

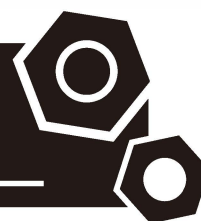


Generator set

Containerized type

WCS2000S

SPECIFICATIONS



1 Standards & Conditions

Design Standards

The designs and the productions are in conformity with:

- ISO8528-5:2005
- GB/T2820.5-2009
- AS 3000-1997
- AS 3010.1-1988

Environmental Operating Conditions

- Installation place: Outdoors or indoors (well ventilated).
- Ambient temperature: -25°C to 50°C. The coolant heater is needed when the temperature is below 5°C
- Humidity: Less than 80%.
- Altitude: Below one thousand (1000) meters above sea Level.

Factory Inspection

- Inspection items.
- Protection devices working test.
- Starting ability in normal temperature.
- 50% rated power load moment capability.
- Voltage deviation and speed variation: 0%, 25%, 50%, 75%, 100%, 110% Load.

Painting Process

- Painting process specifications and colors are based on the manufacturer's standard.
- The customer could also choose the color which the manufacturer offers.

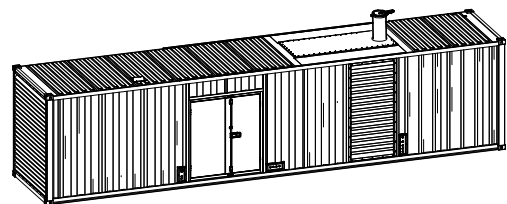
2 General Features

- Cummins engine QSK60-G3
- Close coupled to a Stamford alternator PI734E
- Microprocessor control module PLC-7420
- ABB main circuit breaker: 3200A
- RCQ
- Rotate speed governor: Electronic fuel injection gover-nor
- Excitation system: PMG
- A.V.R model: MX341
- Key switch
- Emergency stop switch
- Mains input/remote communication connector
- Fuel adding device

- 2x ventilation fan + 4 x cooling fan
- ATS (automatic transfer switch) receptacle
- 4x12V/200AH sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy
- 50°C radiator
- Oil pump on the engine
- Steel base frame with forkslots
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Daily fuel tank with 8 hours running
- Drain points for fuel tank
- Operation Manual / Specifications

3 Equipment Specification

General technical data

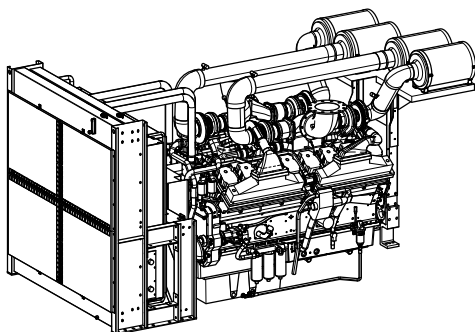


Model.....	WCS2000S
Structure type	C
Tank capacity.....	2400L
Dry weight.....	23850kg
Noise level @7m	N/A
Dimensions L×W×H.....	12192x2438x2896mm
Standby Power	2063kVA/1650kW
Prime Power	1875kVA/1500kW

Voltage	380V	400V	415V	440V	
Ampere	2848.9A	2706.4A	2608.6A	2460.4A	
Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	114	196	276	371	408

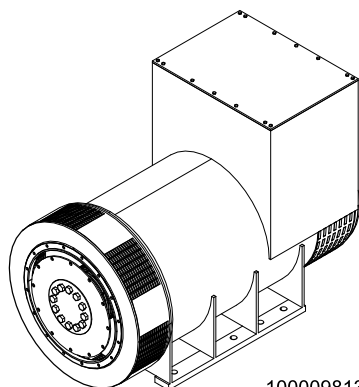
Diesel engine

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Engine Manufacturer/Brand	Cummins
Engine Model	QSK60G3
Dimensions L×W×H	4123×2494×3296mm
Dry Weigh (approx.)	9685Kg
Number of Cylinders	16
Bore	159mm
Stroke	190mm
Displacement	60.2L
Compression Ratio	14.5
Type of injection	Direct injection
Intake System	Turbocharged
Intake Resistance	≤6.2kPa
Cooling System	Water cooled
Fan	Pusher
Battery Voltage	24V
Type of Fuel	No. 2 diesel or ASTM D2
Type of Oil	15W40 to API CG4
Oil Capacity	280L
Type of Coolant	Glycol mixture
Coolant Capacity	242L
Back Pressure	≤6.8kPa
Standby Power	1800kW
Prime Power	1636kW
Fuel Consumption(100%load)	394L/h

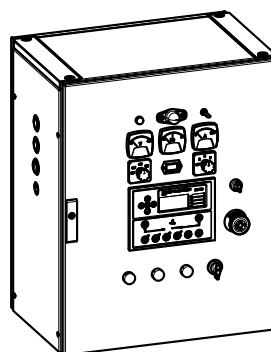
Alternator



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Alternator Manufacturer/Brand	Stamford
Alternator Model	PI734E
Exciter	Brushless
Cooling Fan	Cast alloy aluminum
Windings	100% copper
Insulation Class	H
Winding Pitch	2/3
Terminals	6
Drip Proof	IP23
Altitude	≤1000m
Overspeed	2250rpm
Air Flow	2.69m³/s(50HZ),3.45m³/s(60HZ)
Voltage Regulation	±1.0%
Total harmonic TGH / THCat no load < 1.5 % - on load < 5%	
Telephone Interference	THF<2%;TIF<50

PLC-7420 Control System

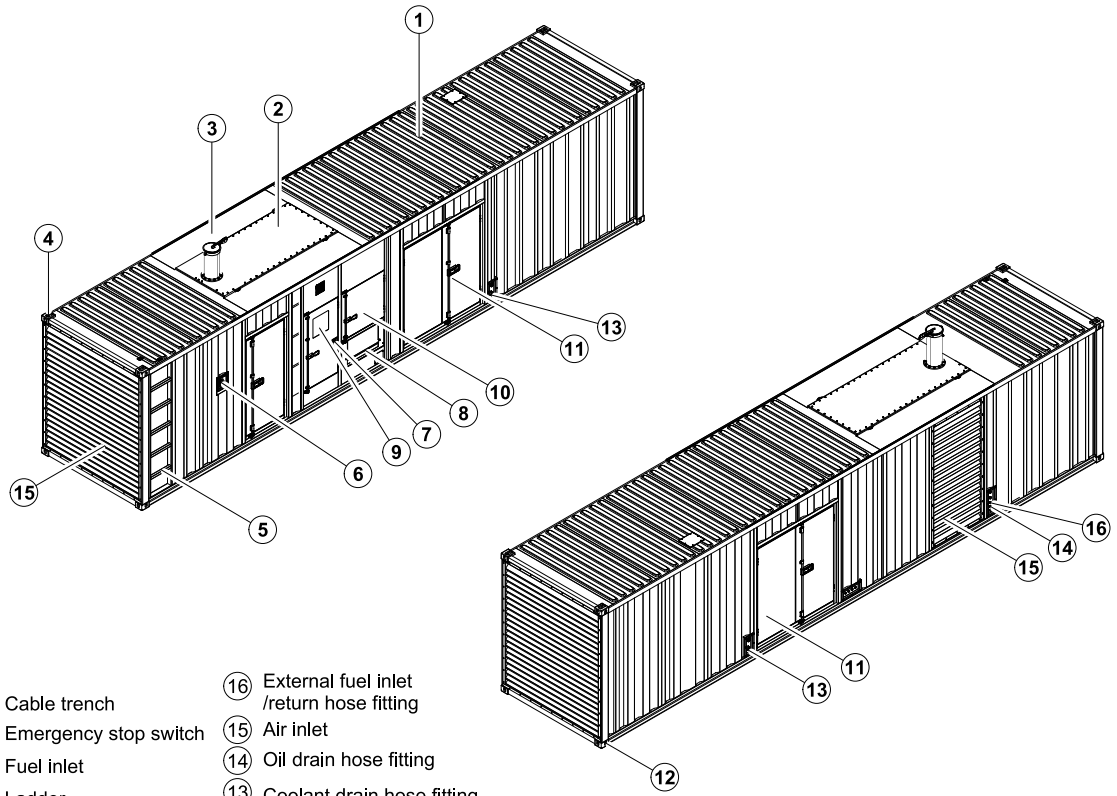


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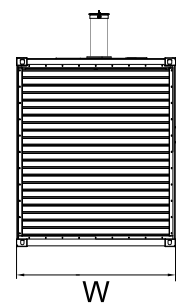
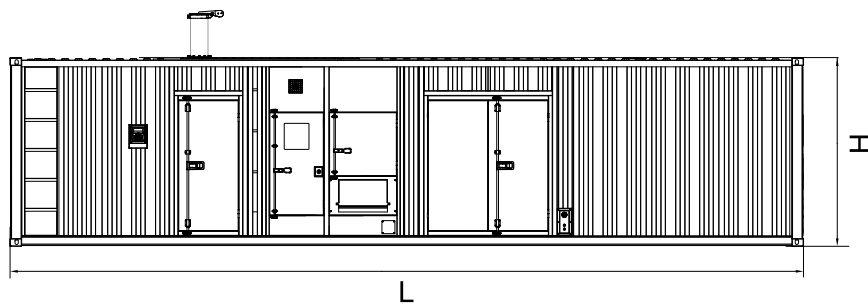
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and 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.

- 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

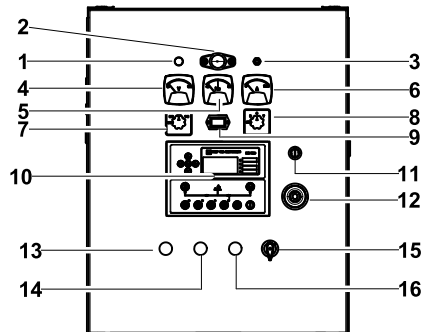
4 Overall Dimensions



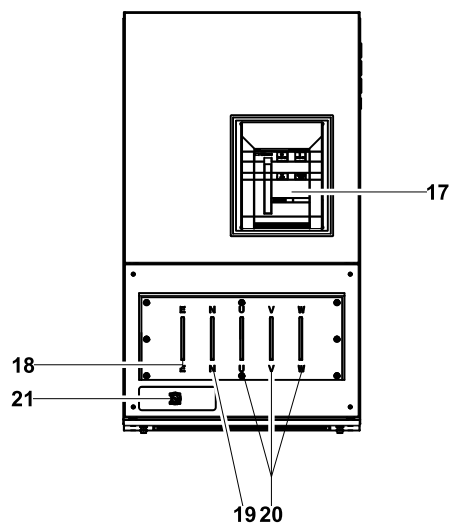
- | | |
|-------------------------|--|
| ⑧ Cable trench | ⑬ Coolant drain hose fitting |
| ⑦ Emergency stop switch | ⑭ Oil drain hose fitting |
| ⑥ Fuel inlet | ⑮ Air inlet |
| ⑤ Ladder | ⑯ External fuel inlet /return hose fitting |
| ④ Lifting lug | |
| ③ Exhaust gas outlet | ⑫ Fixing lug |
| ② Muffler | ⑪ Access door |
| ① Canopy | ⑩ Switch cabinet |
| | ⑨ Control cabinet |



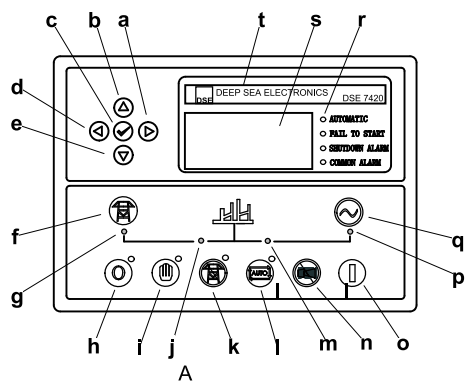
5 Control System



Control cabinet



Field wiring cabinet



Control module

Ref.	Description
1	h C arge indicator
2	Control cabinet lamp
3	Contro cabinet amp switc
4	Voltage meter
5	Frequency meter
6	Current meter
7	Changerover switch-Voltage
8	Changerover switch-Current
9	impe coupter
10	Contro module
11	Key switch h
12	Emergency stop switc
13	ue ea indicator
14	Running button with indicator
15	Oil drain switch
16	Stop button with indicator
17	Main circuit breaker
18	Ground wire terminal
19	Neutral wire terminal
20	AT ive wire termina s
21	Mains input/Remote control/ S communication connector
a	Button (next page)
b	Button (increase value / previous item)
c	B Button (accept)
d	Buttonh(previous page) l
e	utton (decrease value / next item)
h f	Button (transfer the load to the mains supply, w en in annua mode on y)
g	M Mains supply available LED
k	Stop / Reset button
i	Manual button (Manual control mode)
j	ains supply on load
M	Test button (Test mode)
l	Auto buttonh (Auto mode)
m	Genset bn load LED
n	ute/ amp test button
o	A Start button (annua)
p	Q Genset avai ab e D
q	Button (transfer the load to the genset, when in Manual mode only)
r	alarm LED (4 alarm items)
s	CD disp ay
t	Control module name

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07.2019