



Image for guidance purposes.

<p><b>PRP</b>  <b>CONTINUOUS POWER: 54 kVA</b>  <small>PRP "Prime Power" norma ISO 8528-1</small></p>	<p><b>LTP</b>  <b>STAND-BY POWER: 59 kVA</b>  <small>LTP "Limited Time Power" norma ISO 8528-1</small></p>
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## ENGINE

MAKE	MODEL
DEUTZ	TCD2.9L4-SV

## ALTERNATOR

MAKE	MODEL
LEROY-SOMER	TAL042-H

VOLTAGE	HZ	PHASE	COS Ø	PRP kVA/kW	LTP kVA/kW	AMP. (LTP)
400/230	50Hz	3	0,8	53,6/42,9	59,2/47,4	85,45

## ENGINE CHARACTERISTICS

MAKE	MODEL
DEUTZ	TCD2.9L4-SV

### General Data

Power PRP (kWm)	47.2
Power LTP (kWm)	53
No. cylinders	4
Cylinder capacity (L)	2.9
Diameter per stroke (mm)	92 x 110
Compression ratio	17.8
Cooling system	LIQUID
Injection	COMMON RAIL
Suction	TURBO-INTERC.
Series regulator	ELECTRONIC
Fly wheel coupling	4-8

### Lubrication system

Oil capacity (L)	
Oil consumption (%)	0.05
Min. alarm oil pressure (bar)	1.8

### Ventilation system

Air cooling flow (m <sup>3</sup> /h)	
Combustion air flow (m <sup>3</sup> /h)	248
Max. back pressure for fan (mbar)	

### Exhaust system

Exhaust gas flow (m <sup>3</sup> /h)	559
Exhaust back pressure (mbar)	
Temp. exhaust gases (°C)	460

### Electrical system

VDC (V)	12
Battery (Ah)	110
Engine start-up (kW)	2.6

## ALTERNATOR CHARACTERISTICS

MAKE	MODEL
LEROY-SOMER	TAL042-H

### General Data

Power PRP (kVA)	60
Power LTP (kVA)	66
Efficiency Alt. 100 %	89.9
Efficiency Alt. 110 %	89.4
No. Poles	4
Voltage regulator	AREP+ R180
No. wires	6
Insulation	H
Xd (%)	303
X'd (%)	14.7
X	7.3
Degree of protection	IP23

## GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	6.7
75%	9.8
100%	13.7

## DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT

Dimensions (mm)		
LENGTH	WIDTH	HEIGHT
2540	1140	1647

FUEL TANK (LITRES)	WEIGHT (KG)
250	1600

NOISE LEVEL (dB (A))
64+/-2dB(A)@7m

# GENERATOR SET

## GENERAL DESCRIPTION

The "INMESOL" generator set is an electrical energy generating machine which is used in places where there is **no mains supply** or when there is a MAINS failure.

The mobile elements, distribution belt, fan, etc., and those parts which reach high temperatures during operation, exhaust manifold, etc, include their corresponding protections, in compliance with the requirements of the Machinery Directive **2006/42**.

## Europe regulations:

Inmesol power GENSET sets comply with European legislation and were given the CE marking which includes the following directives:

- 2006/42/EC on machinery safety.
- 2005/88/EC on NOISE EMISSIONS by equipment for outdoor use (amends the 2000/14/EC).
- 2014/30/UE on Electromagnetic Compatibility.
- 2014/35/UE on electrical safety, electrical equipment designed to be used within certain voltage limits

## International regulations:

Upon request, INMESOL can supply equipment that complies with the International Legislation and Regulations:

- "Technical Regulation on Safety of Machinery & Equipment" No. 753, repealing GOST R standards for exports to Russia.
- Resolution n° 90708 dated August 30th 2013 "Reglamento Técnico de Instalaciones Eléctricas RETIE" issued by the Ministry of Mining and Energy, Section 20.21 Engines and power generators, for exports to Colombia.

## Information:

The power ratings are for reference to environmental conditions: barometric pressure 100 kPa, 25°C and 30% relative humidity. These are defined by ISO 8528 and ISO 3046.

PrimePower (PRP) "Main Service" is applicable for power GENSETs that function as main electric power source. It may be overloaded by 10% in limited time points, maximum once every 12 hours.

StandbyPower (LTP) "Emergency Service" applies to power GENSETs that run during Electrical Grid failure. This power may NOT BE OVERLOADED.

Nevertheless, to obtain long engine life, it is recommended that the active power average load (kW) connected to the power GENSET set in any period of 24 hours of operation does not exceed the following values:

- In Main Service 70% of the PRP power.
- In Emergency Service during Electrical Grid failure 80% of the LTP power.

Engine/alternator assembly, coupled and installed on a heavy electric wilded steel profile base frame through antivibration pad, then treated with rust removing products for zink layer application and Polyester (QUALICOAT) painting, "special treatment for external and corrosive environment."

Soundproof canopy treated with rust removing products for zink layer application and Polyester (QUALICOAT) painting, "special treatment for external and corrosive environment." Then lined with rock wool material of high density.

Liquid cooled engine with integrated mechanical radiator and blower fan.

Residential exhaust silencer with -35 dB(A) attenuation, plus industrial silencer in line, with gases release protected by a cap.

Lifting hook crane.

Fork lift pockets for easy lifting from the bottom.

Hook for towing.

Radiator water filling cover register.

Easy access to radiator cleaning, and replacement.

Integrated metallic fuel tank of 24 hours autonomy with liquid leakage protection.

Large fuel tank register for cleaning.

Fuel draining plug.

Protection of heat, mobile, and live components.

Manual oil sump pump.

Baseframe prepared to be mounted on a trailer.

External emergency stop push button.

Heavy-duty engine starting battery complete with wires connection, terminal protection and on-off switch.

Alternator battery charger with earth plug.

Self excited and auto regulated alternator.

Manual control panel with a microprocessor for control, protection and generating set reading parameters as voltage, amperage, working hours, etc.

Circuit breaker 4P and regulable earth leakage.

Prepared for earth stud installation (earth stud not included).

Vertical warm air release, except in engines with exhaust gas after-treatment systems.

On/off battery switch.

Documents Bag.

Door retainer.

Cables lock for fixing the power cables.

Special anti vibration mounts fitted between the alternator/engine block and the frame, to decrease the amount of vibrations that are transmitted to the frame and to absorb all mechanical shocks from transportation.

Step/s for making easier the access to the lifting hook.

## OPTIONS

Coolant preheating resistor.

Battery charger.

Automatic/manual fuel transfer pump.

Alternator with enhanced protection against harsh environments.

Different colour.

External linkbox for around cables.

Kit of 3-way valves for external fuel tank connection (optional single lever).

Fast fuel plug connection between external and internal fuel tanks.

AMF/ATS panel to turn a manual gen set to automatic version.

Voltage and frequency change selector (50 Hz - 60 Hz), according to the model.

Sockets kits integrated in the canopy.

Soundproof canopy auxiliary internal lighting.

Upgrades to switchboards from other brands.

Internal fuel filler cap with security lockable key.

Synchronising control panels, for paralleling in island mode or with the utility.

MANUAL CONTROL, PROTECTION AND DISTRIBUTION panel, assembled on the generator set in metal cabinet with a DSE 7310 MKII engine protection unit.



Image for guidance purposes.

It has the following:

## 1. EMERGENCY STOP PUSHBUTTON.

## 2. PROTECTIONS:

Magnetothermal Protection.

Earth Leak Protection

Protection fuses for control module

## 3. DSE 7310 MKII PROTECTION CONTROL MODULE.

### LCD SCREEN:

It has a digital LCD screen, which provides easy reading of the information regarding the ENGINE, ALTERNATOR and CHARGING.

ENGINE:	ALTERNATOR AND CHARGE:
Coolant temperature	Voltages between phases and between phases and neutral.
Oil pressure	Intensities
Turning speed (rpm)	Frequency
Fuel level	Active Power (kW)
Battery voltage	Reactive Power (kVAr)
Battery alternator voltage.	Apparent Power (kVA)
Operating hours	Cos phi
Number of start-ups	Active energy meter (kW-h)

### CONTROL OF THE SET:

START AND STOP the set MANUALLY.

Possibility of doing it AUTOMATICALLY via START ON SIGNAL.

Dual Mutual Standby

### PROTECTION OF THE ENGINE AND ALTERNATOR, WITH THE ALARMS ACTIVATED:

ENGINE:	ALTERNATOR:
Low oil pressure	Low and High Voltage
High coolant temperature	Low and High Frequency
Low and High battery Voltage	Overload due to Intensity (A)
Failure of the alternator to charge batteries	Short-circuit
Low fuel level.	Negative Phase Sequence.
	Power Overload (KW-kVA)
	Load control:
	<ul style="list-style-type: none"> <li>▪ Connection and disconnection of artificial loads.</li> <li>▪ Disconnection of non-essential loads</li> </ul>

### OTHER CHARACTERISTICS:

The real-time clock provides an exact record of events	Possibility of SMS text messages
Extensive number of configurable inputs and outputs.	Ethernet communication and simultaneous use of RS232 and RS 485 ports
Configurable alarms and timers.	Programmer Clock with multiple maintenance events which can be configured for the optimal operation of the engine. Weekly and/or monthly programming of up to 16 starts and stops per week.
USB connectivity	Enhanced PLC functionality.
Fully configurable via software and PC	Data logging function
Modbus RTU	The fuel consumption may be monitored on the screen and SMS messages with alarms and reports may be sent.

## 4. PROTECTIONS

MAGNETO. PROTECTION (A)	EARTH LEAK PROTECTION	DISTRIBUTION
80A, 4P	Electronic, adjustable	Power terminals