



Genset Model	FS13X1
Frequency	50Hz
Voltage	240V
Ampere	54.2A
PRP	12KW/12KVA
ESP	13.2KW/13.2KVA
Phase	1-PH
Speed	1500rpm
Power Factor	1.0
Fuel Tank Capacity	115 L
Sound Pressure Level @7m	60-65 dBA
Controller	ComAp AMF 20

Prime Power (PRP):

Prime power is available for an unlimited number of annual hours in variable load application, in accordance with GB/T2820 (eqv ISO 8528) ;A10% overload capability is available for a period of 1 hour within a 12-hour period of operation.

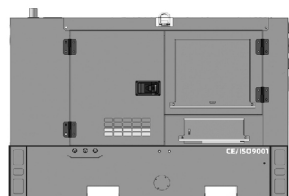
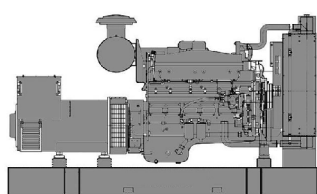
Stand by Power Rating (ESP):

The standby power rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload, utility parallel or negotiated outage operation capability is available at this rating.

This generator is CE certified and conforms to the following Directives:

- EN 12100:2010, EN ISO 8528-13:2016, EN 60204-1:2018, EN 61000-6-2:2019, 2006/42/CE Machinery safety.
- 2014/35/EU Low voltage.
- 2014/30/EU Electromagnetic compatibility.
- Power according to ISO 8528 and ISO 3046.
- Ambient reference conditions 1000 m bar, 25°C, 30% relative humidity.

Dimension and Weight



Dimension	Open Type	Silent Type
Length (L)	—	1630
Width (W)	—	740
Height (H)	—	1152
Dry weight	kgs	730

Genset Fuel Consumption

Frequency / Load	25%	50%	75%	100%	110%
50HZ(L/h)	1.36L	2.4L	3.42L	4.56L	5.14L

1 Standards & Conditions

Design Standards

The designs and the productions are in conformity with:

- Conformity European (CE)
- ISO8528-5:2005
- GB/T2820.5-2009

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.

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

- FAWDE engine 4DW81-23D
- Close coupled to alternator 184E
- DeepSea Intelligent control module ComAp AMF 20
- RADER main circuit breaker: 63A (MCCB)
- Rotate speed governor: Electric
- Residential environmentally friendly muffler
- Excitation system: Self excited, SHUNT
- Key switch
- Emergency stop switch
- ATS(automatic transfer switch) receptacle
- 1x12V 60AH battery and charger
- Lockable battery isolator switch
- Power coated canopy
- 50°C radiator
- Oil pump on the engine
- Steel base frame
- Vibration isolator between the engine / alternator and base frame
- Dry type air filter
- Base fuel tank 115 Liters for 25 hours running
- Drain points for fuel tank
- Operation Manual / Specifications

3 Optional Features

- External fuel tank
- Automatic fuel feeding
- ATS (Automatic Transfer Switch)
- Galvanized Canopy (for use in seaside environments)



Engine Specification:

Engine brand	FAWDE
Engine model	4DW81-23D
Prime power	17.0kW
Standby power	19.0 kW
Number of cylinder	L4
Bore * stroke	85 x 95 mm
Displacement	2.16 L
Compression ratio	17.0:1
Type of injection	Indirect injection
Intake system	Natural

Speed governor	Electronic
Start type	Electrical
Cooling system	Water cooled
Fan	Pusher
Battery voltage	12V
Type of fuel	EPA2D 89.330-96
Type of oil	API-CI-4 or ACEA E5 m
Oil capacity	8.0 L
Type of coolant	Glycol mixture
Coolant capacity	6.0 L

Optional Features

- Water jacket preheater
- Oil Preheater, oil level maintainer
- Manual oil pump

- Heavy air filtration
- Residential silencer
- Remote radiator, heat exchanger

Alternator Specification:

Alternator brand	OEM
Number of phase	1
Power factor (Cos Phi)	1.0
Poles	4
Windings	100% Copper
Winding Connections	Star-serie
Terminals	12
Insulation	Class H
Couping	Flexible disc

Winding Pitch	2/3
IP rating	IP23
Excitation system	Self-excited
Bearing	Single bearing
Coating	Vacuum impregnation
Voltage regulator	A.V.R
Voltage Regulation	±1.0%
Type	Brushless
TGH/THC	THF<2%;TIF<50

Controller Specification:



Features of the Control Panel	AMF 5	AMF 8	AMF 20	AMF 25
Voltage between phases	1	1	1	1
Voltage between neutral and phase	1	1	1	1
Current intensities	1	1	1	1
Frequency	1	1	1	1
Apparent power [kVA]	1	1	1	1
Active power(kW)	1	1	1	1
Reactive power(kVAr)	1	1	1	1
Power factor	1	1	1	1
Emergency stop	1	1	1	1
Binary inputs	4line	6line	6line	8line
Analog inputs	3line	3line	3line	4line
2×10A Current outputs	/	/	/	/
I/O Configuration	4 line/6 line	6 line/6 line	6 line/6 line	8 line/8 line
D+ Function	1	1	1	1
Speed sensor	1	1	1	1
AMF/MRS	1	1	1	1
GCB/MCB	1	1	1	1
3ph voltage measurement Gen./Mains	Gen 1 / Mains 1	Gen 1 / Mains 1	Gen 1 / Mains 1	Gen 1 / Mains 1
3ph current measurement	1	1	1	1
kW/kWh/kVA	1	1	1	1
Engine reading	1	1	1	1
Engine protection	1	1	1	1
Alternator protection	1	1	1	1
Earth current protection	*expansion module	*expansion module	*expansion module	*expansion module
History file	150	150	350	350
RTC/Battery	1/1	1/1	1/1	1/1
PLC	/	1(easy)	1(more)	1(complexity)
4G	*expansion module	*expansion module	*expansion module	*expansion module
Airgate	*expansion module	*expansion module	*expansion module	*expansion module
ECU CAN	1	1	1	1
MODBUS TCP	1	1	1	1
MODBUS/IP	1	1	1	1
SNMP	1	1	1	1
SNMP TRAPS	1	1	1	1
RS232	*expansion module	*expansion module	*expansion module	*expansion module
RS485	*expansion module	*expansion module	*expansion module	*expansion module
GSM/GPRS modem	*expansion module	*expansion module	*expansion module	*expansion module

Optional Features

- Smartgen, Deepsea, Comap brands
- Synchronizing panel, remote control panel
- Monitoring software, mobile APP

- RS232/485, 4G & GPS wireless Ethernet communication card
- Additional digital/analog input/output