



Picture for reference only

Power Generator

FD 450 F3-Q

Article: 50397

Code: F.0450.F3FC2-Q432IT999-02

Main Features

- Electronic voltage regulation +/-1 %
- Low disturbance level THD <2,5%
- Alternator short circuit capacity 300% I_n 10s
- Class H insulation
- Protection index IP23
- Performance class G3 (acc. ISO 8528-5)
- Ready to load just after start
- AMF and MRS functionality and protection
- Autonomy 12,7 h with 75 % load
- Compact design
- Forklift manouvable from the front and side wall

General Data

Maximum power ESP	495,0 kVA / 396,0 kW
Nominal power PRP	450,0 kVA / 360,0 kW
Nominal Current PRP	650,0 A
Frequency	50 Hz
Voltage	400 V
Emission standard	Stage III
Fuel	Diesel (EN 590)
Fuel tank capacity	999 l
Fuel consumption @ 50% / 75% / 100% / 110% PRP	48,0 / 70,4 / 94,3 / 104 l/h
Autonomy @ 75% / 100% load	12,7 / 9,5 h
Weight without fuel	~3820 kg
Dimensions L x W x H	4320 x 1600 x 2500 mm
Guaranteed noise power L_{wa}	98 dBA
Acoustic pressure @7mL_{pa}	~69 dBA

Main Components & Equipment

- Yuchai D500R3-CR-TA-612 engine
- A4Gen A4G314-450 alternator
- Brushless alternator
- Electronic AVR
- ComAp IL4-AMF25 Controller
- Schneider NS800 3P + Micrologic 2.0 type generator circuit breaker
- GCB shunt release coil
- Linear automatic battery charger
- Engine heater
- ECU speed governor
- Fuel system Common Rail
- Welded frame with 999 l fuel tank, spill containment and noise insulation
- Two fuel inlets
- Four lifting eyes
- Extended forklift skids for easy attachment to the ground

For details see page 3

Definitions

Nominal Power PRP:

Refers to the maximum power accessible at the variable load for unlimited running hours per year, with the maintenance intervals and procedures being carried out as prescribed by Yuchai. The allowed average output power within 24 h shall not be higher than 70% of the prime power.

Maximum power ESP:

Standby power rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload allowed, average power consumption should not exceed 70% ESP. Limited to 200h of operation per year.

Norms and Directives

- Machinery directive 2006/42/EC
- Low voltage directive 2014/35/EU
- EMC directive 2014/30/EU
- Noise directive 2000/14/EC
- ISO 8528-1/2018, ISO 8528-5/2022
- ISO 8528-13:2016
- IEC 60204-1

Contact data

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Engine

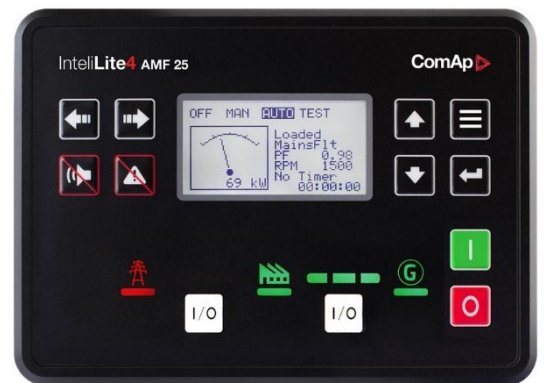
Manufacturer	Yuchai
Type	D500R3-CR-TA-612
Made in	China
Engine power	387,0 kW
Emission standard	Stage III
Rotation per minute	1500 rpm
Engine governor	ECU
Governor class	G3 (ISO 8528-5)
Displacement	11,7 l
No of cylinder	6
Fuel system	Common Rail
Electrical system	24 V
Cooling system capacity	85,0 l
Oil pan capacity	37,0 l
Fuel type	Diesel (EN 590)

Alternator

Manufacturer	A4Gen
Type	A4G314-450
Made in	China
Nominal Voltage	400 V
Nominal power factor (cos φ)	0,8
Ambient temperature, altitude	40 °C, 1000 m a.s.l.
Nominal Power	450,0 kVA
Protection index	IP 23
No of bearing	Single bearing
Coupling	Direct
Technology	Brushless
Short circuit maintaining capacity	300% 10s
Efficiency	94,9 %
Insulation class	H
Total harmonic content THD	<2,5 %
Reactance Xd''	18,8 %
Voltage regulator type	Electronic AVR
Voltage measurement	1 phase
Voltage accuracy	+/- 1 %
AVR supply system	PMG

Controller

- Controller type: ComAp IntelliLite 4 AMF 25
- Support of Dual AMF/MRS applications
- Direct communication with EFI engines
- Total remote monitoring and control
- Intuitive operator interface, adjustable Main Screen
- Real time clock with battery back-up
- Comprehensive history log with up to 350 events
- 3 phase true RMS current and voltage measurement
- Both mains and generator voltage detection
- Active/Reactive Power and Power Factor per phase measurement
- Run Hours counter with source selector
- 3 maintenance timers (counting even under zero)
- Multipurpose flexible timers (also for rental)
- Battery voltage measurement
- Complete engine and alternator protection
- CAN modules support
- USB port on-board
- Inbuild RS485
- 2 slots for plug-in modules
- Full remote communications support (AirGate 2.0)
- Plug-in module concept for more remote communication capabilities (Ethernet /4G, Modbus TCP/RTU, SNMP v1/v2c.)
- Cloud-based monitoring and control via WebSupervisor (optional module required)
- Geofencing and tracking based on GPS position (optional module required)
- Active SMS and emails
- 3 levels of password protection
- Cyber security improvement
- In-built PLC, complemented with a monitoring/debugging tool, for additional functionality, if required
- Spare inputs and outputs available by default: binary input – 1, binary output – 3, analogue input – 1,
- A version for low temperature is also available





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Standard equipment

- Yuchai D500R3-CR-TA-612 engine
- Electronic engine speed governor
- Oil pressure sensor
- Engine high temperature sensor
- Engine preheating with thermostat
- Engine oil Titan Cargo 15W40
- Fuel filter with water separator
- Coolant Fuchs Maintain Fuchs Maintain Fricofin LL 50
- Coolant inlet outside, on the top of the canopy
- Starting batteries 2x180Ah
- Linear automatic battery charger
- A4Gen A4G314-450 alternator
- Electronic AVR
- GCB Schneider NS800 3P + Micrologic 2.0
- GCB shunt release coil
- Busbar power output
- ComAp IL4-AMF25 controller
- Acoustic alarm
- Emergency stop button
- Silenced canopy, RAL 7024
- Fuel tank integrated with a frame and spill containment
- Two fuel inlets inside the canopy
- Fuel level indicator
- Engine and alternator anti vibration mounts
- Exhaust silencer with compensator
- Forklift supports and lifting eyes

Optional equipment

- Oil draining hand pump
- Battery disconnecter
- 4P Schneider NS Micrologic 2.0 GCB
- Power Lock type power output
- Power sockets box
- Transfer switch controlled by generator controller
- Transfer switch with ATS controller
- ATS accessories for outdoor application
- GPRS communication card
- Ethernet card
- RS 485, RS 232 card
- Remote display
- Fuel inlet outside of the canopy with lock
- Generator spill containment level detector
- External, double wall fuel tank 1 000 – 10 000 l
- Fuel tank filling pump and shut-off valve

Maintenance guidelines

Fuel filters replacement	500 h / 1 year
Oil replacement	After first 100h / year, then every 500 h / 1 year
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Coolant replacement	3000h / 2 years
Air filter replacement	1000 h
Battery replacement	2 years
Electrical installation	According to local requirements, at least once per year

Installation guidelines

Power terminal	GCB terminal
Recommended cable for up to 30m power cable way	Flexible 2x5x185 mm ²
Recommended cable for do 30m generator heater supply	Flexible 3x2,5 mm ²
Exhaust pipe min diameter (max. 7 m, 4 bends)	114 mm
Exhaust pipe min diameter (max. 15 m, 4 bends)	133 mm

*For additional cable connection with FOGO ATS see ATS wiring diagram

Warranty

Continuous operation generators	12 months up to 1000 working hours
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