T2100

Engine ref.	S16R-PTA2
Alternator ref.	KH04403T
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50 Hz
Voltage (V)	400/230
Standard Control Panel	NA
Optional control panel	M80
Optional Control Panel	APM403
Optional control panel	APM802

POWER

Voltage	ESP		PRP		DCC (*)		Standby Amps
	kWe	kVA	kWe	kVA	kWe	kVA	
415/240	1680	2100	1527	1909	1527	1909	2922
400/230	1680	2100	1527	1909	1527	1909	3031
380/220	1680	2100	1527	1909	1527	1909	3191

DIMENSIONS COMPACT VERSION

Length (mm)	5597
Width (mm)	2286
Height (mm)	2479
Dry weight (kg)	12979
Tank capacity (L)	

DIMENSIONS SOUNDPROOFED VERSION

Type soundproofing	ISO40 Si
Length (mm)	12192
Width (mm)	2438
Height (mm)	2896
Dry weight (kg)	19660
Tank capacity (L)	500
Acoustic pressure level @1m in dB(A)	92
Sound power level guaranteed (Lwa)	115
Acoustic pressure level @7m in dB(A)	84

DESCRIPTIVE

- Electronic governor
- Mechanically welded chassis with antivibration suspension
- Radiator for core temperature of 48/50°C max with mechanical fan
- Protective grille for fan and rotating parts (CE option)
- Exhaust compensators with flanges
- 24 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.
*DCC : Data Center Continuous Power ratings apply to Data Center installations where a reliable utility power is available and comply with Uptime institute Tier III and IV requirements.

TERMS OF USE

According to the standard, the nominal power assigned by the genset is given for 25°C Air Intlet 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.

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ENGINE CHARACTERISTICS

GENERAL ENGINE DATA

Engine brand	MITSUBISHI
Engine ref.	S16R-PTA2
Air inlet system	Turbo
Cylinders configuration	V
Number of cylinders	16
Displacement (L)	65,37
Charge Air coolant	Air/Water DC
Bore (mm) x Stroke (mm)	170 x 180
Compression ratio	14 : 1
Speed (RPM)	1500
Pistons speed (m/s)	9
Maximum stand-by power at rated RPM (kW)	1790
Frequency regulation, steady state (%)	+/- 0.25%
BMEP @ PRP 50 Hz (bar)	19,90
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	420
Fan power (kW)	43
Fan air flow w/o restriction (m3/s)	32,30
Available restriction on air flow (mm H2O)	20
Type of coolant	Glycol-Ethylene

EMISSIONS

Emission PM (mg/Nm3) 5% O2	110
Emission CO (mg/Nm3) 5% O2	590
Emission HC+NOx (g/kWh)	15,39
Emission HC (mg/Nm3) 5% O2	110

EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	524
Exhaust gas flow @ ESP 50Hz (L/s)	6317
Max. exhaust back pressure (mm H2O)	600

FUEL

Consumption @ 100% load ESP (L/h)	440,10
Consumption @ 100% PRP load (L/h)	400,10
Consumption @ 75% PRP load (L/h)	314,40
Consumption @ 50% PRP load (L/h)	227,80
Maximum fuel pump flow (L/h)	588

OIL

Oil system capacity including filters (L)	230
Min. oil pressure (bar)	2,50
Max. oil pressure (bar)	5,80
Oil consumption 100% ESP (L/h)	1,46
Oil sump capacity (L)	140

HEAT BALANCE

Heat rejection to exhaust (kW)	1094
Radiated heat to ambiant (kW)	113
Heat rejection to coolant HT (kW)	1046

AIR INTAKE

Max. intake restriction (mm H2O)	400
Intake air flow (L/s)	2383

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ALTERNATOR CHARACTERISTICS

GENERAL DATA

Alternator ref.	KH04403T
Number of Phase	Three phase
Power factor (Cos Phi)	0,80
Altitude (m)	0 à 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 (H/125°), continuous 40°C	H / 125°K
T° class (H/163°C), standby 27°C	H / 163°K
AVR Regulation	Yes
Total Harmonic Distortion in no-load DHT (%)	<3.5
Total Harmonic Distortion, on linear load DHT (%)	<3.5
Wave form : NEMA=TIF	<50
Wave form : CEI=FHT	<2
Number of bearing	Single Bearing
Coupling	Direct
Voltage regulation at established rating (+/- %)	0,50
Recovery time (Delta U = 20% transcient) (ms)	500
Indication of protection	IP 23
Technology	Brushless

OTHER DATA

Continuous Nominal Rating 40°C (kVA)	2000
Standby Rating 27°C (kVA)	2200
Efficiencies 100% of load (%)	95,80
Air flow (m3/s)	2,50
Short circuit ratio (Kcc)	0,3290
Direct axis synchro reactance unsaturated (Xd) (%)	394,60
Quadra axis synchro reactance unsaturated (Xq) (%)	210,10
Open circuit time constant (T'do) (ms)	2412,09
Direct axis transcient reactance saturated (X'd) (%)	31,70
Short circuit transcient time constant (T'd) (ms)	222,6610
Direct axis subtranscient reactance saturated (X"d) (%)	16,80
Subtranscient time constant (T"d) (ms)	14,5680
Quadra axis subtranscient reactance saturated (X"q) (%)	17,32
Subtranscient time constant (T"q) (ms)	20,10
Zero sequence reactance unsaturated (Xo) (%)	2,50
Negative sequence reactance saturated (X2) (%)	17,05
Armature time constant (Ta) (ms)	28,9330
No load excitation current (io) (A)	1,16
Full load excitation current (ic) (A)	4,48
Full load excitation voltage (uc) (V)	47,50
Engine start (Delta U = 20% perm. or 30% trans.) (kVA)	1556,79
Transcient dip (4/4 load) - PF : 0,8 AR (%)	21,16
No load losses (W)	15112,35
Heat rejection (W)	69718,14
Unbalanced load acceptance ratio (%)	8

DIMENSIONS

Contener dimensions ISO40 version	
Type soundproofing	ISO40 Si
Length (mm)	12192
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CONTROL PANEL

Basic terminal block

The control unit can be used as a basic terminal block for connecting a control box.

Offers the following functions:

emergency stop button, customer connection terminal block, CE.

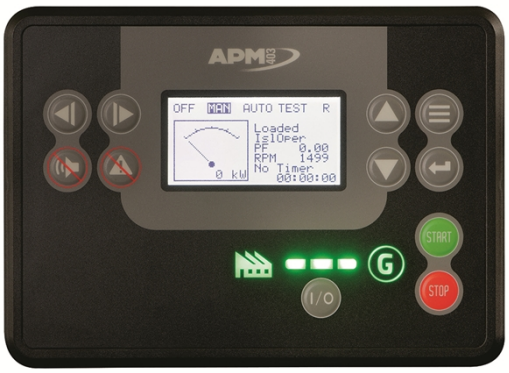
M80, transfer of information

The M80 is a dual-function control unit. It can be used as a basic terminal block for connecting a control box and as an instrument panel with a direct read facility, with displays giving a global view of your generating set's basic parameters.

Offers the following functions:

Engine parameters: tachometer, working hours counter, coolant temperature indicator, oil pressure indicator, emergency stop button, customer connection terminal block, CE.

APM403, basic generating set and power plant control



The APM403 is a versatile control unit which allows operation in manual or automatic mode
Measurements : voltage and current
kW/kWh/kVA power meters
Standard specifications: Voltmeter, Frequency meter.
Optional : Battery ammeter.
J1939 CAN ECU engine control
Alarms and faults: Oil pressure, Coolant temperature, Overspeed, Start-up failure, alternator min/max, Emergency stop button.
Engine parameters: Fuel level, hour counter, battery voltage.
Optional (standard at 24V): Oil pressure, water temperature.
Event log/ Management of the last 300 genset events.
Mains and genset protection
Clock management
USB connections, USB Host and PC,
Communications : RS485 INTERFACE
ModBUS protocol /SNMP
Optional : Ethernet, GPRS, remote control, 3G, 4G, Websupervisor, SMS, E-mails

APM802 dedicated to power plant management

The new APM802 command/control system is specifically designed for operating and monitoring power plants for markets including hospitals, data centres, banks, the oil and gas sector, industries, IPP, rental and mining.
This unit is available as standard on all generating sets from 275 Kva designed for coupling. It is optional on the rest of our range.
The Human Machine Interface, designed in collaboration with a company specialising in interface design, facilitates operations with a large 100% touch screen. The pre-configured system for power plant applications features a brand new customisation function which complies with the international standard IEC 61131-3. New communication functions (PLC and regulation), improve the high level of equipment availability in the installation.

Advantages:
Dedicated to power plant management.
Specially researched ergonomics.
High level of equipment availability.
Modularity and long service life guaranteed.
Making it easy to extend the installation

For more information, please refer to the sales documentation.