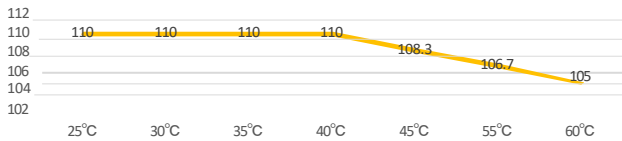
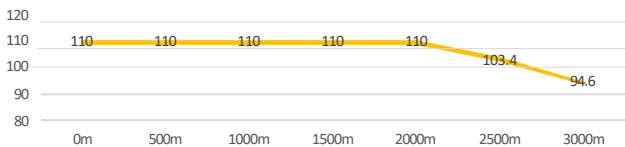


MODEL		PEM110	
Power Pf.0.8	Standby	kVA	110
		kW	88
	Prime	kVA	100
		kW	80
	Frequency	Hz	50
	Voltage	V	230/400
Rated speed	rpm	1500	

Temperature (Celsius) Derate Curves
Unit: kVA



Altitude (meters) Derate Curves
Unit: kVA



MABNA generator sets meet the standards of ISO9001, CE, BS5000, ISO 8528, ISO 3046, IEC 60034, NEMA MG-1.22.

Standard reference Conditions:

Standard reference condition 25°C (77°F) air inlet temp, 100m (328ft) A.S.L 30% relative humidity. Fuel consumption data with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998, Class A2.

RATINGS: All three-phase units are rated at 0.8 power factor. **Standby ratings:** Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. **Prime power ratings:** Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult MABNA. Obtain the technical information bulletin (TIS-101) on ratings guidelines for the complete ratings definitions. MABNA reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Standard Features

- ▶ MABNA Power provides one-source responsibility for the generating system and accessories.
- ▶ The generator set and its components are prototype-tested, factory-built, and production-tested.
- ▶ The 50Hz generator set offers a AUS 2012 listing and CE 2015 listing.
- ▶ The generator set complies with ISO 8528-5, Class G3 requirements for transient performance.
- ▶ The generator set accepts rated load in one step.
- ▶ The 50Hz generator set engine is certified by the Environmental Protection Agency (EU or MEP) to conform to EU2, EU3 nonroad emissions regulations.(≤560KW)
- ▶ A one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.

Generator Features

- ▶ The brushless, rotating-field generator has broadrange reconnectability.
- ▶ The pilot-excited, permanent-magnet generator (PMG) provides superior short-circuit capability
- ▶ Controllers are available for all applications. See controller features inside.
- ▶ The low coolant level shutdown prevents overheating (standard on radiator models only)
- ▶ Integral vibration isolation eliminates the need for under-unit vibration spring isolators
- ▶ An electronic, isochronous governor delivers precise frequency regulation.
- ▶ Electronic engine controls and a generator microprocessor controller combine to deliver one of the most advanced control systems in today's generator market.

Cummins engine Model: 6BT5.9-G1



Main features:

- Accessory drive
Single Poly Vee belt drive for fan, alternator and water pump, with self-tension idle for minimum maintenance
- Complete rebuild ability
Cylinder block has multiple rebore capability. Service cylinder sleeves and valve guides are also available
- Compact size
Easy for installation and ready access for routine maintenance
- Filters
Fleetguard spin-on fuel filter and full-flow lubricating oil filter
- Cold start capability
Minimum ambient temperature for unaided cold start -12°C
Minimum ambient temperature for aided (with coolant heater) cold start -35°C

Engine Specifications

Engine Brand	CUMMINS
Engine Model	6BT5.9-G1
Cylinder No.& Configuration	6 cylinder Diesel L type
Working Mode	Turbocharged
Bore x Stroke	mm 102*120
Displacement	L 5.9
Compression Ratio	17.3:1
Rated Power	kW 86
Rated Speed	1500
Lubrication System	Splash Lubrication
Lube Oil	Conforms above CF class or SAE10W-30,15w-40
Lube Oil Capacity	L 16.4
Battery Capacity	6-QW-60(580)*2
Fuel Type	Diesel:0#(Summer),- 10#(Winter),-35#(Cold)
Fuel Consumption 25% load	L/H 6.6
Fuel Consumption 50% load	L/H 11.5
Fuel Consumption 75% load	L/H 16.3
Fuel Consumption 100% load	L/H 21.7

Alternator

Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet, Pilot Exciter
Voltage regulator	Solid-State, Volts/Hz
Insulation	NEMA MG1, Class H
Material	Synthetic, Nonhygroscopic
Temperature rise	130°C, 150°C Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Rotor balancing	125% 60 Hz, 150% 50Hz
Voltage regulation, no-load to full-load(with < 0.5% drift due to temp. variation	3-Phase Sensing, $\pm 0.25\%$
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby

- ▶ NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- ▶ Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- ▶ Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the generator field.
- ▶ Self-ventilated and drip-proof construction.
- ▶ Superior voltage waveform from two-thirds pitch windings and skewed stator.
- ▶ Digital solid-state volts-per-hertz voltage regulator with $\pm 0.25\%$ no-load to full-load regulation.
- ▶ Brushless alternator with brushless pilot exciter for excellent load response.

Controller



Audiovisual annunciation with NFPA 110 Level 1 capability. Programmable microprocessor logic and digital display features. Safeguard circuit protection standard. 12- or 24-volt engine electrical system capability. Remote start, remote annunciation, and remote communication options. Refer to M6-46 for additional controller features and accessories

Key Features

- ▶ 4-line back-lit LCD text display
- ▶ Five key menu navigation
- ▶ Front panel editing with PIN protection
- ▶ LED and LCD alarm indication
- ▶ Customisable status screens
- ▶ Power save mode
- ▶ Support for up to three remote display units
- ▶ 9 configurable inputs
- ▶ 8 configurable outputs
- ▶ Flexible sender inputs
- ▶ Configurable timers and alarms
- ▶ 3 configurable maintenance alarms
- ▶ Multiple date and time scheduler
- ▶ Configurable event log (250)
- ▶ Control logic facilities
- ▶ Easy access diagnostic page
- ▶ CAN and Magnetic Pick-up / Alt. Sensing
- ▶ Fuel usage monitor and low fuel alarms
- ▶ Charger alternator failure alarm
- ▶ Manual speed control
- ▶ Manual fuel pump control
- ▶ Engine exerciser
- ▶ "protections disabled" feature
- ▶ kW overload protection
- ▶ Power monitoring
- ▶ Load switching (load shedding and dummy load outputs)
- ▶ Automatic load transfer
- ▶ Unbalanced load protection
- ▶ Independent Earth Fault trip
- ▶ USB connectivity
- ▶ Backed up real time clock
- ▶ Configurable display languages
- ▶ User selectable RS232 and RS485 communications
- ▶ SMS Messaging (additional external modem required)
- ▶ Additional display screens to help with modem diagnostics
- ▶ Integral PLC editor

Generating Sets Standard and Optional Features

Engine

- ▶ 4-stroke, water-cooled diesel engine
- ▶ Standard air filter
- ▶ Standard fuel filter
- ▶ Standard oil filter
- ▶ Oil temperature sensor
- ▶ Low coolant level sensor
- ▶ Radiator with blowing fan
- ▶ Industrial silence
- ▶ Fuel water separator (optional)
- ▶ Water jacket heater (optional)

Alternator

- ▶ Class H insulation
- ▶ IP23 Protection
- ▶ Automatic Voltage Regulator (AVR)
- ▶ PMG excitation
- ▶ Single bearing alternator
- ▶ Class F or class B temperature rise (optional)
- ▶ Digital Voltage Regulator (optional)
- ▶ Double bearing (optional)
- ▶ Condensed heater (optional)
- ▶ IP41 Protection (optional)

Electrical system

- ▶ Maintenance-free and anti-explosion battery
- ▶ Standard breaker
- ▶ ABB breaker (optional)
- ▶ ATS (optional)
- ▶ Battery charger (optional)
- ▶ GMS monitoring (optional)

Packing

- ▶ Engine manual
- ▶ Alternator manual
- ▶ Gensets operation and maintenance manual
- ▶ Tool kit

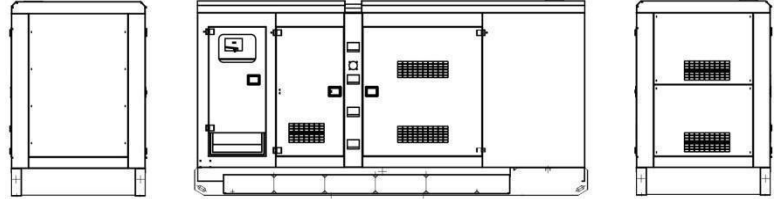
Baseframe

- ▶ Forklift pockets
- ▶ Pulling slots
- ▶ Earth wire protection
- ▶ Built-in anti vibration mountings
- ▶ Fuel outlet valve
- ▶ Standard fuel tank
- ▶ Enlarged fuel tank (optional)
- ▶ Separated fuel tank (optional)

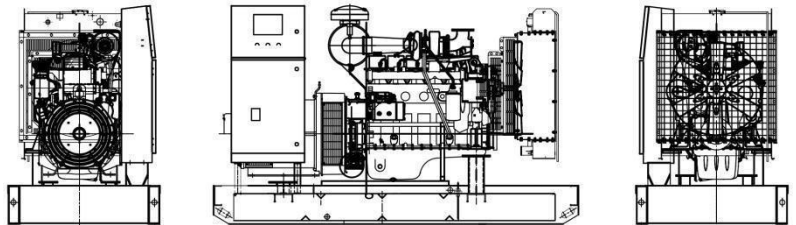
Canopy

- ▶ Weatherproof & sound-attened canopy
- ▶ Sound-absorbing material
- ▶ Lifting lug
- ▶ Emergency stop button
- ▶ Inside silencer

Overview Dimension & Weight



C110S3 (Silent type)					
Configuration	L= Length (mm)	W= Width (mm)	H= Height (mm)	Weight (kg)	Fuel Tank Capacity (L)
Silent Type	2960	1100	1650	1780	420



C110E3 (Open type)					
Configuration	L= Length (mm)	W= Width (mm)	H= Height (mm)	Weight (kg)	Fuel Tank Capacity (L)
Open Type	2250	990	1450	1270	200

Contact your distributor / dealer for more information

MABNA POWER COMPANY

Payesh Energy MABNA
Tel: +98 (021) 91001540 P.E.
Web: WWW.PAYESH-ENERGY.IR
Email: info@payesh-energy.ir

