

## **DESIGN SPECIFICATIONS**

 $\sqrt{\rm High}$  quality,reliable,long life and complete power unit.

√compact design. √Easy start and maintenance possibility.

VEvery generating set is subject to a comprehensive test programme which includes full load testing and checking and proving of all control and safety shut down functions testing. //Eully engineered with a wide range of options and accessories:Electrical,mechanical,

 $\sqrt{Fully}$  engineered with a wide range of options and accessories:Electrical,mechanical, soundproof canopy and mobile units

# YC4A205-D32

YCW-150T6 powered by:

Diesel Genset Features		P.F=0.8 3Phase	
Generating Set Performance		60Hz	
Service		Prime Power	Standby Power
Rated output	kVA	150	165
Active power output ※	kW	120	132
Rated Speed	r.p.m	1	300
Standard Voltage	V	380	)/220
Voltage available	V	480/277-460/265 - 440/254-416/240-240/139-220/127-208/120	

Perforemance data refer to Standard Reference Conditions of ISO 8528:+25°C,100m ALT,relative humidity 30%

Power reduction acc.to DIN ISO 3046 Standard values: Above 100m ALT approx.1% per 100m.Above 25°C(77°F) approx.4% per 10°C(50°F).

\*Considering cos phi=0.8

Prime Mover Performance		1800 r.p.m	
SERVICE		Prime Power	Standby Power
Rated output	KW	138	152
Manufacturer		YUCHAI	
Model		YC4A205-D32	
4 stroke Diesel Engine - Injection type		D	irect
Aspiration type		Turbocharged & Intercooled	
Cylinders,number and arrangement		4 Vertical ,in line	
Bore×Stroke	mm	108×132	
Total Displacement	L	4	.84
Cooling system		Water	
Lube oil specifications		SAE 15 W 40	
Compression ratio		16:1	
Specific fuel consumption(P.R.P)	L/h	37.2	
Specific oil consumption(at full load)	%	<0.2	
Total coolant capacity	L		
Speed governor	Туре	Common Rail	

()P.R.P. Prime Power - ISO 8528:PRIME POWER is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during a 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

@Max Standby power -ISO 3046 Fuel Stop power:Power available for use at variable loads for limited annual time (500h), within the following limits of maximum operating time: 100% load 25h per year ,90% load 200h per year. No overload available. Applicable in case of failure of the main in areas of reliable electrical network.

Synchronous Generator		1800 r.p.m
Manufacturer		Guericke
Model		GRK120G4
Rated output	KW	120
Poles	num	4
Winding Conections (standard)		Star-serie
Insulation	class	Н
Enclosure(according to IEC-34-5)		IP23
Phases		3+N
Votage Regulaors		A.V.R (SX460)
Steady voltage precision		within±1.5% from no load to full loading with cosΦ=0.8-1.0

\*\* Alternator used by GTL Gensets meet the requirements of following Standard: BS5000, VDE0530, NEMA MG1-32, IEC34, CA C22.2-100, AS1359

Generationg Set Installation Data		1800 r.p.m
EXHAUST SYSTEM		
Exhaust Gas Temperature at full load	°C	
	·F	
Exhaust gas flow	L/s	
Maximum allowed back pressure	Кра	
AIR REQUIREMENT		
Air requirement for combustion at 100% load/rated speed	L/s	
All requirement for combustion at 100% loadnated speed	ft3/min(CFM)	
ELECTRIC STARTING SYSTEM		
Starting motor output	kw	
Minimum Recommended Battery Capacity	CCA	
Auxiliary voltage	V	
LUBRICATION SYSTEM		
Lube oil system including sump,filters,etc.	L	17

### Standard Control Panel -EPmaster EPM4

Protection, distribution, and automatic control panel, which starts the generator set when it detects a mains failure and stops it when the mains is restored with the control unit EPM4. It also starts and stops the group manually via a pushbutton or remote start-up by contact.

It has the following:

Emergency stop push button

② Protections:

Circuit breaker (preheating resist.) 2P (16 A)
Protection fuses for control module

Protection fuses for control in

③ Voltage&speed trimmers

④ Battery charger

⑤ DC switch

⑥ Working Lamp switch



Controller

Internal Structure

Faceplate

and protection centre



#### EPmaster EPM4 It has a digital LCD screen, which provides easy reading of the information regarding the Engine, Alterator, Mains and Charging. The controller meets all requirements for Auto Mains Failure (AMF) applications including remote communication

and internet control, user configuration and complete genset monitoring and protection.		
READINGS that can be made:	•Protection of the engine and alternator, with the ALARMS activated:	•Other characteristics:
	<u>Engine :l</u> ow oil pressure/high coolant temperature/low and high battery Volta ge./failure of the alternator to charge batteries/Low fuel level.	Event log, real-time clock, scheduled start & stop generator (can be set as start genset once a day/week/month whether with load or not). Maximu m 99 event logs can be memorized.
<u>Alterator :</u> voltages between phases and between phases and neutral/frequ ency/phase sequence	Alterator: / ow and high voltage/low and high frequency/overload /short- circuit/	With maintenance function. Types (date or running time) can be optional and actions ( never, warning, or shutdown) can be set when maintenance time out.
<u>Mains:fr</u> equency/voltages between phases and between phases and neutr al (L1-N, L2-N,L3-N)/voltages between phases and (L1-L2, L2-L3, L1-L3)/phase sequence	<u>Mains:</u> over and under voltage and loss of phase	Equipped with CANBUS port and can communicate with J1939 enginet. Not only can monitor frequently-used data (such as water temperature, oil pressure, speed, fuel consumption and so on) of ECU machine, but a lso control starting up, shutdown, raising speed and speed droop via CANBUS port
Load: Current(la,lb,lc)and each phase and total active power(kw)/reactive power(kvar)/apparent power(kva)/power factor/accumulated generator pow er(kwh,kvah,kvah)/output percentage with load (%)	•Control of the set:	RS485 communication interface enables "Three remote" functions (remote control, re mote measuring and remote communication) according to MODBUS protocol.
	STARTS and STOPS the set AUTOMATICALLY when mains failure is detect ed and when it is restored, respectively.It can also operate MANUALLY and A uto Transfer Switch control	Parameter setting: parameters can be modified and stored in internal FLASH memory and cannot be lost even in case of power outage; most of them can be adjusted usin g front panel of the controller and also can be modified using PC via USB or RS485 p ort

Standard Configuration & Op	otion	
Item	Standard	Option
	Standard air filter	Heavy duty air filter
	Standard fuel filter	Air intake shutoff valve chalwin type
	Standard oil filter	Intake air heater
	Low coolant level sensor	Oil temperature sensor
	Exhaust gases compensator	Diesel-powered heater
En sin s	24V Electrical system	Engine water heater
Engine	Radiator with bloweing fan	
	Electronic governor	
	Sender WT	
	Sender OP	
	Hot components and radiator guards	
	Mobile components guards	
	Self-excited and Self-regulated	Air inlet filter
	IP23 protection degree	IP44/IP55
A.U	Insulation H class	Space heater/anti-condensation heater
Alternator		Environment protection
		Temperature detectors
		Parallel operation
	Battery isolator switch	Distribution board with sockets kit and power busbar
	3 poles circuit breaker	4 poles circuit breaker
Electrical system	Door opening alarm	Adjustable ELCB(Earth Fault)
	Battery charger 220-240V	Grouding rod
		ATS
	Water separator filter	Diverter valve kit for external fuel tank
Accessories	Low fuel level alarm	Automatic fuel refilling kit
	Oil extraction pump	Trailer
	Tool kit for maintenance	Residential silencer
	Voltage/Speed potentiometer	Electric engine fuel heater
	No Expansion tank	Expansion tank for coolant water

## Generating Set transport data

Dimensions(Open Skid Type) With Standard Fuel Tank



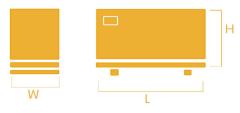
 $\sqrt{\text{The complete gen-set is mounted on whole on a heavy-duty fabricated, steel base frame.}}$  $\checkmark$  Antivibration pads are fixed between the engine/ alternator feet and the base frame ;

 $\sqrt{}$  Base frame design incorporates an integral fuel tank.

 $\checkmark$  The generating set can be lifted or carefully pushed / pulled by the base frame;

 $\sqrt{\text{Dial type fuel gauge and drain plug on the fuel tank;}}$  $\sqrt{\text{Forklift pockets within base frame (up to 500kVA);}}$ 

## Dimensions(Silent Type) With Standard Fuel Tank



√ Without welding assembly

Length	mm	2080	
Width	mm	850	
Height	mm	1400	
Shipping Volume	m3	2.48	_
Dry Weight	Kg	1630	
Fuel Tank Capacity	L	300	

#### Over All Size

Length	mm	2650
Width	mm	1100
Height	mm	1750
Shipping Volume	m3	5.10
Dry Weight	Kg	2530
Fuel Tank Capacity	L	300

√ All metal canopy parts are painted by electrostatic polyester powder paint. √Doors on each side √Thermally insulated engine exhaust system. √Emergency stop push button outside of canopy. √Easy maintenance and operation.



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