



# TP22L

50Hz POWERED BY PERKINS SERIES



## TECHNICAL SPECIFICATIONS

### DIESEL GENERATING SET 400/230V-50Hz-3Phase

| Model                | TP22L      |                                 |
|----------------------|------------|---------------------------------|
| Power(ESP)           | kVA/kw     | 22/18                           |
| Power(PRP)           | kVA/kw     | 20/16                           |
| Rated Voltage        | V          | 400                             |
| Rated Current        | A          | 32                              |
| Rated rotation speed | r/min      | 1500                            |
| Power Factor         |            | 0.8                             |
| Fuel Consumption     | Litre/hour | 5.3                             |
| Fuel Tank Capacity   | Litre      | Open Type :88 / Silent Type:121 |
| Noise level          | dB(A)@7m   | Silent Type: 66±2               |

## WEIGHT AND DIMENSIONS

| GEN-Set     | Dimension ( L*W*H ) | Weight |
|-------------|---------------------|--------|
| Open Type   | 1402mm*715mm*1155mm | 504 Kg |
| Silent Type | 1856mm*826mm*1415mm | 728 Kg |

### STANDARDS:

**Genset:** GB/T2820—2009,ISO8528

**Alternator:** LEROY-SOMER, TAL-A40-F

**Diesel Engine:** PERKINS , 404A-22G1

**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                               | 404A-22G1      |
| Engine speed Rated                  | 1500 RPM       |
| Cylinder /Arrangement               | 4 / L          |
| Displacement                        | 2.216 L        |
| Bore and Stroke                     | 84 mm × 100 mm |
| Compression ratio                   | 23.3 : 1       |
| Max. stand by power at rated RPM    | 20.6KW         |
| Frequency regulation , steady state | ± 0.75%        |
| Governor : type                     | Mechanical     |

### Exhaust System

|                     |           |
|---------------------|-----------|
| Exhaust gas flow    | 3.94L/min |
| Exhaust temperature | 505 °C    |
| Max back pressure   | 10.2kPa   |

### Fuel System

|   |           |
|---|-----------|
| Fuel consumption100% (of the Prime Power) | 5.3 L / h |
| Fuel consumption75% (of the Prime Power)  | 4.0 L / h |
| Fuel consumption50% (of the Prime Power)  | 2.9 L / h |
| Fuel consumption110% (of the Prime Power) | 6.1 L / h |

### Oil system

|                              |        |
|------------------------------|--------|
| Total oil capacity w/filters | 10.6 L |
|------------------------------|--------|

### Air intake

|                 |           |
|-----------------|-----------|
| Engine air flow | 1.45L/min |
|-----------------|-----------|

### Coolant System

|                            |          |
|----------------------------|----------|
| Radiator & engine capacity | 7.0 L    |
| Max water temperature      | 112 °C   |
| Thermostat                 | 82-95 °C |



- 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.





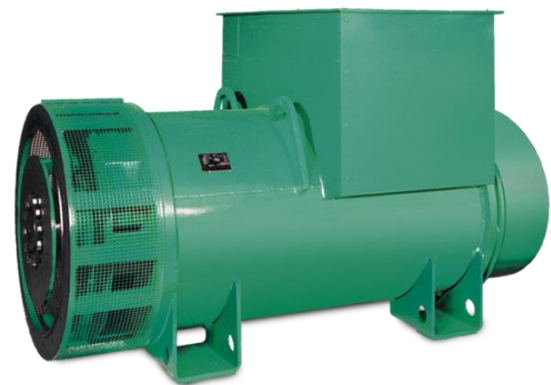
# ALTERNATOR Specification

**Manufacturer:** LEROY SOMER

|  |           |
|--|-----------|
| <b>Type</b>                                  | TAL-A40-F |
| <b>Number of phase power</b>                 | 3         |
| <b>Factor (Cos Phi)</b>                      | 0.8       |
| <b>Pole</b>                                  | 4         |
| <b>Bearing</b>                               | 1         |
| <b>Coupling</b>                              | Direct    |
| <b>Exciter type</b>                          | SHUNT     |
| <b>Insulation : class , temperature rise</b> | H / H     |
| <b>Degree of protection</b>                  | IP23      |
| <b>AVR model</b>                             | R120      |
| <b>Altitude</b>                              | ≤1000m    |
| <b>Winding Pitch</b>                         | 2/3       |
| <b>Winding Leads</b>                         | 6         |

## 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
- 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