



T1400

DIESEL GENSET

MODEL	T1400
Stand-by Power @ 50Hz	1122kW / 1403 kVA
Prime Power @ 50Hz	1020 kW / 1275 kVA

Standard Features

General features :

- Engine (MITSUBISHI , S12R-PTA)
- Charge alternator 24 V , Governor:Elec
- Alternator (LEROY SOMER , LSA50.1M7)
- Single bearing alternator IP 23 , insulation class H /H
- Radiator 51°C [124°F]°C max. T° air inlet with coolant cap
- Skid and vibration isolators
- Dry type air filter
- Main line circuit breaker
- Microprocessor control panel
- 24 V battery, rack and cable
- Industrial silencer (loose)
- User manual



Generator Ratings

Voltage	HZ	Phase	P.F	Standby Amps	Standby Ratings kW/kVA	Prime Ratings kW/kVA
415/240	50	3	0.8	1952	1122 / 1403	1020 / 1275
400/230	50	3	0.8	2025	1122 / 1403	1020 / 1275
380/220	50	3	0.8	2097	1104 / 1380	1004 / 1255

PRP : Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1. A 10% overload capability is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046-1

ESP : The standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO 8528-1. Overload is not allowed.

Conditions of sale

- SDMO provides a full line of products with high quality recognized engines and alternators.
- Service and parts are available from SDMO distributors as a single source of responsibility.
- Each and every units is factory tested. All generator sets are also prototype tested.
- Warranty according to our standard conditions. Five years extended also available



ENGINE DATA

Manufacturer / Model	MITSUBISHI S12R-PTA , 4-cycle, Turbo , N/A
Cylinder Arrangement	12 X V
Displacement	49.03L [2992.0C.l.]
Bore and Stroke	170mm [6.7in.] X 180mm [7.1in.]
Compression ratio	14.0:1
Rated RPM	1500 Rpm
Piston Speed	9m/s [29.5ft./s]
Max. stand by Power at rated RPM	1220kW [1635BHP]
Frequency regulation, steady state	+/-0. 25%
BMEP	18.5bar [268psi]
Governor : type	Elec

Exhaust System

Exhaust gas flow	3916L/s [8298cfm]
Exhaust temperature	492°C [918°F]
Max back pressure	600mm CE [24in. WG]

Fuel System

110% (Stand By power)	300L/h [79.3gal/hr]
100% (of the Prime Power)	271L/h [71.6gal/hr]
75% (of the Prime Power)	208L/h [55.0gal/hr]
50% (of the Prime Power)	151L/h [39.9gal/hr]
Total fuel flow	588L/h [155.3gal/hr]

Oil System

Total oil capacity w/filters	180L [47.6gal]
Oil Pressure low idle	2.5bar [36.2psi]
Oil Pressure rated RPM	5.8bar [84.0psi]
Oil consumption 100% load	1L/h [0.3gal/hr]
Oil capacity carter	150L [39.6gal]

Thermal balance 100% load

Heat rejection to exhaust	758kW [43100Btu/mn]
Radiated heat to ambient	78kW [4435Btu/mn]
Heat rejection to coolant	649kW [36902Btu/mn]

Air intake

Max. intake restriction	400mm CE [16in. WG]
Engine air flow	1483L/s [3143cfm]

Coolant System

Radiator & engine capacity	300L [79.3gal]
Max water temperature	98°C [208°F]
Outlet water temperature	95°C [203°F]
Fan power	30 kW
Fan air flow	25.9m3/s [54884cfm]
Available restriction on air flow	20mm CE [0.8in. WG]
Type of coolant	Gencool
Thermostat	82-94 °C

Emissions

HC	110 mg/Nm3
CO	590 mg/Nm3
Nox	3700 mg/Nm3
PM	120 mg/Nm3



ALTERNATOR SPECIFICATIONS

GENERAL DATA

- Compliance with NEMA MG21, UTE NF C51.111, VDE 0530, BS 4999, CSA standards.
- Vacuum-impregnated windings with epoxy varnish.
- IP21 drip proof.

ALTERNATOR DATA

Manufacturer / Type	LERROY SOMER LSA50.1M7
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude	< 1000 m
Overspeed	2250 rpm
Pole : number	4
Exciter type	AREP
Insulation : class, temperature rise	H / H
Voltage regulator	R449
Sustained short circuit current	3 IN = 10s
Total harmonics (TGH/THC)	< 4%
Wave form : NEMA = TIF – TGH/THC	< 50
Wave form : CEI = FHT – TGH/THC	< 2%
Bearing : number	1
Coupling	Direct
Voltage regulation 0 to 100% load	+/- 1%
Recovery time (20% Volt dip) ms	< 500 ms
SkVA with 90 % of nominal sustained voltage (at 0.4 PF)	N/A

OTHER ALTERNATOR DATA

Continuous nominal rating @ 40°C	1460 kVA
Standby rating @ 27°C	1750 kVA
Efficiencies @ 4/4 load	95.2 %
Air flow	1.6m ³ /s [3390.19cfm]
Short circuit ratio;50 (Kcc)	0.35
Direct axis synchro reactance unsaturated (Xd)	375 %
Quadra axis synchro reactance unsaturated (Xq)	225 %
Open circuit time constant;50 (T'do)	2600 ms
Direct axis transient reactance saturated (X'd)	26.8 %
Short circuit transient time constant (T'd)	218 ms
Direct axis subtransient reactance saturated (X''d)	14.8 %
Subtransient time constant (T''d)	19 ms
Quadra axis subtransient reactance saturated (X''q)	18.5 %
Zero sequence reactance unsaturated (Xo)	3.5 %
Negative sequence reactance saturated (X2)	16.5 %
Armature time constant (Ta)	41 ms
No load excitation current (io)	1.1 A
Full load excitation current (ic)	4.9 A
Full load excitation voltage (uc)	62 V
Recovery time (Delta U = 20% transitoire)	< 500 ms
Motor start (Delta = 20% perm. Or 50% trans.)	3180 kVA
Transient dip (4/4 charge) – PF : 1.8 AR	13 %
No load losses	18.5 kW
Heat rejection	63 kW

Control Panels

TELYS



Specifications :

- Frequency meter, Ammeter, Voltmeter
- Alarms and faults Oil pressure, water temperature, No start-up, Overspeed, Min/max alternator, Min/max battery voltage, Low fuel level, Emergency stop
- Engine parameters Hours counter, Oil pressure, Water temperature, Engine speed, Battery voltage, Fuel level

KERYS



Specifications :

- Frequency meter, Ammeter, Voltmeter
- Alarms and faults Oil pressure, water temperature, No start-up, Overspeed, Min/max alternator, Min/max battery voltage, Low fuel level, Emergency stop
- Engine parameters Hours counter, Oil pressure, Water temperature, Engine speed, Battery voltage, Fuel level
- Additional specifications Website, Troubleshooting, Assistance and Maintenance, Plotting and logging, Load impact, 8 configurations available, Compliance with international standards...

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Specifications :

- Tachometer, Emergency stop button, client connection terminal strip, EC certified
- Engine parameters :
- Hours counter, Oil pressure gauge, Water temperature indicator, Oil pressure indicator

Options

Engine and Radiator

- Heat shield protection
- Oil drain extension
- Heavy duty air filter
- Lube oil drain pump
- Radiator core guard
- Battery charger
- Block heater

Alternator

- Anti condensation heater
- Enforced impregnation
- Oversized alternator

Control panel

- NFPA 110 level 1
- Paralleling system
- Remote annunciator
- Oil temperature shutdown

Exhaust

- Residential silencer
- Critical silencer
- Flexible exhaust conn.

Literature

- Parts
- Maintenance

Fuel

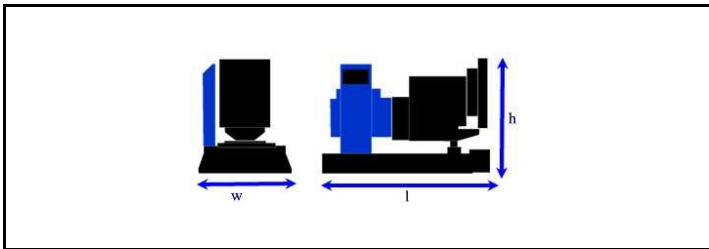
- Day tank
- Subbase fuel tanks UL
- Water separator fuel filter

Contenergy

- ISO20CSi
- Silent 79 db @ 7m [23 Ft] (stby)

Weight and Dimensions

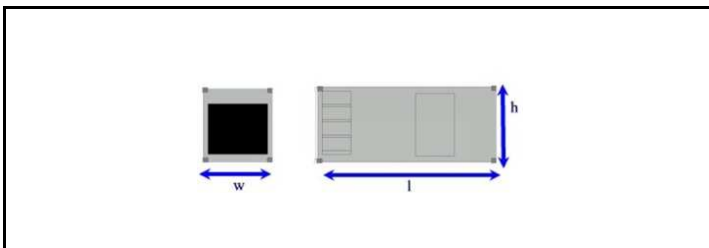
Open Model Excluding option



Overall size l x w x h :
4327mm [170in] x 2000mm [79in] x 2365mm [93in]

Weight :
9781kg [21557lbs] Net 10680kg [23539lbs] Brut

With Optional Enclosure



Overall size l x w x h :
6058mm [239in] x 2438mm [96in] x 2896mm [114in]

Weight :
14779kg [32573lbs] Net 15666kg [34528lbs] Brut