PROFESSIONAL GENERATORS

www.eskogenerator.cz I info@eskogenerator.cz

FGR330MC

POWER PARAMETERS

Generating Rates		STANDBY	PRIME POWER
Power	kVA	330	300
Power	kW	264	240
Standard Voltage	V	400/230	
Rated at power factor	Cos Ø	0,8	

RPM 1500 | Hz 50 | 3 Three phase | Water cooled | Soundproof | Diesel

Standby Rating (ESP)

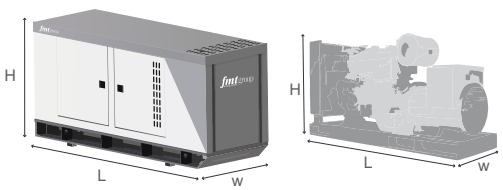
According to ISO 8528-1:2005, Emergency standby power is the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outageor under test conditions for up to 200h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24h of operation shall not exceed 70% of the ESP

Prime Rating (PRP)

According to ISO 8528-1:2005, Prime power is the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output (Ppp) over 24h of operation shall not exceed 70% of the PRP.

G2 class load acceptance in accordance with ISO 8528-5:2005

DIMENSION / WEIGHT / FUEL TANK



	Dimension W x L x H (mm)	Weight (kg)	Tank Capacity (lt)
Canopy	1300 x 3800 x 1850	2876	530
Open Type	1300 x 3800 x 1750	2397	530

NOTE: For reference only, do not use for installation design. Please contact your local dealer for exact weight and dimensions.

NOISE db(A) 7mt@70-75db(A)

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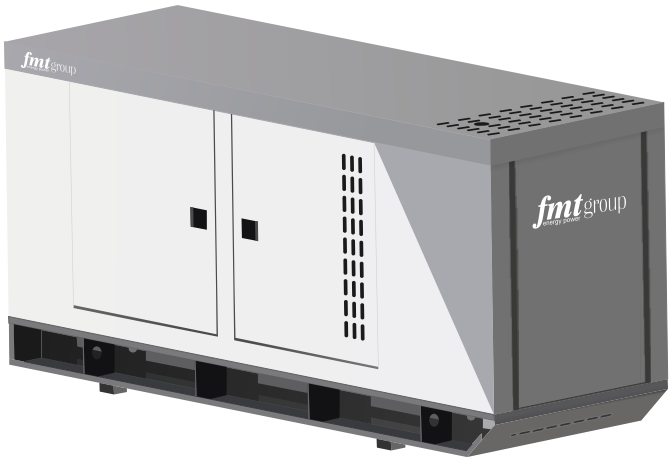
IČ: 07818025 , DIČ: 07818025

FOLLOWER SERIES

The FMT Group Follower generator was created to fulfill the needs of middle range business needed. Follower generators are available in three phase specification.

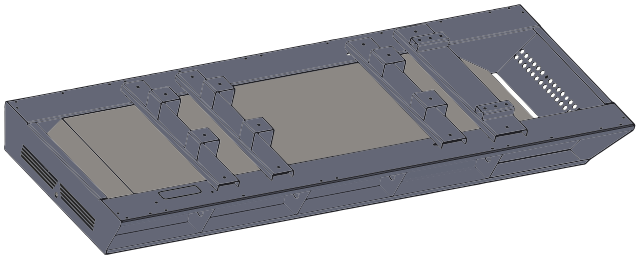
Our engineers and the projection department created this product to fulfill the special needs of all the clients. FMT engineers has researched about more solution to regenerate electric power from Fmt Diesel Engines.

They decide that Fmt Engines has perfect match with Meccalte Alternators. Follower series is one of the best solution in the market to have a power without any problem.



BASE FRAME

FMT Group produces her our base frames for all ranges in accordance with international standards. Base frames are made of plates or special profiles of steel providing high endurance against to vibration and stress



FUEL TANKS

Fuel tanks for the generator sets up to 1000 kVA are designed to be included by base frame. Larger sets require a free standing fuel tank. Fuel tanks are made of plate steel or other suitable materials.FMT Group ensures that the fuel tanks to be produced in accordance with relevant standard.

Fmt fuel tanks are equipped with:

- *Filling cap*
- *Tank ventilation*
- *Fuel outlet valve*
- *Fuel return point*
- *Tank drainage plug*
- *Sediment trap section*
- *Level gauge pipe*

Low fuel-level warning sensor

BODY DESIGN

Our mechanical engineers improved the compact design of these generators and as such now due to the thin modular design the compact series diesel generators carry inside all the main parts starting from the engine, alternator, cooling system, electric system, exhaust system and fuel system. This generator is easy to transport and to install to respond to all you emergencies. It is safe and fulfills your need for uninterrupted energy. This compact design has visual and environmental features that make it easy to adapt everywhere. This generator was designed keeping in mind the environment and the ecological system. The cabin of the compact series generators is soundproof and weatherproof.

EXHAUST SYSTEM

In our generators all the exhaust system and the gases coming form it are placed inside the cabin (the body of the generator). This special design makes it possible for the gases to come out easily and without noise. FMT Group made this special design to protect you and everyone that maintains the generator from getting hurt.

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PROFESSIONAL GENERATORS

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Low fuel consumption | High efficiency | Easy lift | Low noise

CE dcb ISO 9001:2008 registered company

engine

fmt engine energy power

alternator

mecc alte

control panel

fmt panel energy power GEN-A

FEATURES

- Galvanized steel that provides extra strength, durability and protection
- Tightly structure, excellent design
- Easy access to serviceable parts
- Double swinging doors for ease of service
- Doors have high quality gaskets to avoid leakage of sound
- LCD display shows system status and setup information
- Adequate ventilation to meet air requirement for combustion and heat removal

STANDARD SPECIFICATION

- Diesel engine
- Water cooled
- Radiator with mechanical fan
- ATS automatic transfer switch 4P
- Protective grille for rotating and hot parts
- Electric starter and charge alternator
- Engine coolant heater
- Base frame with integrated fuel tank
- Antivibration shock absorbers
- Flexible fuel connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel bellows supplied separately
- Static battery charger
- Starting battery (with lead acid) including rack and cables
- Battery isolator
- Manual for application and installation

SAFETY FEATURES

- High water temperature
- Low lube oil pressure
- Protective earth point
- Emergency stop push-button

2 YEARS WARRANTY..!

FMT GROUP SYSTEMS CARRY A STANDARD TWENTYFOUR-MONTH WARRANTY, WHICH IS ONE OF THE LONGEST STANDARD WARRANTIES IN THE ELECTRICITY AND GENERATOR INDUSTRIES

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ESKO GENERATOR

HORSE POWER
Durable Energy
Unique design

fmt engine
energy power

The diesel engine is the most important part of the genset. Is the prime mover that drives the generator (alternator) to produce electricity. All diesel engines are similar to each other in the concept but they different in many aspects such as the number of cylinders, if the cylinders are inline or Vtype, how the fuel is delivered to the cylinders, governing system, cooling system, air charging system, air intake system. All these details affect the decision of which engine to use and which performance is expected. Engines are rated in KW or HP. Their performance is measured in their fuel consumption in filters or gallons per KWh produced, its thermal effciency, noise level, lube oil consumption and exhaust gas emissions.

ENGINE SPECIFICATION

GENERAL DATA

Model	KX3-6L-DN
No. of cylinder / Configuration	IN-LINE 6
Displacement	10.1 lt
Bore / Stroke	126mm x 135mm
Compression ratio	17:1
Aspiration	Turbocharged Intercooler
Governor type	Electronic
Cooling system	Water
Coolant capacity	39 lt
Speed / Frequency	1500 rpm / 50Hz
Fuel consumption 100% power used	66.7 lt/h
Fuel consumption 75% power used	50.1 lt/h
Fuel consumption 50% power used	33.6 lt/h

LUBRICATION SYSTEM

Oil capacity	27 lt

VENTILATION SYSTEM

Intake air flow	26.6 m^3/min
Radiator cooling air	375 m^3/min

EXHAUST SYSTEM

Exhaust outlet temperature	580 ^{0}C
Exhaust gas flow	50.1 m^3/min

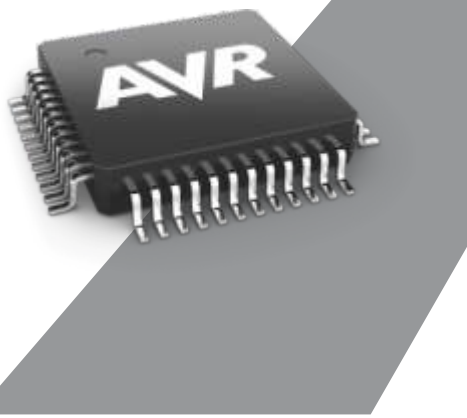
ELECTRICAL SYSTEM

VDC	24 V

SELF EXCITED
STRONG ROTOR
Isolated Stator

mecc alte

Meccalte alternator has been designed for three phase and mono phase. They are brushless type and are controlled by AVR card. The windings have been industrially produced to give maximum efficiency in the production of energy. Throughout the AVR card system the output voltage is always stable. The smart AVR is a professional controller than enables the whole operation of excitement. **Meccalte alternator** is protected by a special cabin that enables the electrical connections.

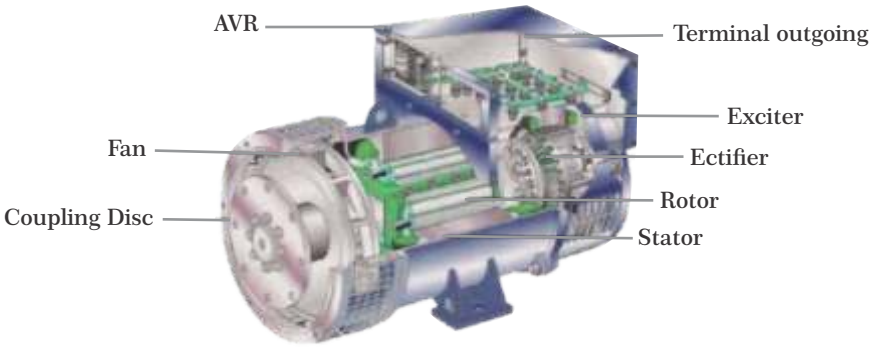


ALTERNATOR SPECIFICATION

GENERAL DATA

Model	ECO38-2L4
No. of Phase	3
Power Factor	0.8
No of Bearing	SINGLE
No of Poles	4
No of Leads	12
Insulations Class	H
Voltage Regulation (Steady State)	± 1%
Degree of Protection	IP 23
Excitation System	Self excited, AVR, Brushless
Connection System	STAR
Frequency	50 Hz
Voltage Output	400/230 VAC
Rated Power (standby)	330 kVA
Efficiency	93.8%

Alternator Structure



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DESCRIPTION

The GEN-A series are next generation genset control units combining multi-functionality and wide communication possibilities together with a reliable and low cost design. The unit complies and mostly exceeds world's tightest safety, EMC, vibration and environmental standards for the industrial category. Software features are complete with easy firmware upgrade process through USB port. The Windows based PC software allows monitoring and programming through USB, serial and GPRS. The PC based Rainbow Scada software allows monitoring and control of an unlimited number of gensets from a single central location.

FEATURES

- Diesel and gas genset support
- 400Hz operation support
- 400 event logs,full snapshot
- All parameters front panel editable
- 3 level configuration password
- 128x64 graphical LCD display
- Downloadable languages
- Waveform display of V & I
- Harmonic analysis of V & I
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- Inputs expandable to 40
- 6 configurable digital outputs
- Outputs expandable to 38
- 3 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual "speed fine adjust" on selected ECUs
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarms
- Battery back-up real time clock
- Idle speed control
- Battery chargerun enabled
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem diagnostics display
- Configurable through USB,RS-485 and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring
- Mobile genset support
- Automatic GSM geo-location
- GPS connectivity (RS232)
- Easy USB firmware upgrade
- IP65 rating with standard gasket

MEASUREMENTS	FUNCTIONALITIES	TOPOLOGIES
• Mains & genset PN/PP voltages	• AMF unit	• 3 ph 4 w, star & delta
• Mains & genset frequency	• ATS unit	• 3 ph 3 w, 2 CTs
• Mains & genset phase currents	• Remote start controller	• 2 ph 3 w
• Mains & genset neutral currents	• Manual start controller	• 1 phase 2 wires
• Mains & genset, phase & total, kW, kVA, kVAr, pf	• Engine controller	
• Engine speed	• Remote display panel	
• Battery voltage	• Harmonic analysis of V & I	

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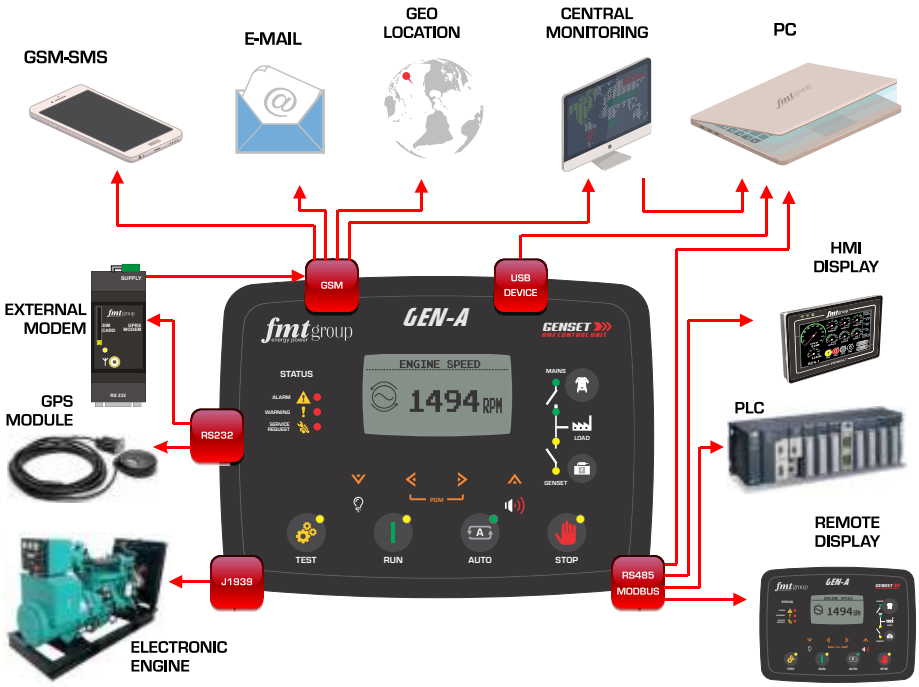
COMMUNICATIONS

- 4-band GPRS modem (optional)
- USB Device
- RS-485 (2400-57600baud)
- RS-232 (2400-57600baud)
- J1939-CANBUS
- Geo-locating through GSM
- GPS support (RS-232)
- Internet Central Monitoring
- SMS message sending
- E-mail sending
- Free PC software: Rainbow Plus
- Modbus RTU



TECHNICAL SPECIFICATIONS

Alternator voltage: 0 to 300 V-AC (Ph-N)
Alternator frequency: 0-600 Hz.
Mains voltage: 0 to 300 V-AC (Ph-N)
Mains frequency: 0-600 Hz.
Topology: 1-2-3 phases, with or without neutral
DC Supply Range: 8.0 to 36.0 V-DC.
V-A-cos Accuracy: 0.5% + 1 digit
kW-kVA-kVAr Accuracy: 1.0% + 1 digit
Current consumption: 500 mA-DC max.
Current Inputs: from current transformers. ../5A.
Digital inputs: input voltage 0 to 36 V-DC.
Analog input range: 0-5000 ohms.
Mains and genset contactor outputs: 16Amps@250V
DC Outputs: Protected mosfet semiconductor outputs, rated 1Amp@28V-DC
Cranking dropouts: survives 0V for 100ms.
Magnetic pickup voltage: 0.5 to 50Vpk.
Magnetic pickup frequency: 0 to 20000 Hz.
Charge Alternator Excitation: 2W.
Display Screen: 2.9", 128x64 pixels
USB Device: USB 2.0 Full speed
RS-485 Port: selectable baud rate (2400-57600baud)
RS-232 Port: selectable baud rate (2400-57600baud)
Operating temperature: -20°C to 70°C (-4 to +158 °F)
Storage temperature: -40°C to 80°C (-40 to +176°F)
Maximum humidity: 95% non-condensing.
IP Protection: IP65 from front panel, IP30 from the rear (with gasket)
Dimensions: 200 x 148 x 46mm (WxHxD)
Panel Cut-out Dimensions: 176 x 121 mm minimum.
Weight: 450 g (approx.)
Case Material: High Temperature, non-flammable ABS/PC
Installation: Flat surface mounting on a Type 1 enclosure. Rear retaining plastic brackets.

CONFORMITY

EU Directives Conformity

-2006/95/EC (low voltage)

-2004/108/EC (electro-magnetic compatibility)

Norms of reference:

EN 61010 (safety requirements)

EN 61326 (EMC requirements)

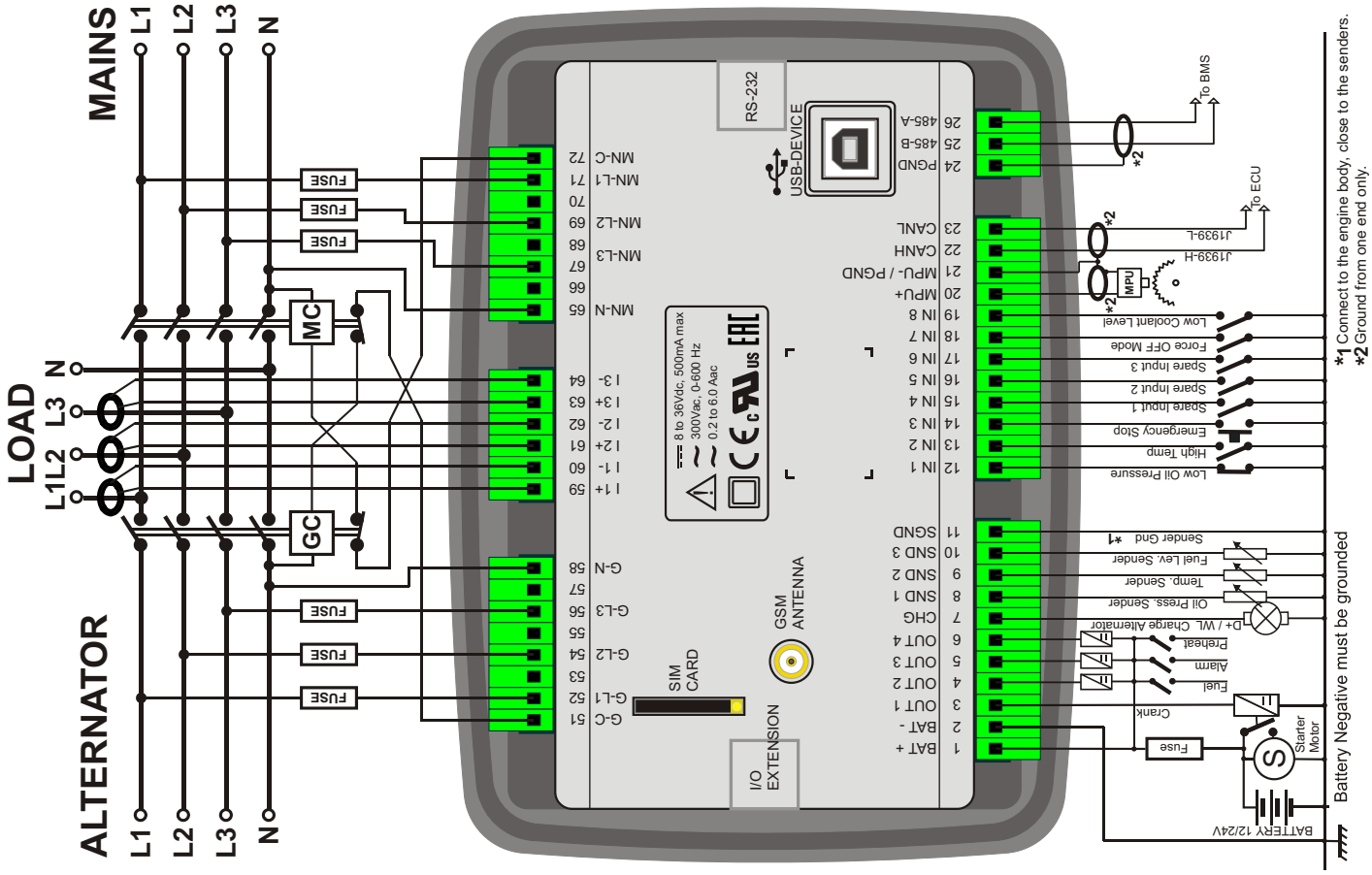
UL & CSA Compatibility:

-UL 6200, Controls for Stationary Engine Driven Assemblies (Certificate# - 20140725-E314374)

-CAN/CSA C22.2 No.14-13–Industrial Control Equipment

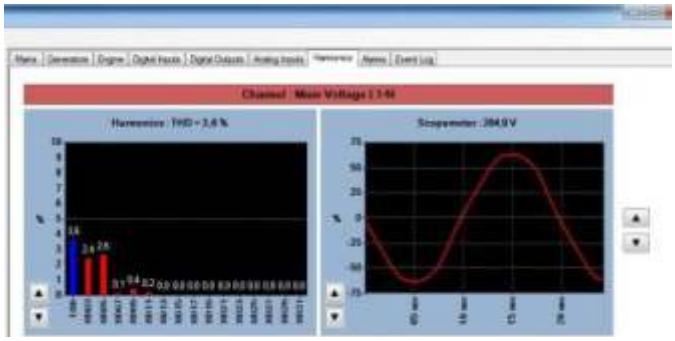
TYPICAL CONNECTIONS

GEN-A



Display

Waveform Display | Graphical Harmonics Display | Digital Harmonics Display



Harmonic analysis & Waveform

Fleet Display on Map, online monitoring

Smartphone Support

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ESKO GENERATOR

fmt eletric ats system
energy power

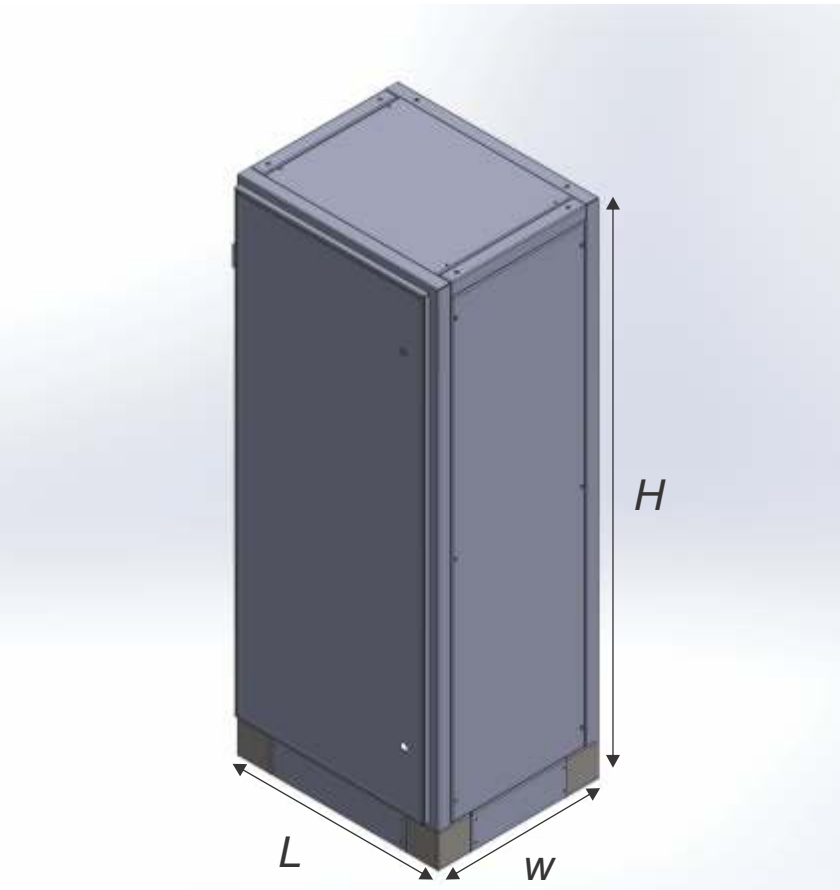
Automatic Transfer Switches

An ATS is a device that interfaces with a generator and the yours electrical system. It monitors the utility power and signals the generator to start if the utility power goes out of spec or drops out entirely (blackout). Backup power is now fed to the main utility panel or an emergency panel via the ATS. All FMT group generators has the ATS system.

CE NEMA LS1

Generating Rates				STANDBY	PRIME POWER
Power			**kVA**	**330**	**300**
Voltage	400/230 VAC	Current	A	*476.3*	*433.0*
Rated at power factor			*Cos Ø*	*0,8*	

VOLTAGE	MODEL CONFIGURATION	ATS PANEL MODEL	CAPACITY AMPS	Dimension (mm) W x L x H
400/230 VAC	3P5-V400-GENA	ATSXP 630A 4P	630A 4P	500 x 600 x 1500



ATSXP 630A 4P

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