

**Durability & low noise**

Designed for easiest, fastest and most economical installation. Well-balanced to produce smooth and vibration-free operation with low noise level.

To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling. The engine is also fitted with replaceable cylinder liners and valve seats/guides to ensure maximum durability and service life of the engine.

Low exhaust emission

The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption.

Generator performance class in accordance with ISO 8528

Easy service & maintenance

Easily accessible service and maintenance points contribute to the ease of service of the engine.

- **Electronic governing EMS**
- **CAN bus communication**
- **Compact design for the power class**
- **High power to weight ratio**
- **Emission compliant acc. to EU Stage II**
- **Noise optimized engine design**
- **RoHS2 Compliant**
- **Dual speed**

DG Technical Specification

Technical Data Sheet of 650 KVA		
Voltage, Frequency & Power		
Switchable to dual frequency with a selector switch (50/60 Hz)		
Specification (50Hz)		
Frequency	Hz	50
Voltage (3PH)	V	380-415-480
Power factor	cos θ	0.8
Phase		3
Power rating		
Emergency Standby Power ESP	kVA	717
Emergency Standby Power ESP	KWM	609
Prime power PRP	kVA	652
Prime power PRP	KWM	554
Specification (60Hz)		
Frequency	Hz	60
Voltage (3PH)	V	220-380-415-480
Power factor	cos θ	0.8
Phase		3
Power rating		
Emergency Standby Power ESP	kVA	752
Emergency Standby Power ESP	KWM	640
Prime power PRP	kVA	684
Prime power PRP	KWM	582

Ratings definition (According to standard ISO8528 1:2005)

All performance and de rating parameters to be considered for load calculations accordingly.

PRP - Prime Power: It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

ESP - Emergency Standby Power: For supplying emergency power for the duration of a utility power failure, not to exceed 200 hrs/yr. Average load factor of 70% of the standby rating over 24 hour period.

Engine specifications		
Engine Brand		Volvo
Model		TWD1644GE
Low exhaust emissions		Equal to EU stage II
Engine cooling system		Ready mix or Volvo Penta coolant mixed with clean fresh water 40 / 60
Configuration and no.of cylinders		In line 6
Displacement	ltr	16.12
Aspiration		Turbocharged intercooled
Speed governor		Electronic
Prime gross power PRP @1500	kWM	554
Maximum gross power LTP ESP @1800	kWM	640
Oil capacity	ltr	48
Lube oil consumption PRP (max)	ltr/hr	0.1
Total Coolant capacity	ltr	180
Fuel		Diesel
Specific fuel consumption 75%/100% PRP @1500 rpm	g/kWh	194
Specific fuel consumption 75%/100% PRP @1800 rpm	g/kWh	199
Starting system		Electric
Starting engine capability	KW	7
Electric circuit	V	24
Alternator Specifications		
Make		Stamford
Model		HCI544F
Voltage	V	220-480
Frequency	Hz	50-60
Power factor	cos θ	0.8
Poles		4
Type		Brushless
Voltage regulation (with 4% Engine Governing)	%	± 1
Efficiency @ 75% load		95.1
Insulation System		Class H
Protection		IP 23
Space heater	W	245
AVR		1 working & 1 standby (with wide band voltage selection)

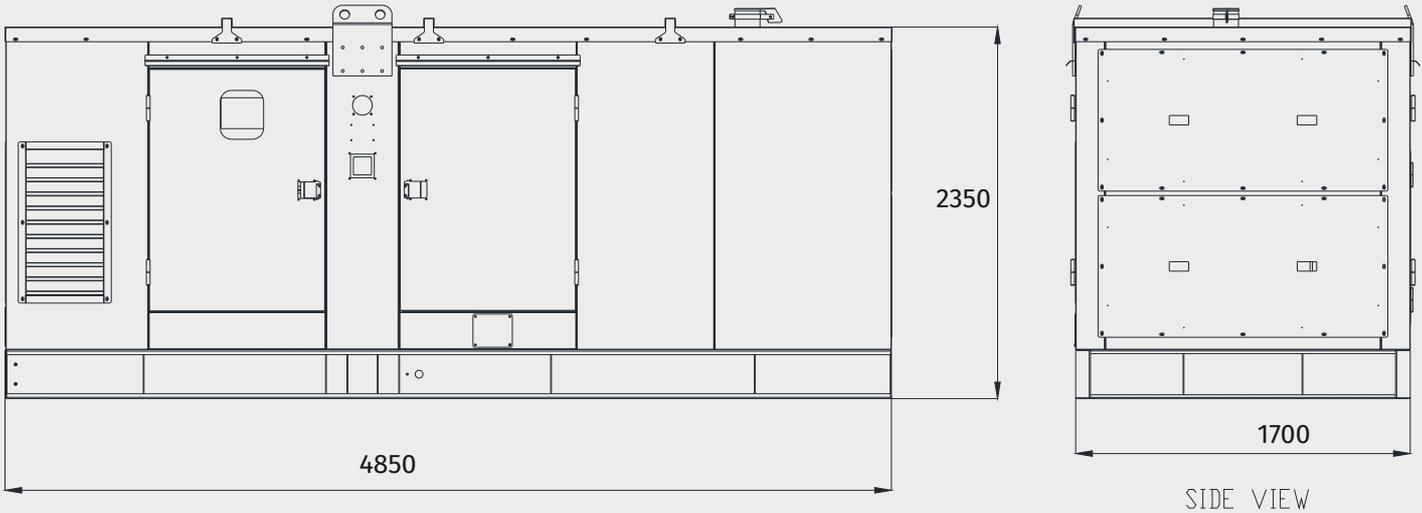


DSE8610 SYNCHRONISING AUTO START LOAD SHARE CONTROL MODULE

- Peak lopping/sharing (with DSExx60) • Sequential set start • Manual voltage/frequency adjustment • R.O.C.O.F. and vector shift protection • Generator load demand • Automatic hours run balancing • Mains (Utility) de-coupling • Mains (Utility) de-coupling test mode • Dead bus sensing • Bus failure detection • Direct governor and AVR control • Volts and frequency matching • kW and kV Ar load sharing • Dead bus synchronising Comprehensive synchronising & loadsharing capabilities • Built-in governor and AVR control • Base load (kW export) functionality • Positive & negative kVAr export control • Mains (utility) de-coupling protection • Generator power (kW, kV Ar, kV A & pf) monitoring • Overload (kW & kV Ar) protection • Reverse power (kW & kV Ar) protection • Unbalanced load protection • Independent earth fault protection • Advanced integral PLC editor • 11 Configurable inputs • 8 Configurable outputs • Configurable flexible sensor inputs • DSENet® expansion compatibility • User configurable RS232, RS485 and Ethernet communications • Remote SCADA monitoring via various DSE software applications • MODBUS RTU & TCP support • User configurable MODBUS pages • Advanced SMS control and fault messaging (additional GSM modem required) • Easy access diagnostic pages including modem diagnostic pages • Data logging and trending • CAN, MPU and Frequency speed sensing • Tier 4 CAN engine support • "Protections disabled" feature • Front panel editing with PIN protection • Fully configurable using DSE Configuration Suite PC software via USB • 4 Line back-lit LCD text display • LED and LCD alarm indication • Configurable display languages • USB connectivity • Customisable status screens • Five key menu navigation • 3 Configurable maintenance alarms • Multiple date and time run scheduler • Manual fuel pump control • Fuel usage monitor and low fuel level protection • Charge alternator failure protection • Load switching (load shedding and dummy load control) • Configurable event log (250) • Backed up real time clock

Dimensional Data		
Length	(L) mm	4850
Width	(W) mm	1700
Height	(H) mm	2350
Dry weight	kg	5850
Fuel Tank capacity	ltr	700
Fuel Tank material		metal
Autonomy		
Fuel consumption @ 75% PRP	G/KWH	194
Fuel consumption @ 100% PRP	G/KWH	194
Running time @ 75% PRP	Hr	6
Running time @ 100% PRP	Hr	4.75
Installation Data		
Total air flow	m3/min	710
Exhaust gas flow	m3/min	114.5
Exhaust gas temperature	celcius	509
Electrical Data		
Battery Capacity (minimum)	Ah	2X145
Max current (DG Set)	A	1280
Oversized Circuit Breaker	A	1600
Scope of Supply and Supplements		
Metal integrated Fuel Tank		
Leak proof Tray		
Customized canopy colour (RAL - 9003 / Ral- 9005)		
Fork Lift Pockets , Top Lifting Provision		
Synchronize capable controller DSE8610		
RGW2 - DSE890 MKII DSEWebNet [®] Gateway - 4G (GSM/Ethernet) + Antenna DFS – Dual Frequency Switch 60/50Hz		
Special Baseframe design		
ThreeWay Fuel valve (Quick Release valve)		
Spark arrestor		
Manual Oil Pump		
Battery Isolator Switch for Protection		
Copper Busbar in Control Panel		
Power Socket for ease of operation	<ol style="list-style-type: none"> 1. 16A, 3pin - qty 1, 2. 32A, 3pin - qty 1, 3. 32A, 4pin - qty 2 , 4. 32A, 5pin - qty 1, 5. 63A, 5pin - qty 1, 6. 125A, 5pin - qty 1 , 7. MSC link - qty 1 	

Dimensions & Weight



Overall Size (L x W x H) : 4850x1700x2350 mm

Weight (Dry, Max) : 5250 Kg

NOTE: Drawing provided is for reference only and should not be used for planning installation. Please contact the Company or latest updated details. All the data is as per respective manufacturers' specification. PERFECT reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Disclaimer: Due to continues product improvements, specifications are subject to change without prior.



ISO Certified



OHSAS Certified

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