

## HCM27 TECHNICAL DATA SHEET

Genset Model	HCM27
Standby power (50HZ)	22kW/27kVA
Prime power (50HZ)	20kW/25kVA
<b>Standard configuration</b>	

General description:

- Engine (Cummins 4B3.9-G1)
- Ambient temperature 40°C radiator, belt-driven cooling fan, with fan safety guard
- 24VDC charger
- Alternator: single bearing, IP23, H
- Damper
- Dry type Air filter, fuel filter & oil filter
- Standard control panel
- 2×12VDC start batteries and connecting wires
- Exhaust elbow pipe, flexible pipe, conical pipe, muffler
- Documents



<b>Genset Power</b>						
Voltage (V)	Frequency (Hz)	Phase	Power factor	Standby Ampere (A)	Standby (kW/kVA)	Prime (kW/kVA)
400/230	50	3	0.8	40	22/27	20/25
380/220	50	3	0.8	42	22/27	20/25

### RATING DEFINITION AS PER ISO8528

**Prime Power (PRP):** Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated kWe with 10% overload capability for emergency use for a maximum of 1 hour in 12.

**Standby Power Rating (ESP):** Output available with varying load during a normal power supply failure. Average power output is 80% of the standby power rating. Typical annual operating time less than 500 hours. No overload is available.

The relationship between engine power and altitude: above 1500 meters above sea level, the power decreases by 4% for every 300 meters above sea level.

### Warranty

The products provided by HONNY Company are all brand-new products, and each unit has undergone strict factory inspection.

All products of HONNY Company provide warranty service. The warranty period is 12 months after delivery or 1000 hours of operation in total, whichever expires first.

All services and accessories of HONNYPower products can be obtained from HONNYPower wholly-owned branches or distributors within the validity period of HONNY authorization.

### Engine data

<b>Engine data</b>	
Manufacturer/Model	Cummins /4B3.9-G1

Air intake system	Air natural cooled
Fuel System	A model fuel pump
Cylinder/Alignment	4 in-line
Displacement Litre	3.9 L
Bore x stroke mm	102×120 (mm)
Compression ratio	16.5:1
Rated Engine speed RPM	1500
Engine Maximum Power kW/HP	27/36
Injection system	RSV Mechanical
<b>Exhaust system</b>	
Exhaust flow m³/min	4.3
Exhaust temperature °C	410
Max back pressure kPa	10
<b>Air intake system</b>	
Max intake restriction kPa	5
Combustion air flow	2m³/min
Air flow required for radiator	136m³/min
<b>Fuel consumption</b>	
100% common power (L/h)	7.1
75% common power (L/h)	5.6
50% common power (L/h)	4.3
25% common power (L/h)	N/A
<b>Fuel consumption rate</b>	
100% common power g/kW.h	245
75% common power g/kW.h	260
50% common power g/kW.h	296
25% common power g/kW.h	N/A
<b>Oil system</b>	
Total oil capacity (L)	11
Oil consumption	≤4g/kwh
Oil sump capacity	8.5~9.5L
<b>Cooling system</b>	
Coolant Capacity (L)	21
Max water temperature °C	104

<b>Alternator data</b>	
<b>Alternator data</b>	
Manufacturer/Model	Leroysoner/TAL-A40-G/20kW
Phase	3
Voltage	400 V
Number of Wires	Three-phase four-wire, Y-wound
Number of bearings	1
Power factor	0.8
Protection	IP23

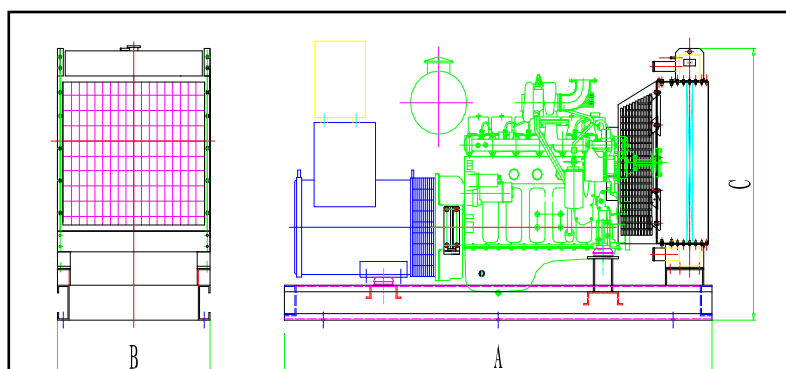
Altitude requirements	≤1000m
Excitation method	brushless self-excitation
Insulation class/temperature rise class	H/H
Telephone Influence Factor TIF	<50
Telephone Harmonic Factor THF	<2%
Steady State Voltage Regulation	≤±1 %
Alternator capacity	25kVA
Alternator efficiency	98.5%
<b>Genset data</b>	
Voltage setting range	≥±5 %
Steady State Voltage Regulation	≤±1 %
Transient voltage deviation (100% sudden drop power)	≤+25 %
Transient voltage deviation (50% sudden power)	≤−20 %
Voltage stabilization time (100% sudden drop of power)	≤6S
Voltage stabilization time (50% sudden power)	≤6S
Frequency adjustment range	≥±5 % adjustable
frequency volatility	≤±0.25 %
Transient frequency deviation (100% sudden drop in power)	≤+12 %
Transient frequency deviation (50% sudden power)	≤−10 %
Frequency recovery time (100% sudden drop in power)	≤5S
Frequency recovery time (50% surge power)	≤5S

HONNY GENSET QUALITY STANDARD		
HONNY diesel generator sets are designed, produced and tested in strict accordance with the standards. They can be used in various environments and meet the following relevant standards:		
GB755、BS5000、VDE0530, NEMANG1-22、IED34-1、CSA22.2、AS1359		
Document		
Original document from Engine	Generator Set Maintenance Record Manual	
Original document from Alternator	Generator Set Installation and Operation Manual	
Original document from Control panel	Generator set installation and commissioning acceptance list	
Generator set original test report	Certificate of origin of the generator set	
Optional accessories		
Engine	Alternator	Electric elements
Water jacket heater	Anti-condensation heater	Remote control system
Oil preheater	Permanent magnet excitation system (PMG)	Control Panel with triple remote functions
Battery charger	Voltage droop (parallel use)	ATS
Air starter motor	Other temperature rise classes	Synchronized or parallel panel

Heavy Duty Air Filter for Desert	RTD temperature sensor, 2 per phase	Anti-condensation heater
Heavy Duty Secondary Muffler		Voltage 3.3kV/6.3kV/10.5kV/11kV
<b>Fuel system</b>	<b>Others</b>	<b>Cooling system</b>
base fuel tank&Daily fuel tank	Waterproof type	External Cooling Towers
Water separator	Silent/Soundproof /container type	Remote Radiator
Automatic oil supply system	Trailer type	Heat exchanger
Buried fuel tank	Emergency Power Supply Vehicle	Marine cooling system

Some options may not be suitable for the whole series of generator sets, please consult HONNY application engineering department or the person in charge of this project of HONNY.

#### Measurement and Weight



#### Open type

Overall: L×W×H

Overall: 1850×850×1100mm

Weight: 900kg

#### Silent type

Overall size: L×W×H

Overall size: 2290×1060×1700mm

Weight: 1250kg



# DSE7310/20

## AUTO START & AUTO MAINS FAILURE CONTROL MODULES

### FEATURES



The DSE7310 is an Auto Start Control Module and the DSE7320 is an Auto Mains (Utility) Failure Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs, remote PC and via SMS text alerts (with external modem).

The DSE7320 will also monitor the mains (utility) supply. The modules include USB, RS232 and RS485 ports as well as dedicated DSENet® terminals for system expansion.

Both modules are compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offer an extensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry requirements.

The extensive list of features includes enhanced event and performance monitoring, remote communications and dual mutual standby (DSE7310 only) to reduce engine wear.

The modules can be easily configured using the DSE Configuration Suite PC software. Selected front panel editing is also available.

### ENVIRONMENTAL TESTING STANDARDS

#### ELECTRO-MAGNETIC COMPATIBILITY

BS EN 61000-6-2  
EMC Generic Immunity Standard for the Industrial Environment  
BS EN 61000-6-4  
EMC Generic Emission Standard for the Industrial Environment

#### ELECTRICAL SAFETY

BS EN 60950  
Safety of Information Technology Equipment, including Electrical Business Equipment

#### TEMPERATURE

BS EN 60068-2-1  
Ab/Ae Cold Test -30 °C  
BS EN 60068-2-2  
Bb/Be Dry Heat +70 °C

#### VIBRATION

BS EN 60068-2-6  
Ten sweeps in each of three major axes  
5 Hz to 8 Hz @ +/-7.5 mm,  
8 Hz to 500 Hz @ 2 gn

#### HUMIDITY

BS EN 60068-2-30  
Db Damp Heat Cyclic 20/55 °C  
@ 95% RH 48 Hours  
BS EN 60068-2-78  
Cab Damp Heat Static 40 °C  
@ 93% RH 48 Hours

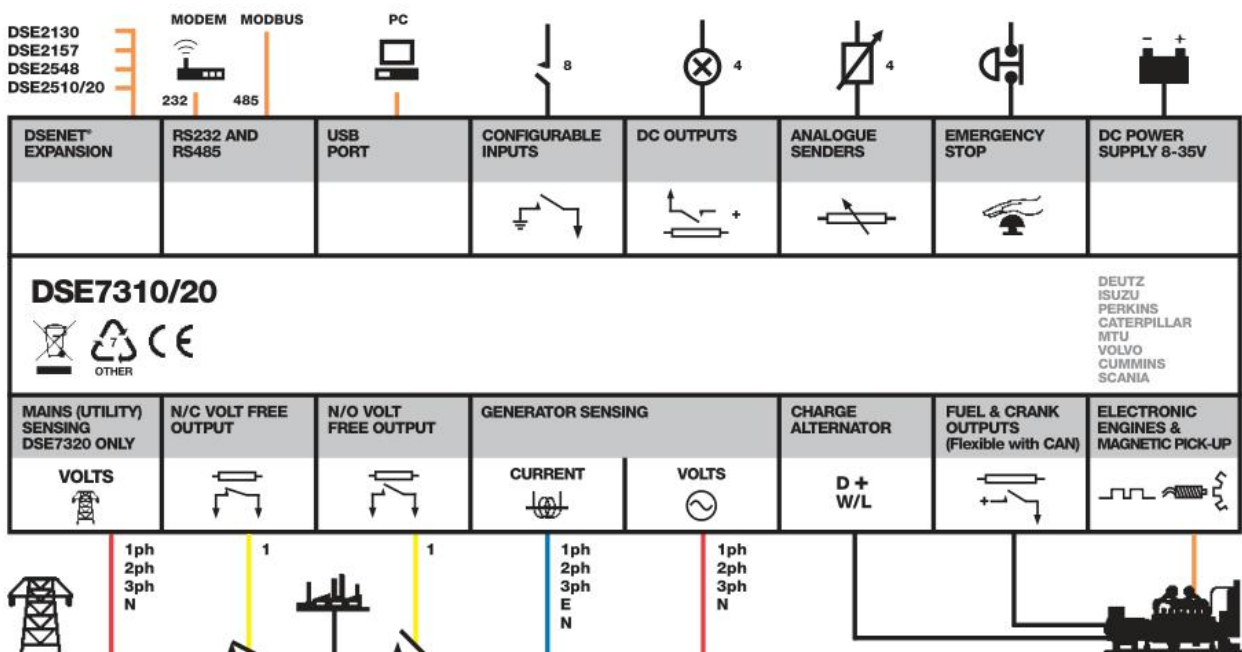
#### SHOCK

BS EN 60068-2-27  
Three shocks in each of three major axes  
15 gn in 11 ms

#### DEGREES OF PROTECTION PROVIDED BY ENCLOSURES

BS EN 60529  
IP65 - Front of module when installed into the

### COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF GEN-SET APPLICATIONS



ISSUE 6





# DSE7310/20

## AUTO START & AUTO MAINS FAILURE CONTROL MODULES

### FEATURES



DSE7310



DSE7320



### KEY FEATURES

- 4-Line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- LED and LCD alarm indication
- Customisable status screens
- Power save mode
- Support for up to three remote display units
- 9 configurable inputs
- 8 configurable outputs
- Flexible sender inputs
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Multiple date and time scheduler
- Configurable event log (250)
- Control logic facilities
- Easy access diagnostic page
- CAN and Magnetic Pick-up/Alt. sensing
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- Manual speed control (on compatible CAN engines)
- Manual fuel pump control
- Engine exerciser
- "Protections disabled" feature

- kW overload protection
- Reverse power protection
- Power monitoring (kW h, kV Ar, kV A h, kV Ar h)
- Load shedding (load shedding and dummy load outputs)

- DSENet® expansion compatible
- Integral PLC editor

### KEY BENEFITS

- 132 x 64 pixel ratio display for

- clarity
- Real-time clock provides accurate event logging
- Multiple date and time scheduler
- Set maintenance periods can be configured to maintain optimum engine performance
- Ethernet communications (via DSE860/865 modules), provides advanced remote monitoring at low cost
- Modules can be integrated into building management systems (BMS)
- Increased input and output expansion capability via DSENet®
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- PLC editor allows user configurable functions to meet specific application requirements

### SPECIFICATION

#### DC SUPPLY

**CONTINUOUS VOLTAGE RATING**  
8 V to 35 V Continuous

#### CRANKING DROPOUTS

Able to survive 0 V for 50 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

**MAXIMUM OPERATING CURRENT**  
340 mA at 12 V, 160 mA at 24 V

**MAXIMUM STANDBY CURRENT**  
160 mA at 12 V, 80 mA at 24 V

**CHARGE FAIL/EXCITATION RANGE**  
0 V to 35 V

**MAINS (UTILITY) DSE7320 ONLY**  
**VOLTAGE RANGE**  
15 V - 333 V AC (L-N)

**FREQUENCY RANGE**  
3.5 Hz to 75 Hz

#### OUTPUTS

**OUTPUT A (FUEL)**  
15 A DC at supply voltage

**OUTPUT B (START)**  
15 A DC at supply voltage

**OUTPUTS C & D**  
8 A 250 V (Volt free)

**AUXILIARY OUTPUTS E,F,G,H**

2 A DC at supply voltage

**GENERATOR**  
**VOLTAGE RANGE**  
15 V - 333 V AC (L-N)

**FREQUENCY RANGE**  
3.5 Hz to 75 Hz

**MAGNETIC PICK UP**  
**VOLTAGE RANGE**  
+/- 0.5 V to 70 V

**FREQUENCY RANGE**  
10,000 Hz (max)

**DIMENSIONS**  
**OVERALL**  
240 mm x 181 mm x 42 mm  
9.4" x 7.1" x 1.6"

**PANEL CUT-OUT**  
220 mm x 160 mm  
8.7" x 6.3"

**MAXIMUM PANEL THICKNESS**  
8 mm  
0.3"