

# T12KM

Engine MITSUBISHI , S4L2.SD  
Alternator MECC ALTE , ECO 28 1L/4

## STANDARD FEATURES

- Mechanical governor
- Mechanically welded chassis with vibration isolators
- Main line circuit breaker
- Radiator for wiring T° of 50°C [122°F] max with mechanical fan
- Protective grille for fan and rotating parts
- 9dB(A) silencer supplied separately
- Charged DC starting battery with electrolyte + cables
- 12 V charging alternator and starter
- Supplied with oil and coolant -30°C
- User manual and commissioning guide



Voltage	Power ESP kWe/kVA	Power PRP kWe/kVA	Standby Amps	Dimensions	Weight
240MONO	12 / 12	11 / 11	50	Length: 1405mm [55in]	452kg [996lbs] Net
230MONO	12 / 12	11 / 11	52	Width: 715mm [28in]	506kg [1115lbs] Gross
220MONO	12 / 12	11 / 11	55	Height: 1053mm [41in]	

## POWER DEFINITION

**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.

## TERM OF USE

Standard reference conditions 25 °C Air Intlet Temp, 100 m A.S.L. 60 % relative humidity. All engine performance data based on the above mentioned maximum continuous ratings.

Type	dB(A)@1m	dB(A)@7m	Dimensions	Weight	Tank
M126	70.7	60.7	Length: 1750mm [69in]	600kg [1322lbs] Net	50 L
			Width: 715mm [28in] Height: 1230mm [48in]	654kg [1441lbs] Gross	





## ENGINE SPECIFICATIONS

STANDARD FEATURES	Manufacturer / Model	MITSUBISHI S4L2.SD , 4-strokes, Athmo , N/A 4 X
	Cylinder Arrangement	L
	Displacement	1.75L [106.8C.I.]
	Bore and Stroke	78mm [3.1in.] X 92mm [3.6in.]
	Compression ratio	22 : 1
	Rated RPM	1500 Rpm
	Piston Speed	4.6m/s [15.1ft./s]
	Max. stand by Power at rated RPM	16.61kW [22BHP]
	Frequency regulation, steady state	+/-2. 5%
	BMEP	6.86bar [99psi]
Governor : type	Meca	
EXHAUST SYSTEM	Exhaust temperature	410°C [770°F]
	Exhaust gas flow	48.7L/s [103cfm]
	Max back pressure	700mm CE [28in. WG]
FUEL SYSTEM	110% (Stand By power )	N/A
	100% (of the Prime Power)	4.4L/h [1.2gal/hr]
	75% (of the Prime Power)	3.4L/h [0.9gal/hr]
	50% (of the Prime Power)	2.6L/h [0.7gal/hr]
	Max. fuel pump flow	18L/h [4.8gal/hr]
OIL SYSTEM	Total oil capacity w/filters	5.9L [1.6gal]
	Oil Pressure low idle	1bar [14.5psi]
	Oil Pressure rated RPM	4bar [58.0psi]
	Oil consumption 100% load	0.025L/h [0.0gal/hr]
	Oil capacity carter	5.4L [1.4gal]
THERMAL BALANCE	Heat rejection to exhaust	14kW [796Btu/mn]
	Radiated heat to ambient	2kW [114Btu/mn]
	Heat rejection to coolant	14kW [796Btu/mn]
AIR INTAKE	Max. intake restriction	200mm CE [8in. WG]
	Engine air flow	18.2L/s [39cfm]
COOLANT SYSTEM	Radiator & engine capacity	4.9L [1.3gal]
	Max water temperature	111°C [232°F]
	Outlet water temperature	93°C [199°F]
	Fan power	0.5 kW
	Fan air flow w/o restriction	0.8m3/s [1695cfm]
	Available restriction on air flow	10mm CE [0.4in. WG]
	Type of coolant	Gencool
	Thermostat	82-95 °C
EMISSIONS LEVEL	PM	100 mg/Nm3
	CO	120 mg/Nm3
	Nox	1350 mg/Nm3
	HC	40 mg/Nm3





## ALTERNATOR SPECIFICATIONS

GENERAL  DATAS	Manufacturer / Type	MECC ALTE ECO 28 1L/4
	Number of phase	3
	Power factor (Cos Phi)	0.8
	Altitude	1000
	Overspeed	[N/A]
	Pole : number	4
	Exciter type	No
	Insulation : class, temperature rise	H / H
	Voltage regulator	AVR
	Sustained short circuit current	[N/A] C
	Total harmonics (TGH/THC)	[N/A]
	Wave form : NEMA = TIF – TGH/THC	[N/A]
	Wave form : CEI = FHT – TGH/THC	2
	Bearing : number	1
	Coupling	Direct
	Voltage regulation 0 to 100% load	[N/A]
	Recovery time (20% Volt dip) ms	[N/A]
SkVA with 90% of nominal sustained voltage (at 0.4PF)	N/A	
OTHER  DATAS	Continuous nominal rating @ 40°C	20 kVA
	Standby rating @ 27°C	20 kVA
	Efficiencies @ 4/4 load	84.2 %
	Air flow	5.5m <sup>3</sup> /s [11653.79cfm]
	Short circuit ratio;50 (Kcc)	0.65
	Direct axis synchro reactance unsaturated (Xd)	175 %
	Quadra axis synchro reactance unsaturated (Xq)	76 %
	Open circuit time constant;50 (T'do)	0.87 ms
	Direct axis transient reactance saturated (X'd)	16.5 %
	Short circuit transient time constant (T'd)	0.045 ms
	Direct axis subtransient reactance saturated (X''d)	9.4 %
	Subtransient time constant (T''d)	0.015 ms
	Quadra axis subtransient reactance saturated (X''q)	21 %
	Zero sequence reactance unsaturated (Xo)	3.2 %
	Negative sequence reactance saturated (X2)	14.2 %
	Armature time constant (Ta)	0.013 ms
	No load excitation current (io)	[N/A]
	Full load excitation current (ic)	A
	Full load excitation voltage (uc)	[N/A]
	Recovery time (Delta U = 20% transitoire)	[N/A]
	Motor start (Delta = 20% perm. Or 50% trans.)	[N/A]
	Transient dip (4/4 charge) – PF : 1.8 AR	[N/A]
	No load losses	[N/A]
Heat rejection	[N/A]	



## CONTROL PANEL

### Standard



### NEXYS

#### Specifications :

Frequency meter, Ammeter, Voltmeter  
Alarms and faults Oil pressure, water temperature,  
Overcrank, Overspeed (>60 kVA), Min/max alternator,  
Low fuel level, Emergency stop  
Engine parameters Hours counter, Engine speed,  
Battery voltage, Fuel level, Air preheating

### Option



### 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

