

DATA SHEET

DIESEL GENERATOR 660KW

MODEL#FDK-M825/H1

50HZ/1500RPM

MITSUBISHI MODEL: S6R2-PTAA-C



General Features:

- ♦ All qualified generator sets are subjected to a comprehensive performance test which includes 50% load, 70% load, 100% load, 110% load and to check, verify that all control systems, alarm and shut-down protection.
- ♦ Equipped with battery charger and 24V high performance maintenance-free lead-acid starting batteries and connecting cables.
- ♦ Stainless galvanized zinc plates with strong corrosion-proof.
- ♦ Vibration isolators between the engine/alternator and base frame.
- ♦ Equipped with industrial silencer and flexible exhaust hose.
- ♦ Designed to comply with ISO8528/GB2820.
- ♦ Powered by Mitsubishi engine and coupled with Stamford alternator.
- ♦ Water jacket preheater, oil heater and double air cleaner, etc. are available.

FDK Diesel Generator Set Data

Genset Model	FDK-M825/H1
Prime Power	600KW/750KVA
Standby Power	660KW/825KVA
Output Frequency / Rated speed	50Hz/1500rpm
Rated Voltage	230V/400V

Engine Make	Mitsubishi China
Engine Model	S6R2-PTAA-C
Alternator model	Stamford LVI634B
Control System	DSE7320
Phase	Three

(1) **Prime power:** The rating is available for an unlimited of annual operating hours in variable load applications, in accordance with ISO8528-1.A 10% overload is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046-1.

(2) **Standby power:** The rating is applicable for supplying emergency power in variable load applications for up to 200 hours per year in accordance with ISO8528-1. Overload is not allowed.

(3) **Rated voltage:** available with customer requirement.

Engine Specifications (DETAILED in APPENDIX)

Engine Model	S6R2-PTAA-C
Engine Manufacturer	Mitsubishi China
Cylinder quantity	6
Cylinder Arrangement	In-line
Cycle	Four stroke

Aspiration	Turbo charged
Bore x Stroke (mm x mm)	170×220
Displacement	29.96L
Compression Ratio	14:1
Prime power / Speed (KW/RPM)	645/1500
Standby power/ Speed (KW/RPM)	710/1500



ISO9001:2008

FDK reserves the right to change the specifications and designs without notice.

Speed governor	Electronic	Fuel Consumption at 100% load	N.A.
Piston Speed	11m/s		
Maximum Regenerative Power	64kw	Starter motor	24V
Total Lubrication System Capacity (L)	100	Alternator	24V
Coolant Capacity Engine Only (L)	55	Maximum Overspeed Capacity	1750RPM

Alternator Specifications

Alternator model	LV1634B	Number of phase	3
Alternator manufacturer	STAMFORD	Rated voltage	400V (Available with custom requirements)
Exciter type	Single bearing, Brushless, Self-excited	Power factor	0.8
Rated output prime power	750 KVA	Voltage regulation NL-FL	≤±1%
Rated speed	1500 rpm	Insulation grade	H
Rated frequency	50Hz	Protection grade	IP23

Alternator option: Leroy Somer, MECC, Marathon, Engga, Faraday**Control System DSE7320 (DETAILED in INSTRUCTION)**

DSE7320 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, breaker control and automatically start the engine when the mains are abnormal. Accurately measure various operational parameters and display all values and alarms information on the LCD. In addition, the control module can automatically shut down the engine and indicate the engine failure.

FEATURES

- ♦ Microprocessor control, with high stability and credibility.
- ♦ Monitoring and measuring operational parameters of the mains supply and genset.
- ♦ Indicating operation status, fault conditions, all parameters and alarms.
- ♦ Multiple protections; multiple parameters display, like pressure, temp. etc.
- ♦ Manual, automatic and remote work mode selectable.
- ♦ Real time clock for time and date display, overall runtime display, 250 log entries.
- ♦ Overall power output display.
- ♦ Integral speed/frequency detecting, telling status of start, rated operation, overspeed etc.
- ♦ Communication with PC via RS485 OR RS232 interface, using MODBUS protocol.

Soundproof Enclosure Specification

FDK silent generator is designed by professional acoustic engineers based on years of experience. Now we can make the noise of the generator less than 80-85dB(A) at 1m, or 70-75dB(A) at 7m, 60-65dB(A) at 15m.

FEATURES

- ♦ Multi-way air intake and exhaust guarantee the power performance of the generator.
- ♦ Large-scale impedance combined type silencer effectively reduce noise of the generator.
- ♦ Internal high performance rubber damper and flexible materials reduce vibration.
- ♦ Base mounted fuel tank supports the generator running for 8 hours.



ISO9001:2008

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Optional

Generator set	Alternator	Low environment Temp	ATS
<input type="checkbox"/> Open generator set <input type="checkbox"/> Silent generator set <input type="checkbox"/> Trailer generator set <input type="checkbox"/> ABB MCCB circuit breaker	<input type="checkbox"/> Stamford <input type="checkbox"/> Marathon <input type="checkbox"/> Mecc Alte <input type="checkbox"/> Leroy Somer <input type="checkbox"/> Farady <input type="checkbox"/> Engga	<input type="checkbox"/> Water heater <input type="checkbox"/> Oil heater <input type="checkbox"/> Battery heater	<input type="checkbox"/> CHINT <input type="checkbox"/> SCHNEIDER <input type="checkbox"/> ABB
Fuel system	Control system	Voltage	Synchronized system
<input type="checkbox"/> 12hrs base tank <input type="checkbox"/> 24hrs base tank <input type="checkbox"/> Dual wall base fuel tank <input type="checkbox"/> Outside fuel tank	<input type="checkbox"/> AMF function <input type="checkbox"/> ATS control cabinet <input type="checkbox"/> DSE7320 <input type="checkbox"/> DSE7510 <input type="checkbox"/> GU620A	<input type="checkbox"/> 415/240V <input type="checkbox"/> 400/230V <input type="checkbox"/> 380/220V <input type="checkbox"/> 220/127V <input type="checkbox"/> 200/115V	<input type="checkbox"/> CHINT Cabinet <input type="checkbox"/> SCHNEIDER Cabinet <input type="checkbox"/> DSE8610 Module <input type="checkbox"/> COMAQ Module <input type="checkbox"/> DEIF Module

Dimension & Weight**Open**

Overall Size: L×W×H (mm)	4000×1600×2200
Weight (kg)	5300

Soundproof Version

Overall Size: L×W×H (mm)	5800×2000×2550
Weight (kg)	8200

Sales Promises

- ◆ FDK provides a full line of brand new and high quality products. Each and every unit is strictly factory tested before shipment.
- ◆ Quality warranty is according to our standard conditions: 12 months from BL date or 1000 running hours, whichever comes first.
- ◆ Service and parts are available from FDK or distributors in your location.
- ◆ FDK guarantee use **BRAND NEW & GENUINE MACHINE.**



SPECIFICATION
 OF
 MITSUBISHI DIESEL ENGINE
 MODEL : S6R2-PTAA-C
 FOR DIESEL GENERATOR SET

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								APPROVED BY	DRAWN BY
				DATE	2013.07.17				

1.GENERAL

Object and use	: Diesel generator
Color of painting	: GB02(GSB05-1426-2001)
Applicable conditions	
Ambient temperature	: 5°C ~ 40°C
Altitude	: 1500m above sea level
Max,humidity	: 85%
Place of installation	: In door

Shop test

Diesel engine running tests shall be carried out by the following items.

Starting test

Load test	: 1/4, 2/4, 3/4 Load each
	: 4/4 Load

Governor test	: Governor test should be done along with respective governor controller
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Safety stop device test

Standard

All items, unless otherwise specified, are in accordance with JIS, GB and manufacturer's standards.

2.PRINCIPAL PARTICULARS

Model	:	S6R2-PTAA-C
Type	:	4cycle stroke, water cooled diesel engine
Combustion chamber	:	Direct injection type
Aspiration	:	Turbocharged with inter cooler
Number of cylinders	:	6 - L
Bore × stroke	:	170mm × 220mm
Total displacement	:	29.96 L
Compression ratio	:	14.1 : 1
firing order	:	1 - 5 - 3 - 6 - 2 - 4
Direction of rotation	:	Counter clockwise as viewed from flywheel side
Engine dimensions	:	Length Apx. 2562mm
(with Radiator & Piping)	:	width Apx. 1710mm
	:	Height Apx. 1724mm
Dry weight (Approx.)	:	2850kg (without accessories)
Fuel oil	:	ASTM D975 No. 2 - D or BS 2869 class A or GB 252-0
Lubricating oil	:	API service CF class or CH-4 class

Output at ISO 8528 standard air conditions (25°C, 100kPa, 30% Humid)

Stand - by rating	:	710kW/1500min ⁻¹
Prime rating	:	645kW/1500min ⁻¹

3. STANDARD EQUIPMENTS

(1) Power line system

Flywheel	:	DWG.NO.38C96-21001 SAE J620d 18in, except screw size
Flywheel housing	:	DWG.NO.38C96-21001 SAE J617c NO.0, except screw size
Engine mounting	:	DWG.NO.38C96-14001 4 points mounting, C = 160mm
Torsional vibration damper	:	Viscous type

(2) Air intake system

Air cleaner	:	DWG.NO.38C96-30385 loose supply 2 pcs Paper element type without rain cap
Turbocharger	:	MITSUBISHI TD Type Model : TF15L
Air cooler	:	Air cooled type Plated element type
Air heater	:	Not supply

(3) Exhaust system

Exhaust manifold	:	Air cooled type with heat insulator
Muffler	:	Not supply
Flexible pipe	:	DWG.NO.S37-1080 loose supply JIS 200A, L = 230mm, Weight 38kg
Companion flange	:	Not supply
Breather	:	DWG.NO.38C96-43081 Downside direction type For blow - off to outside of engine room

(4) Lubricating system

Oil pump	:	Gear pump type
Capacity of oil pump	:	270L/min (at Engine Speed 1500min ⁻¹)
Lub. oil pressure at main gallery	:	0.5 ~ 0.65 MPa
Quantity of oil (Approx.)	:	Oil pan full level : 84 L low level : 52 L Others (filter etc.) : 10 L Total : 94 L
Lub. oil filter (Full flow)	:	Paper element cartridge type × 2pcs filter mesh : 20 μ with by - pass alarm switch
Lub. oil filter (By - pass flow)	:	Paper element cartridge type × 1pc filter mesh : 2 μ
Lub. oil cooler	:	Water cooled corrugated fin type with by - pass valve

(5) Cooling system

Water pump	:	Belt drive centrifugal type
Capacity of water pump	:	820 L/min (at Engine Speed 1500min ⁻¹)
Thermostat	:	Wax pellet type × 2pcs Open at 71°C ~ 85°C
Fan	:	Not supply
Radiator & Inter cooler piping	:	Not supply
Radiator & I/C Assy.	:	Not supply
Quantity of Coolant	:	Approx.55L (only Engine)

(6) Fuel system

Fuel inlet pipings	:	DWG.NO.38C96-62112 loose supply flexible hose (Rc 1/2 joint)
Fuel return pipings	:	DWG.NO.38C96-61312 loose supply flexible hose (Rc 1/2 joint)
Injection pump	:	Bosch type "PS6" without timer
Feed pump	:	Piston type with priming pump
Injection Nozzle	:	Hole type 0.325mm× 10 holes for 1500min ⁻¹
Fuel filter	:	Paper element cartridge type × 2pcs Filter mesh : 20 μ

(7) Control system

Governor	: DWG.NO.38C96-63016 Electronic speed governor Speed droop : 0 ~ 5% adjustable
Actuator	: DWG.NO.S13-1761 Supply voltage : DC24V± 20% Current consumption At starting : 13A Normal operation : 0.5 ~ 2A Min. Supply voltage : DC16V50%ED
Controller	: DWG.NO.S13-1042 loose supply Model : XS-400B-03 (04410-33100) Supply voltage : DC24V± 20%
Potentiometer	: PM10kΩ, For low idling speed setting Not supply
Potentiometer	: PM10kΩ, For rated speed setting Not supply
Connector	: DWG.NO.S13-1022 loose supply From actuator to controller 5000mm length
Magnetic pick up	: DWG.NO.S13-2011 With connector
Cable	: DWG.NO.S13-2020 loose supply From magnetic pick up to controller 4300mm length

(8) Starting system

Starter switch	: with key, with heat position Not supply
Starting motor	: DC24V, 7.5KW Reduction type with safety relay with 2 poles connector (DWG.NO.S14-0320)

Safety relay	: Not supply
	The following Starter Protection functions shall be provided by Customer.
	1) Function for engagement operation again when engagement of pinion gear fails.
Current of starter	: Rush 700A Cranking 370A (Ambient temp : 5°C, Lub. oil : SAE NO. 30)
Alternator	: DWG.NO.S10-0540 DC24V, 30A, with voltage regulator with 2 poles connector (DWG.NO.S10-0550)
Recommended battery capacity	: DC24V, 250AH Not supply
Battery switch	: Not supply
(9) Stopping system	: DWG.NO.38C96-87502
Automatic stop	Automatically shut - down by stop solenoid and electronic governor power off simultaneously
Stop solenoid	: DWG.NO.S13-0282 Energized to run type DC24V, 30.7A(pull), 0.58A(hold)
Manual stop	: By stop lever
(10) Safety device	
Alarm switches	: DWG.NO.38C96-90240
Alarm and trip	
Low oil press. switch	: DWG.NO.S11-0796 (04442-45400) Diaphragm type : 0.15MPa switch on
High water temp. switch	: DWG.NO.S11-0551 (04442-34500) Wax type : 98°C switch on
Alarm	
Oil filter alarm switch	: DWG.NO.S11-1371 Piston type : 0.15MPa switch on
Oil filter alarm lamp	: Not supply
Air filter alarm indicator	: DWG.NO.S11-0920 loose supply Mechanical type : 635mmH ₂ O switch on

(11) Instrument

Meter and sensor	:	DWG.NO.38C96-90151
Tachometer	:	Pulse type for engine speed With electrical hour meter Not supply
Magnetic pick up	:	DWG.NO.S13-2011 For tachometer, pin-joint type
Cable	:	For magnetic pick up Not supply
Thermometer	:	Electrical type for jacket water and lub. oil temp. Not supply
Press. gage	:	Electrical type for lub. oil press. Not supply With 2 poles connector (DWG.NO.S14-0330)
Thermometer	:	For exhaust gas temp. Not supply

(12) Others

Tools	:	Not supply
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Declaration:

To maintain and optimize product performance and reliability, we will do some necessary change timely to product or parts in this specification without altering the basic parameters. If you need more information, please refer to our comp

4. ACCESSORIES (Loose supply parts)

NO.	PARTS NO.	PARTS NAME	Q' TY	DWG. NO.	
1	47220-46401	AIR CLEANER ASSY.	2	S35-1011	38C96-30385
2	47221-17500	HOSE, AIR	1	S35-0751	
3	47501-72500	PIPE, AIR	1		
4	47220-30400	HOSE, ELBOW	1	S35-0701	
5	45735-73400	HOSE, AIR	1	S35-0731	
6	05317-52001	CLAMP	3		
7	05317-51801	CLAMP	8		
8	47220-38300	BAND	4	S35-0600	
9	47220-34401	INDICATOR	2	S11-0920	
10	47920-00700	FLEXIBLE JOINT	1	S37-1080	
11	45955-15170	HOSE, VINYL	1		for breather
12	05317-80480	CLAMP	2		
13	45951-10030	PIPE,FLEXIBLE	1		38C96-61312
14	45950-11400	CONNECTOR	1		
15	45950-51500	PIPE,FLEXIBLE	1		38C96-62112
16	45950-11100	CONNECTOR	1		
17	04410-33100	CONTROLLER	1	S13-1042	38C96-63016
18	04410-32902	CONNECTOR	1	S13-1022	
19	04410-43500	CABLE, PICK UP	1	S13-2020	
20	F8665-02100	CONNECTOR	1	S14-0320	for starter
21	32B90-00300	CONNECTOR	1	S10-0550	for alternator
22	MH052231	CONNECTOR	1	S14-0330	38C96-90151

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5. DRAWINGS

NO.	DWG. NO.	DWG. NAME	REV.
1	38C96-00481	ENGINE OUTLINE	
2	38C96-01021	JOINT DETAIL	
3	38C96-04061	WIRING DIAGRAM	
4	38C96-14001	MOUNTING DETAIL	
5	38C96-21001	FLYWHEEL & HOUSING DETAIL	
6	38C96-30385	AIR CLEANER	
7	38C96-43081	BREATHER	
9	38C96-61312	FUEL RETURN PIPING	
10	38C96-62112	FUEL INLET PIPING	
11	38C96-63016	GOVERNOR	
12	38C96-87502	STOP SYSTEM	
13	38C96-90142	METER & SENSOR	
14	38C96-90151	METER & SENSOR	
15	38C96-90240	ALARM SWITCH	
16	S10-0540	ALTERNATOR	
17	S10-0550	CONNECTOR	
18	S11-0551	THERMO SWITCH	
19	S11-0796	PRESSURE SWITCH	
20	S11-0920	INDICATOR	
21	S11-1371	FILTER ALARM SWITCH	
22	S13-0282	SOLENOID	
23	S13-1022	CONNECTOR	
24	S13-1042	CONTROLLER	
25	S13-1761	ACTUATOR	
26	S13-2011	MAGNETIC PICK UP	
27	S13-2020	PICK UP CABLE	
28	S14-0320	CONNECTOR	
29	S14-0330	CONNECTOR	
30	S35-0600	BAND	
31	S35-0701	HOSE, ELBOW	
32	S35-0731	HOSE, AIR	
33	S35-0751	HOSE, AIR	
34	S35-1011	AIR CLEANER	
35	S37-1080	FLEXIBLE PIPE	

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