

Generator set
Sound-proof
type WCS168S

SPECIFICATIONS



1 Standards & Conditions

Design Standards

The designs and the productions are in conformity with:

- ISO8528
- GB/T2820
- YD/502-2007
- JB/T20136-2006

Environmental Operating Conditions

- Installation place: Outdoors or indoors (well ventilated).
- Ambient temperature: -25°C to 45°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.

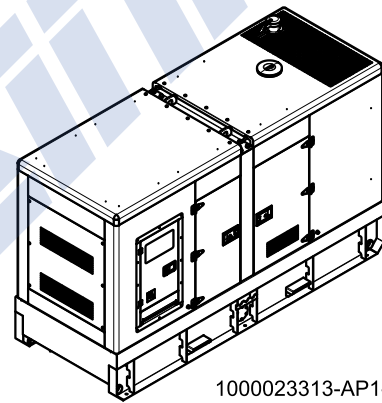
2 General Features

- Cummins engine 6BTAA5.9-G7
- Close coupled to a Stamford alternator UCI274E
- Microprocessor control module PLC-1F
- ABB main circuit breaker: 250A
- Rotate speed governor: Electronic fuel injection governor
- Excitation system: Self excited
- A.V.R model: AS440
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- 1x12V/120AH 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 forklifts
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank with 10 hours running
- Drain points for fuel tank
- Operation Manual / Specifications

3 Equipment Specification

General technical data

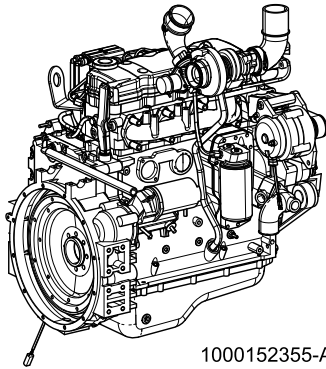


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Model.....	WCS168S
Structure type	R
Tank capacity.....	330L
Dry weigh.....	2251kg
Noise level @7m	N/A
Emissions Compliance	EU STAGE IIIA
Dimensions L×W×H.....	3062x1205x1944mm
Standby Power	168kVA/134kW
Prime Power	160kVA/128kW

Voltage	380V	400V	415V	440V	
Ampere	206.6A	196.3A	189.2A	178.4	
Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	9	19	37	31	36

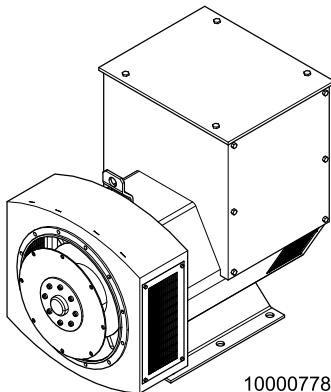
Diesel engine



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Engine Manufacturer/Brand	Cummins
Engine Model	6BTAA5.9-G7
Dimensions L×W×H.....	1353×855×1143mm
Dry Weigh (approx.)	897kg
Number of Cylinders.....	4
Bore.....	107mm
Stroke	124mm
Displacement.....	4.5L
Compression Ratio	17.3
Type of injection.....	Direct injection
Intake System.....	Turbocharged
Intake Resistance	6.0kPa
Cooling System	Water cooled
Fan	Pusher
Battery Voltage	12V
Type of Fuel.....	No.2 or ASTM D975
Type of Oil	API CD/SE or CCMCD4
Oil Capacity	12.1L
Type of Coolant	Glycol mixture
Coolant Capacity(engine only)	8.5L
Back Pressure	10.0kPa
Standby Power	120kW
Prime Power	109kW
Fuel Consumption(100%load).....	31L/h

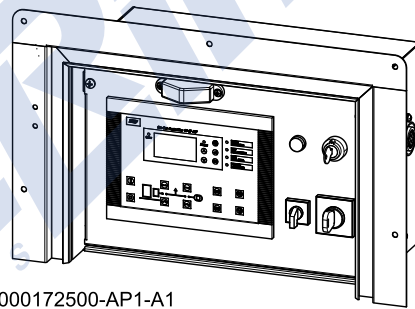
Alternator



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Alternator Manufacturer/Brand	Stamford
Alternator Model	UCI274E
Exciter.....	Brushless
Cooling Fan	Cast alloy aluminum
Windings.....	100% copper
Insulation Class	H
Winding Pitch.....	2/3
Terminals	12
Drip Proof	IP23
Altitude.....	≤1000m
Overspeed	2250 rpm
Air Flow.....	0.514m³/s(50HZ),0.617m³/s(60HZ)
Voltage Regulation	±1.0%
Total harmonic TGH / THCat no load < 1.5 % - on load < 5%	
Telephone Interference.....	THF<2%;TIF<50

PLC-1F Control System



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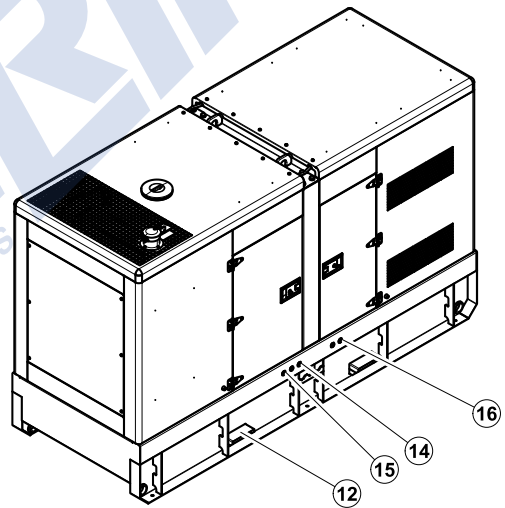
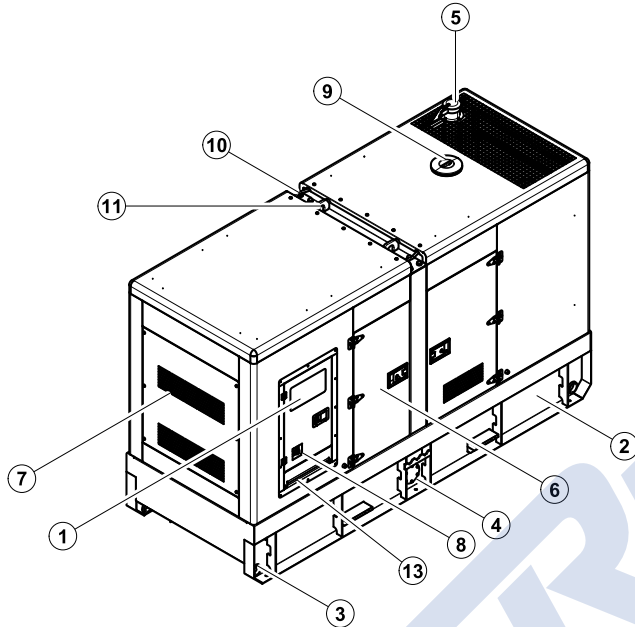
PLC-1F is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and 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

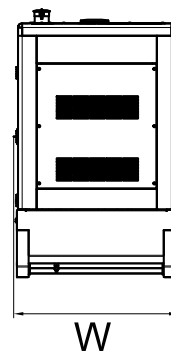
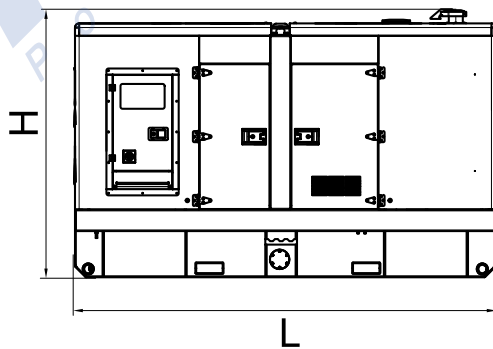
4 Overall Dimensions

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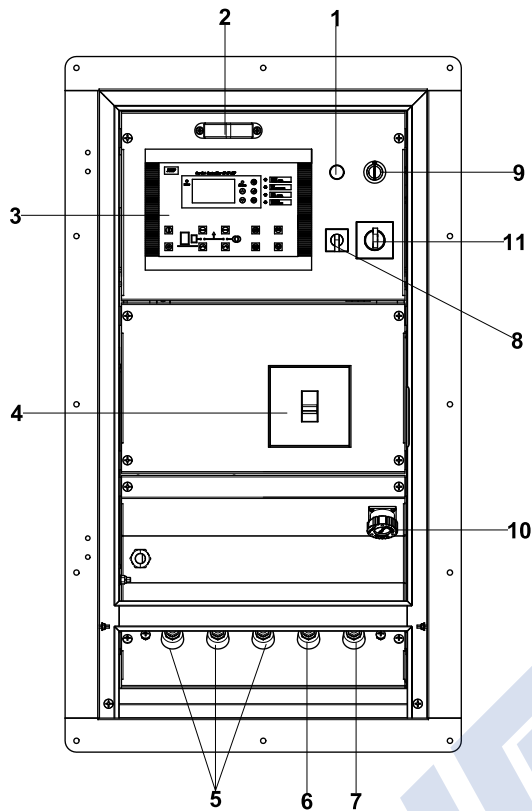
Dry weight	2251kg
Fuel tank capacity	330L
Dimensions L x W x H	3062x1205x1944mm



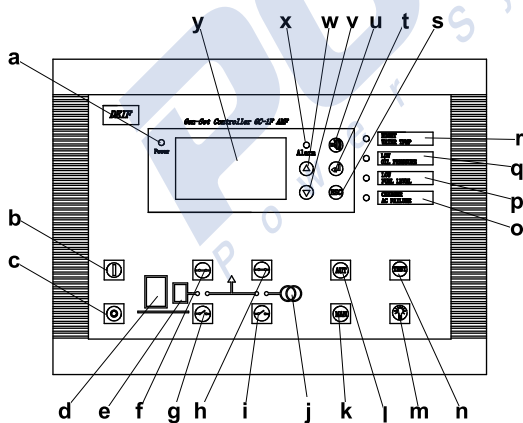
- ⑧ Emergency stop switch
- ⑦ Air inlet
- ⑥ Access door
- ⑤ Exhaust gas outlet
- ④ Fuel drain
- ③ Tie down
- ② Base frame
- ① Control cabinet
- ⑬ Cable trench
- ⑫ Fork lift channel
- ⑪ Lifting lug
- ⑩ Roping lug
- ⑯ Oil drain hose fitting
- ⑮ Coolant drain hose fitting
- ⑭ External fuel inlet/return hose fitting



5 Control System



Control & Field wiring cabinet



Control module

Ref.	Description
1	Charge indicator
2	Control cabinet lamp
3	Control module
4	Main circuit breaker
5	Live wire terminals
6	Neutral wire terminal
7	Ground wire terminal
8	Control cabinet lamp switch
9	Key switch
10	Mains input/remote/ATS/AMF communication connector
11	Voltage changeover switch

a	Power OK indicator
b	Start engine running model
c	Close genset push button
d	Running feedback present LED
e	U/F OK genset LED
f	Close genset circuit breaker
g	Open genset circuit breaker
h	Close mains supply circuit breaker
i	Open mains supply circuit breaker
j	Mains supply running LED
k	Manual mode selection
l	Auto mode selection
m	Lamp test
n	Activates the selected test in entered time
o	Charger AC failures alarm LED
p	Low fuel level alarm LED
q	Low oil pressure alarm LED
r	High water temperature alarm LED
s	Jumps from parameter settings to display
t	Enters value or acknowledges alarm
u	Resets horn relay
v	Normal display: Scrolls the display down Programming: Decreases set point
w	Normal display: Scrolls the display up Programming: Increases set point
x	Flashing: non-acknowledged alarm(s) Steady: acknowledged alarm(s)
y	LCD panel

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*Specification may change without prior notice. For more info.,
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