

VDE438-6

DIESEL GENERATOR SET / SILENT



438

kVA

STANDBY POWER

400

kVA

PRIME POWER

60

Hz

FREQUENCY

440/254

V

VOLTAGE

DEUTZ TCD12.1 G2

3 phase · 0.8 PF · 1800 rpm

CONFIGURATION COMPARISON

Configuration	Dimensions (L × W × H)	Dry weight	Fuel tank
Open set	2700 × 1375 × 2265 mm	3041 kg	720 L
Silent set	4250 × 1650 × 2515 mm	4350 kg	650 L

Performance, engine, alternator and controller data are common to both configurations.

GENERAL CHARACTERISTICS

VDE438-6 · 60 Hz · 3 Phase

RATED PERFORMANCE

Standby Power (kVA)	438
Standby Power (kW)	350
Prime Power (kVA)	400
Prime Power (kW)	320
Power Factor (Cos Phi)	0.8
Diesel Engine	TCD12.1 G2
Frequency (Hz)	60
Rated Speed (rpm)	1800
Phase	3
Standard Voltage (V)	440/254
Available Voltages (V)	220/127 or 480/277

POWER DEFINITIONS

STANDBY POWER (ESP)

Available for supplying emergency power during a utility interruption. The stated rating follows ISO 8528-1.

PRIME POWER (PRP)

Available for an unlimited number of annual operating hours in variable-load applications, in accordance with ISO 8528-1.

TERMS OF USE

Nominal power is stated at 25 °C inlet-air temperature, 100 kPa barometric pressure (100 m A.S.L.) and 30% relative humidity.

RATED OUTPUT CURRENT BY VOLTAGE

Rated voltage	Standby current (438 kVA)	Prime current (400 kVA)
220/127 V	1149.5 A	1049.7 A
440/254 V	574.7 A	524.9 A
480/277 V	526.8 A	481.1 A

ENGINE DATA

DEUTZ TCD12.1 G2

GENERAL ENGINE DATA

Engine brand	DEUTZ
Engine model	TCD12.1 G2
Engine type	4-stroke diesel
Governor type	Electronic
Injection type	Direct
Aspiration type	Turbo, CAC
Cylinders and arrangement	6-L

FUEL CONSUMPTION

100% load ESP	90.44 L/h
100% load PRP	81.83 L/h
75% load PRP	61.13 L/h
50% load PRP	42.21 L/h

AIR SYSTEM

Intake air flow	442.8 L/s
Cooling air flow	12027 L/s

GENERAL ENGINE DATA

Bore × stroke	131 × 150 mm
Displacement	12.1 L
Cooling system	Water-cooled
Lube oil consumption at full load	0.5%-1% of fuel consumption
Compression ratio	17:1
Air filter	Dry

EXHAUST SYSTEM

Maximum exhaust temperature	517 °C
Exhaust gas flow	1211.9 L/s
Maximum allowed back pressure	5 kPa

STARTING SYSTEM

Starting power	8.8 kW
Recommended battery	120 Ah
Number of batteries	2
Auxiliary voltage	24 VDC

OIL AND COOLING CAPACITIES

Engine oil capacity	30 L
Total coolant capacity	20(engine) L

ALTERNATOR DATA

3-phase · Brushless · Electronic AVR

GENERAL ALTERNATOR DATA

Number of phases	3
Power factor (Cos Phi)	0.8
Poles	4
Winding connections (standard)	Star-series
Insulation	H class
Enclosure (according to IEC 34-5)	IP23
Excitation system	Self-excited, brushless
Voltage regulator	AVR (Electronic)
Number of bearings	Single bearing
Coupling system	Flexible disc
Coating type	Standard (vacuum impregnation)

CONTROL MODULE

Deep Sea DSE6120



SINGLE GEN-SET CONTROL

AMF CONTROL

Automatic mains failure controller for one gen-set, with three-phase mains and generator monitoring, flexible I/O and electronic or non-electronic engine versions.

CORE FUNCTIONS

01	Automatic transfer between mains and generator power	05	Event log for 10 events plus engine-hours counter
02	3-phase mains and generator voltage monitoring	06	6 digital inputs and 3 analog sender inputs
03	Generator current monitoring and protection	07	Six outputs; configuration depends on the engine version
04	CAN-engine or magnetic-pick-up/alternator-sensing versions	08	PC/front-panel configuration; optional IP65 front gasket

CONNECTIVITY

DSE6120 · Interfaces, sensing and I/O

USB CAN / MPU 6 INPUTS 6 OUTPUTS

COMMUNICATION AND MONITORING FEATURES

- | | | | |
|----|--|----|---|
| 01 | USB connects to DSE Configuration Suite for controller setup | 05 | Six digital inputs and three analog senders support field signals |
| 02 | Choose CAN-engine or magnetic-pick-up/alternator-sensing version | 06 | Four outputs are configurable on MPU/alternator version; six on CAN |
| 03 | DSE6120 includes dedicated 3-phase mains sensing | 07 | Remote-start input, test mode and configurable timers are included |
| 04 | 3-phase generator voltage and current monitoring is built in | | |

ORDERING OPTIONS

CAN ENGINE VERSION · MPU / ALTERNATOR VERSION

Engine sensing and output configuration depend on the selected controller variant.