



閩東電機<sup>®</sup>  
MINDONG ELECTRIC

POWERED BY CUMMINS  
DIESEL GENERATOR SET



Diesel



Watercooled

50  
Hz



Model: MD-30

INDUSTRIAL RANGE

Powered by CUMMINS

## Generating Rates

POWER RATING		PRIME	STANDBY
POWER	kVA	30	36
	kW	24	28.8
Rated Speed	r.p.m	1500	
Standard Voltage	V	400	
Available Voltages	V	400/230 - 230/132 - 230 V	
Rated at power factor	Cos Phi		

Ambient conditions of reference: 1000 mbar, 25°C, 30% relative humidity. Power according to ISO 3046 normative.

**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.

**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.



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## Engine Specifications 1500 r.p.m.

ENGINE		PRP	STANDBY		
Rated Output	kW	36		39.6	
Manufacturer		CUMMINS			
Model		4BT3.9-G1			
No. of Cylindirs and Build		4 Cycle; In-line; 4 Cylinder Diesel			
Aspiration and Cooling		Air natural cooled			
Bore/Stroke	mm	102X115			
Compress the ratio		17.5			
Cooling system		Water-cooled			
Engine Speed/Frequency	rpm/Hz	1500/50HZ			
Coolant Capacity	L	20			
Starting System		Electric 12 volt DC			
Displacement	L	3.76			
Lubricant system Capacity	L	6.8			
Battery Volatge / Capacity		12 VDC			
Governing Type	Type	Electrical			
Air Filter	Type	Dry			
Fuel Consumption	Load	100%	75%	50%	25%
	L/h	9.4	6.9	5.12	3.4

**ENGINE**--Industrial 4 stroke cooled diesel engine complete with air,fuel and oil filters,electric starting and charging equipment,engine protection against low water level.

**COOLING**--Radiator and colling fan complete with protection guards,designed to cool engine at specified output in air temperatures upto 45 °C,radiators suitable for higher temperatures are available.Low water level protection fitted as standard.

**ELECTRICAL SYSTEM**--24V upto.Axial type starter motor,battery charging alternator,high capacity lead acid battery, and battery tray mounted on the generator base frame, and heavy duty interconnecting cable with terminations.

**EXHAUST SYSTEM**--Heavy duty industrial exhaust silencer with flexible piping.



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### Alternator Technical Specifications

ALTERNATOR BRAND		PUDELI
Model		PDL24040110
Exciter System		Self-excited, brushless
Poles	Num	4
Cooling Fan		Cast alloy aluminum
Bearing		Single,double shielded
Windings		100% copper
Connection Type		Reconnectable
Insulation Type	Class	Class H
Pitch		2/3
Amortisseur Winding		Full
Voltage Regulator		A.V.R. (Electronic)
Steady Voltage Precision		± 1%
Underspeed Protection		Standard
Overexcitation Protection		IP23
TIF (1960 Weightings)		<50

**ALTERNATOR**--Brushless,self exciting,self regulation,sreen protected,drip proof rated in accordance with IEC60034.Voltage regulation maintained within ±0.5% from no load to full load.between 0.8 lagging and unity.All standard voltages available.



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## Control Panel Technical Specifications

### Control Panel- SMARTGEN 6110/6120

The base mounted control panel in a vibration isolated sheet steel enclosure. The control panel is equipped as follows:

- a) Instruments: Analogue Voltmeter, Hours Run Meter, Water pressure Meter.
- b) Controls: Emergency Stop Pushbutton, Voltmeter Phase Selector Switch.
- c) Control module: Standard collocation is smartgen Auto start with AMF.

**Smartgen®**

### Main Features:

- Δ Automatic mains failure
- Δ Engine control, Generator protection
- Δ Built in alarms and warnings
- Δ Remote Start operation available
- Δ Fuel pump control
- Δ Mains simulation
- Δ Block heater control
- Δ Field adjustable parameters
- Δ Free MS-Windows Remote monitoring
- Δ LED displays
- Δ Configurable analogue inputs
- Δ I/O expansion capability



### Protection Circuits

- WARNING
- Battery charge failure
- Low battery voltage
- SHUT DOWNS
- Fail to start
- Emergency stop
- Low oil pressure
- High engine temperature
- Over /Under speed
- Under/over generator frequency
- Failed to reach loading voltage
- Electrical trip
- Generator over current

### Instruments

- ENGINE
- Engine speed
- Oil pressure
- Coolant temperature
- Run time
- Battery volts
- TOR
- Voltage (L-N)
- Current (L1-L2-L3)
- Frequency
- Mains
- Voltage (L-L, L-N)



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## Generating Sets Standard Features

Three phase four wire, output voltage 400V/230V, 50HZ, between 0.8 lagging, protection capability according with the standard of NAME1 and IP23.

### General Features:

- Δ Oil and fuel filter fitted, water separator
- Δ Lube-oil drain valve fitted
- Δ Electric Starter Charge motor 24 V.D.C
- Δ Water-cooled
- Δ 8-hours operation base tank
- Δ Auto start
- Δ Optional soundproof and weatherproof canopy
- Δ 3 pole MCCB Delixi breaker
- Δ Operation & Maintenance manual
- Δ Special Integrated Steel Base tank and sprayed overall in gloss enamel paint

### Voltage Regulation:

- Voltage regulation maintained within ±0.5%
- Between 0.8 and 1.0 lagging and unity
- From no load to full load
- At speed droop variation up to 4.5%

### Frequency Adjustable Ratio:

Change load from 0-100%, within 1.0% (electric speed regulator), within 4.5% (mechanical speed regulator)

### Frequency Undulation:

- Load from 0-100%, frequency undulation within 0.25%
- No load wire volts max undulation ratio\ within 1.8%
- Three Phase balanced load in the order of 5%
- Effect factor of Telecom
- TIF better than 50
- THF to IEC60034 Part 40 better than 2%



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## Soundproofed Version Features

### Robust Corrosion Resistant Construction

- Δ Black finish stainless steel lock and hinges
- Δ Body made from steel components treated with polyester powder coating

### Excellent Access for Maintenance

- Δ Two large doors on each side
- Δ Radiator fill access plate
- Δ Lube oil and cooling water drains pipes to exterior of the enclosure

### Security and Safety

- Δ Control panel viewing window in a lockable access door
- Δ Emergency stop push button (red) mounted on enclosure interior
- Δ Cooling fan and battery charging alternator fully guarded
- Δ Exhaust silencing system totally enclosed for operator safety





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## Generating Sets other Features

### Generating Sets Optional Features

- ΔLow fuel level alarm shutdown
- ΔAutomatic Fuel Filling System
- ΔEngine oil feeding and drain pump
- ΔAuto Transfer Switch( ATS)
- ΔParallel control panels
- ΔCircuit Breaker MCCB & ACB
- ΔRemote Control Panel
- Δweatherproof/soundproof Canopy
- ΔTrailer type Gensets

### Quality Standards

ISO9001:2000,ISO14000,ISO3046

ISO8528 BS4999

BS5514,AS1359,ICE34

CE Compliance

### Gensets Dimensions & Weight

Open type:LxWxH (mm) Net Weight Kgs

1750\*970\*1530, 980Kgs

Silent type:LxWxH (mm) Net Weight Kgs

2450\*1080\*1770, 1220Kgs