



#### DESCRIPTIVE

- Mechanic governor
- Mechanically welded chassis with antivibration suspension
- Main line circuit breaker
- Radiator for wiring temperature of 48/50°C max with mechanical fan
- Protective grille for fan and rotating parts (CE option)
- 9 dB(A) silencer supplied separately
- Charger DC starting battery with electrolyte
- 12 V charge alternator and starter
- Delivered with oil and coolant -30°C
- Manual for use and installation

#### 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. 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.

#### TERMS OF USE

According to the standard, the nominal power assigned by the genset is given for 25°C Air Inlet Temperature, of a barometric pressure of 100 kPA (100 m A.S.L), and 30 % relative humidity. For particular conditions in your installation, refer to the derating table.

#### ASSOCIATED UNCERTAINTY

For the generating sets used indoor, where the acoustic pressure levels depends on the installation conditions, it is not possible to specify the ambient noise level in the exploitation and maintenance instructions . You will also find in our exploitation and maintenance instructions a warning concerning the air noise dangers and the need to implement appropriated preventive measures.

## T40U

Engine ref.	S4S-DT
Alternator ref.	AT00540T
Performance class	G2

#### GENERAL CHARACTERISTICS

Frequency (Hz)	60
Voltage (V)	480/277
Standard Control Panel	APM303
Optional control panel	TELYS

#### POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
480/277	40	50	36	45	60
440/254	40	50	36	45	66
220/127	40	50	36	45	131
208/120	37	46	33	42	128

#### DIMENSIONS COMPACT VERSION

Length (mm)	1700
Width (mm)	896
Height (mm)	1223
Dry weight (kg)	680
Tank capacity (L)	100

#### DIMENSIONS SOUNDPROOFED VERSION

Commercial reference of the enclosure	M127
Length (mm)	2080
Width (mm)	960
Height (mm)	1415
Dry weight (kg)	920
Tank capacity (L)	100
Acoustic pressure level @ 1m in dB(A)	79
Sound power level guaranteed (Lwa)	0
Acoustic pressure level @7m in dB(A)	69



## T40U

### ENGINE CHARACTERISTICS

#### GENERAL ENGINE DATA

Engine model	mitsubishi
Engine ref.	S4S-DT
Air inlet	Turbo
Cylinders arrangement	L
Number of cylinders	4
Displacement (C.I.)	3.33
Air coolant	
Bore (mm) x Stroke (mm)	94 x 120
Compression ratio	17 : 1
Speed (RPM)	1800
Pistons speed (m/s)	7.20
Maximum stand-by power at rated RPM (kW)	47.80
Frequency regulation (%)	+/- 2.5%
BMEP (bar)	8.70
Governor type	Mechanical

#### COOLING SYSTEM

Radiator & Engine capacity (L)	9.50
Max water temperature (°C)	100
Outlet water temperature (°C)	93
Fan power (kW)	1.10
Fan air flow w/o restriction (m3/s)	1.37
Available restriction on air flow (mm Water Column)	10
Type of coolant	Glycol-Ethylene
Thermostat (°C)	76.5-90

#### EMISSIONS

Emission PM (g/kWh)
Emission CO (g/kW.h)
Emission HCNOx (g/kWh)
Emission HC (g/kW.h)

#### EXHAUST

Exhaust gas temperature (°C)	550
Exhaust gas flow (L/s)	142
Max. exhaust back pressure (mm EC)	680

#### FUEL

Fuel consumption 110% load (L/hr)	12.70
Fuel consumption 100% load (L/hr)	11.40
Fuel consumption 75% (L/h)	8.70
Fuel consumption 50% (L/h)	6
Maximum fuel pump flow (L/h)	36

#### OIL

Oil capacity (L)	10
Min. oil pressure (bar)	1
Max. oil pressure (bar)	5
Oil consumption 100% load (L/h)	0.11
Carter oil capacity (L)	9

#### HEAT BALANCE

Heat rejection to exhaust (kW)	45
Radiated heat to ambient (kW)	6.50
Heat rejection to coolant (kW)	39

#### AIR INTAKE

Max. intake restriction (mm EC)	200
Intake air flow (L/s)	53



# T40U

## ALTERNATOR CHARACTERISTICS

### GENERAL DATA

Alternator ref.	AT00540T
Number of Phase	Three phase
Power factor (Cos Phi)	0.80
Altitude (m)	0 to 1000
Overspeed (rpm)	2250
Number of pole	4
Capacity for maintaining short circuit at 3 In for 10 s	Yes
Insulation class	H
T° class, continuous 40°C	H / 125°K
T° class, standby 27°C	H / 163°K
AVR Regulation	Yes
Total Harmonic Distortion in no-load DHT (%)	3.7
Total Harmonic Distortion, on load DHT (%)	3.2
Wave form : NEMA=TIF	<45
Wave form : CEI=FHT	<2
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (+/- %)	+/- 1%
Recovery time (Delta U = 20% transient) (ms)	500
Indication of protection	IP 21
Technology	Without collar or brush

### OTHER DATA

Continuous Nominal Rating 40°C (kVA)	51
Standby Rating 27°C (kVA)	57
Efficiencies 100% of load (%)	90
Air flow (m3/s)	0.1450
Short circuit ratio (Kcc)	0.80
Direct axis synchro reactance unsaturated (Xd) (%)	190
Quadra axis synchro reactance unsaturated (Xq) (%)	98
Open circuit time constant (T'do) (ms)	1320
Direct axis transient reactance saturated (X'd) (%)	14.30
Short circuit transient time constant (T'd) (ms)	61
Direct axis subtransient reactance saturated (X''d) (%)	10
Subtransient time constant (T''d) (ms)	15
Quadra axis subtransient reactance saturated (X''q) (%)	30.60
Subtransient time constant (T''q) (ms)	
Zero sequence reactance unsaturated (Xo) (%)	2.70
Negative sequence reactance saturated (X2) (%)	21.50
Armature time constant (Ta) (ms)	31
No load excitation current (io) (A)	0.60
Full load excitation current (ic) (A)	2.30
Full load excitation voltage (uc) (V)	24
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	143
Transient dip (4/4 load) - PF : 0,8 AR (%)	15.50
No load losses (W)	1239.91
Heat rejection (W)	4533
Unbalanced load acceptance ratio (%)	

## DIMENSIONS

### Containment DW

Commercial reference of the enclosure	M127 DW
Length (mm)	2160
Width (mm)	966
Height (mm)	1582
Dry weight (kg)	1100
Tank capacity (L)	230
Acoustic pressure level @1m in dB(A)	79
Sound power level guaranteed (Lwa)	0
Acoustic pressure level @7m in dB(A)	69

### APM303, comprehensive and simple



The APM303 is a versatile unit which can be operated in manual or automatic mode. Equipped with an LCD screen, the user-friendly APM303 offers high-quality basic functions to guarantee simple, reliable operation and supervision of your generating set. It offers the following features:

**Measurements:**

phase-to-neutral and phase-to-phase voltages, active power currents, effective power, power factors, Kw/h energy meter Fuel, oil pressure and coolant temperature levels

**Supervision:**

Modbus RTU communication on RS485

**Reports:**

2 configurable reports

**Safety features:**

Overspeed, oil pressure

Coolant temperatures

Minimum and maximum voltage

Minimum and maximum frequency

Maximum current

Maximum active power

Phase sequence

**Traceability:**

Stack of 12 stored events

For further information, please refer to the data sheet for the APM303.

### TELYS, ergonomic and user-friendly



The highly versatile TELYS control unit is complex yet accessible, thanks to the particular attention paid to optimising its ergonomics and ease of use. With its large display screen, buttons and scroll wheel, it places the accent on simplicity and communication.

The TELYS offers the following functions:

**Electrical measurements:** voltmeter, frequency meter, ammeter.

**Engine parameters:** working hours counter, oil pressure, coolant temperature, fuel level, engine speed, battery voltage.

**Alarms and faults:** oil pressure, coolant temperature, failure to start, overspeed, alternator min./max., battery voltage min./max., emergency stop, fuel level.

**Ergonomics:** wheel for navigating around the various menus.

**Communication:** remote control and operation software, USB connections, PC connection.

For more information on the product and its options, please refer to the sales documentation.

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