the sensor curves by themselves
- Multiple crank disconnect conditions (generator

frequency, speed sensor, oil pressure) are optional

- Event log, real-time clock, scheduled start & stop generator (can be set as start genset once a day/week/month whether with load or not)
- Logon wallpaper and display time are user-defined
- Maintenance function: Actions (warning or shutdown) can be set when maintenance time out

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