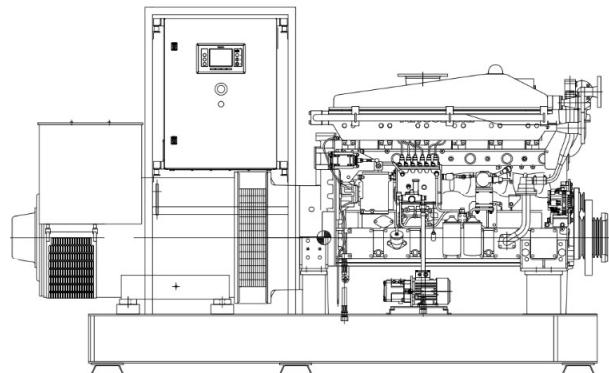


MAS-540-1500

MITSUBISHI AUXILIARY SET

Quality, reliability, performance, and partnership
- Mitsubishi Heavy Industries Group.



RATING		DESIGN CONDITIONS	
Generating set model	MAS-540-1500	Ambient temp - max	45 °C
Generator voltage	400 V	Ambient temp – min	0°C
Frequency	50 Hz	Altitude (maxi)	1000m a.s.l
Generator output PRP	428 kWe	Relative humidity (maxi)	85 %
Duty	Auxiliary/DEP	Fuel oil LHV	42700kJ/kg
Rating	PRP – Prime Power	Fuel oil	Diesel
Average load factor for 24h	"80% or lower >90% for max 3h/24h"	Fuel oil gravity at 15°C	0.83 to 0.87
Overload	110% for 1h/12h	Fuel oil sulfur content max	0.2% by weight
Installation location	Indoors	Fuel oil viscosity min(60°C)/max(50°C)	2.0/8.0 cSt
		Fuel oil cetane number – min	45
		Lube oil capacity – max (incl. filters)	110 l
		Emissions	IMO II

ALTERNATOR DATA		ENGINE DATA	
Alternator Make	Stamford	Engine model	S6A3-MPTAW-20
Alternator Type	HCM534F2	Engine speed	1500 rpm
Alternator output @ Cos Φ=0.8	478 kVA	Engine brake output	450 kW
Bearing configuration	double	Cylinder configuration	6l
Insulation class	H	Total displacement	18.56 l
Temperature rise class	F	Bore x Stroke	150x175 mm
Cooling method	Air	Compression ratio	14.5:1
Protection	IP23	Turbocharged	Turbo-Charged, After Cooler
Excitation system	Digital	Governor	Electric
PT100 for bearing and stator winding	Included	Cooling method (engine driven pump)	Water
AVR for single and parallel operation	Included	Starting method	Battery
Space heater	Included		

CE COMPLIANCE		LANGUAGE - UNITS	
2006/42/EC : machinery		Drawings, documents, nameplates in English	
		SI metric system	

PERFORMANCES @ PRIME		HEAT BALANCE	
Generator output	428 kWe	Heat rejection (HT / LT)	239 / 125 kW
Specific consumption – ISO3046/1 : 0/+5%	209 g/kWh	Heat rejection (exhaust)	306 kW
Fuel oil consumption @ 100%	111 l/hr	Thermal radiation (engine block)	17 kW
Fuel oil consumption @ 75%	83 l/hr	Thermal radiation (generator)	- kW
Exhaust gas temperature	425 °C	Coolant temperature at HT outlet - max	95 °C
Exhaust gas flow rate	103 m³/min	Coolant temperature at LT inlet - max	32 °C
Air intake flow rate	39 m³/min	Coolant temperature at LT inlet - derating 5.2%	-
Noise level@ 1m (open skid)	-	Flow rate of coolant radiator circuit – HT/LT	475 / 150 l/min
		Coolant capacity (engine only)	40l

TOLERANCES AND CONDITIONS

Efficiency data for average conditions (avg) – derating above 1000 m asl or 40°C intake air temperature or 32°C LT coolant inlet temperature

Fuel input: 0/+5% (ISO3046/1). Submitted to fuel oil specification confirmation

Heat rejection data: +/- 12%. Add 17% margin for remote dry air cooler design

Exhaust gas flow / temperature: +/- 6% - +/- 8%

Pictures are not contractual and may include optional accessories

These data are not contractual. They can be modified by MTEE without prior notice

STANDARDS

I.S.O. : International Standard Organization

C.E.N. : European Standard Committee

I.E.C: International Electric Commission

J.I.S : Japanese Industrial Standards (for engine)

J.E.C: Japan. Electrotechnical committee (engine)

J.E.M: Japan Elec. Manufacturers Association (Eng.)

Manufacturers standards

GENERATOR SET EMBEDDED CONTROL PANEL

Automatic start and shutdown DCU410 system mounted in door of interface box with the following functions

LCD displaying engine rpm, control voltage, lube oil pressure and temperature, cooling water temperature water temperature, charge air pressure, exhaust temperature after turbo

3 automatic start attempts acc. to class requirements.

Automatic shutdown for low oil pressure, high water temperature HT and overspeed

Control of pre lube pump

Start and Stop switch

Hour meter

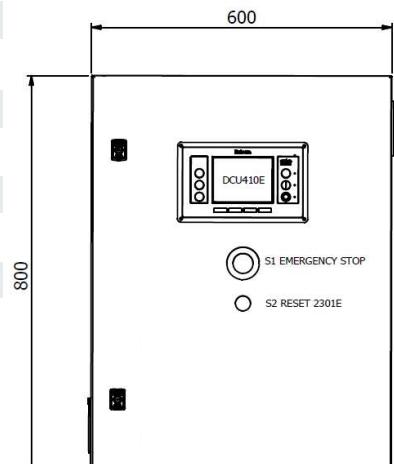
RS-485/TCP IP converter for serial communication with IAS, Modbus protocol

Common alarm

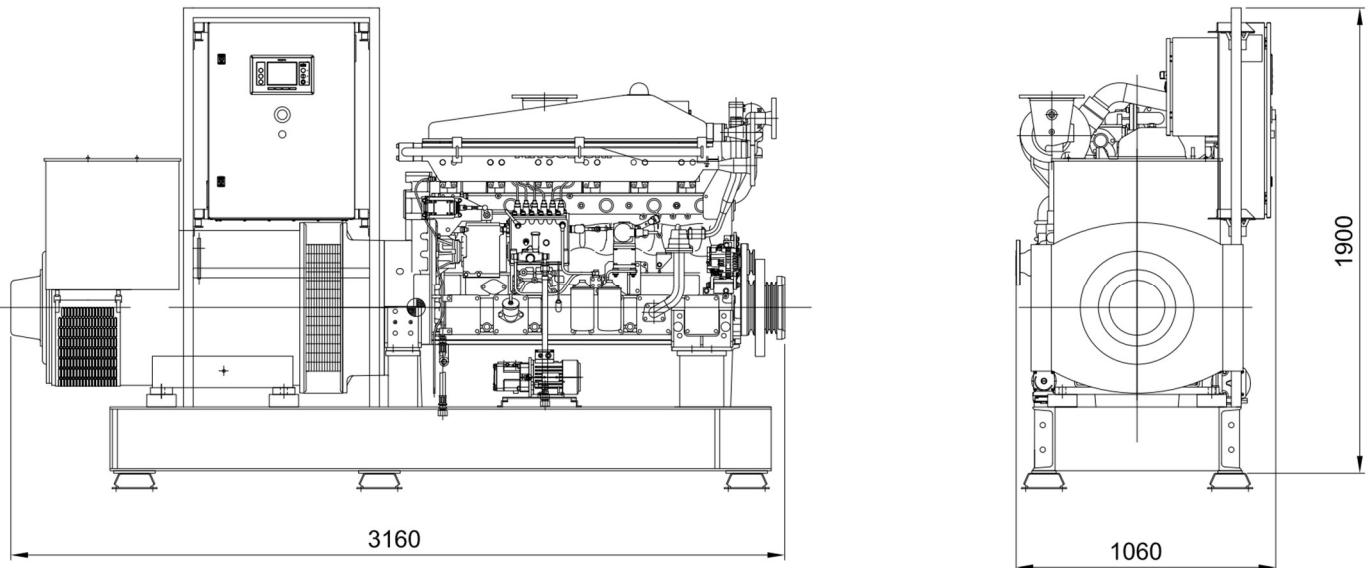
Stop System; 24V stop solenoid

Automatic control of engine auxiliaries and power supply:

- Intecooler water (LT) pump
- Jacket water heater and pump
- Alternator space heater



MAS-540-1500 - S6A3-MPTAW-20 - LAYOUT



Dry Weight = 4100 kg

SCOPE OF SUPPLY

Standard item
 Option

Engine	Mitsubishi engine	<input checked="" type="radio"/>
	SOLAS compliant exhaust insulation and protection for fuel and oil connections	<input checked="" type="radio"/>
	Heavy duty frame with vibration absorbers	<input checked="" type="radio"/>
	Electrical Pre-lube pump with oil drain/filling	<input checked="" type="radio"/>
	Cooling heater with internal circulation pump and flexible below connections	<input checked="" type="radio"/>
	Alarm switch for fuel leakage	<input checked="" type="radio"/>
	Woodward Pro Act digital + Governor system	<input checked="" type="radio"/>
	Woodward speed controller 2301E (built into control cabinet)	<input checked="" type="radio"/>
	Protect guard for moving parts	<input checked="" type="radio"/>
	LT/HT interface flexible bellows	<input checked="" type="radio"/>
	Electrical LT pump and Thermostat (delivered loose supply for optimal installation in vessel)	<input checked="" type="radio"/>
Generator	Air-cooled Generator IP 23 with Digital AVR	<input checked="" type="radio"/>
	PT-100 bearing and windings	<input checked="" type="radio"/>
	Anti-condensation heater	<input checked="" type="radio"/>
	Flexible coupling with TVC calculation	<input checked="" type="radio"/>
	Droop CT	<input checked="" type="radio"/>
Control system	Type approved Control system (cabinet) including package aux class including sensors and mounting	<input checked="" type="radio"/>
	Based on Auto-Maskin	<input checked="" type="radio"/>
	Electrical starter cabinet: for heater, lubrication oil primer pump and LT pump	<input checked="" type="radio"/>
Documentation	IMO2 certificate	<input checked="" type="radio"/>
	Drawing and design engineering (GAD, P&ID, Electrical Drawings)	<input checked="" type="radio"/>
	Test running of complete sets at Spikkestad, Norway before shipment / Test Report	<input checked="" type="radio"/>
	Mitsubishi Warranty	<input checked="" type="radio"/>
Options (mounted)	Water cooled Generator	<input type="radio"/>
	Drip tray oil filter	<input type="radio"/>
	Mechanical LT cooling water pump v-belt driven and Thermostat	<input type="radio"/>
	Drip trays fuel filter	<input type="radio"/>
	Lifting lugs	<input type="radio"/>
Options (loose)	Silencer (35dB)	<input type="radio"/>
	Exhaust compensator	<input type="radio"/>
	Plate Heat exchanger	<input type="radio"/>
	Expansions tanks LT (40l) / HT (60l)	<input type="radio"/>
	Remote Genset Control Panel	<input type="radio"/>
	Start battery and battery box	<input type="radio"/>
	Battery isolation switch cabinet	<input type="radio"/>
	Battery charger	<input type="radio"/>
	Class certification (Genset incl. control system)	<input type="radio"/>

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More information

Contact your local Mitsubishi Engine & Energy dealer for more information regarding Mitsubishi Generator Sets and optional equipment.
 Or visit www.mtee.eu

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