

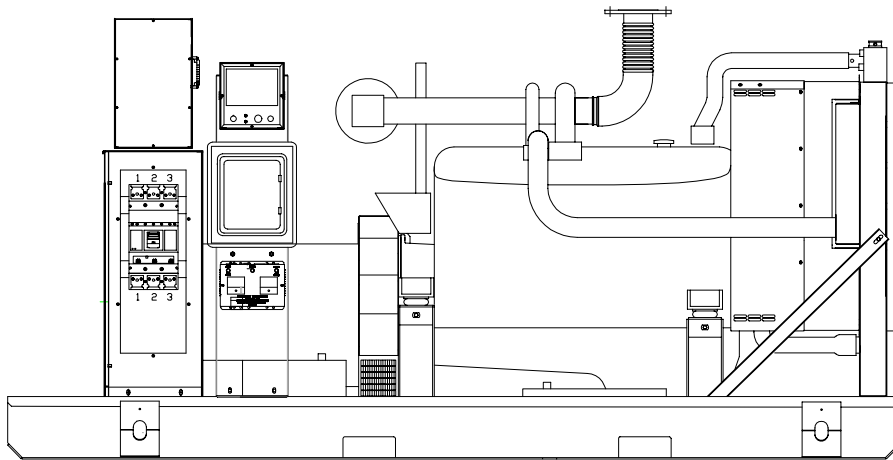
# MG200

For Generac Modular Power Systems (MPS)

Standby Power Rating

200 KW 60 Hz

200 KVA 50 Hz



Power Matched

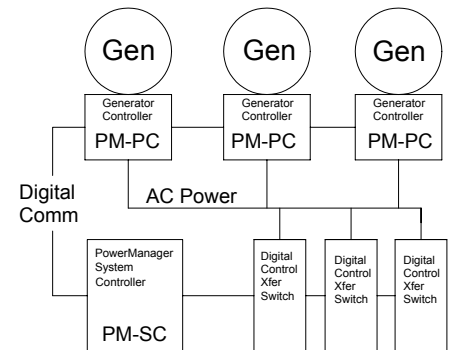
**GENERAC 13.3GTA ENGINE**

Turbocharged/Aftercooled

Gas Engine Generator

Meets EPA Emission Regulations

PowerManager® Digital Control Platform



## FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **PARALLELING SYSTEM FEATURES:**
  - ✓ AUTO SYNCHRONIZATION
  - ✓ ISOCHRONOUS LOAD SHARING
  - ✓ REVERSE POWER PROTECTION
  - ✓ MAXIMUM POWER PROTECTION
  - ✓ ELECTRICALLY OPERATED MECHANICALLY HELD TRANSFER SYSTEM
  - ✓ REDUNDANT OPERATION AND INCREASED RELIABILITY
  - ✓ UL2200 LISTED
- **POWERMANAGER® DIGITAL CONTROL PLATFORM.** The PowerManager Digital Control Platform (PM-DCP) is a powerful control system built around a 32-bit, industrial microprocessor. Standard factory programming controls the entire engine/generator

system, while allowing the PM-DCP, with its onboard PLC, to be customized to meet any application requirement. The system is available on single unit gas, diesel or bi-fuel installations as well as Modular Power Systems (MPS) from 350 kW - 3000 kW.

- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own a GENERAC POWER SYSTEM.
- **ECONOMICAL NATURAL GAS POWER.** Low cost operation due to modern gas engine technology. Better fuel utilization plus lower cost per kW provide real savings.
- **LONGER ENGINE LIFE.** Generac heavy-duty natural gas engines provide long and reliable operating life.
- **GENERAC TRANSFER SWITCHES, POWERMANAGER® AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, and PowerManager™ controls for total system compatibility.

# GENERAC®

# APPLICATION & ENGINEERING DATA

MG200

## GENERATOR SPECIFICATIONS

TYPE .....	Four-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC DISTORTION .....	<3%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<30
SHORT CIRCUIT CURRENT .....	300%
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Direct, Flexible Disc
LOAD CAPACITY (STANDBY) .....	100%

**NOTE: Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN6271 standards.**

### EXCITATION SYSTEM

PERMANENT MAGNET EXCITER .....	Eighteen pole exciter ✓
	Magnetically coupled DC current ✓
	Mounted outboard of main bearing ✓
REGULATION .....	Digital Solid-state ✓
	±0.25% regulation ✓

## CONTROL SYSTEM PM-GC (See Note 5)

The Generac PowerManager™ Generator control is mounted at the generator set and monitors all engine and alternator parameters:

- High/Low Battery
- High Oil Temp
- Low Oil Pressure
- Low Coolant Level
- High Coolant Level
- Low Coolant Level
- Overspeed/Underspeed
- Sensor Failures
- High/Low Frequency
- Pre-alarm Hi Oil Temp
- Pre-alarm Lo Oil Pressure
- Overcrank
- Pre-alarm Hi Coolant
- Critical Low Fuel
- Over/Under Voltage
- Lo Fuel Pressure

The instrumentation screen displays the following:

- AC volts
- Frequency
- Power Factor
- Coolant level
- Fuel level(%)
- Oil Pressure
- AC amps
- kW
- Coolant Temp
- Run time hours
- Battery Voltage
- Engine Speed

■ Serial Communication to the PowerManager Integral controller or System Controller via RS485 connection

■ Programmable

■ Built in Synchronizer for paralleling control and protection

■ Digital Voltage Regulator for concise control

■ Three Pole 1000amp paralleling switch

- Rated 600 volts
- UL Recognized device
- Electrically Operated - Mechanically heald
- Built in ARC supression

■ Mainline Circuit Breaker

Mounted in series with paralleling switch

■ Generator Connection Box

Mounted on right side (facing rear) 12" x 22" x 36"

Access from side, top, bottom to paralleling switch

## ENGINE SPECIFICATIONS

MAKE .....	GENERAC
MODEL .....	13.3GTA
CYLINDERS .....	6 in-line
DISPLACEMENT .....	13.3 Liter (811 cu. in.)
BORE .....	137 mm (5.39 in.)
STROKE .....	150 mm (5.91 in.)
COMPRESSION RATIO .....	10.5:1
INTAKE AIR .....	Turbocharged/Aftercooled
NUMBER OF MAIN BEARINGS .....	7
CONNECTING RODS .....	6-Carbon Steel
CYLINDER HEAD .....	Cast Iron with Overhead Valve
CYLINDER LINERS .....	Wet/Replaceable
IGNITION .....	Altronic CD1
PISTONS .....	Heat-Resistant Alloy with 4 Rings
CRANKSHAFT .....	Induction-Hardened, Die-Forged Carbon Steel

### VALVE TRAIN

LIFTER TYPE .....	Solid
INTAKE VALVE MATERIAL .....	Special Heat Resistant Steel
EXHAUST VALVE MATERIAL .....	Inconel Alloy High Temp.
HARDENED VALVE SEATS .....	Hight Temp. Alloy Stellite Faced

### ENGINE GOVERNOR

ELECTRONIC .....	Standard
STEADY STATE REGULATION .....	±0.25%

### LUBRICATION SYSTEM

TYPE OF OIL PUMP .....	Gear Driven
OIL FILTER .....	Full flow, cartridge
CRANKCASE CAPACITY .....	27 Liters (7.13 gal.)

### COOLING SYSTEM

TYPE OF SYSTEM .....	Pressurized, closed recovery
WATER PUMP .....	Pre-lubed, self-sealing
TYPE OF FAN .....	Pusher
NUMBER OF FAN BLADES .....	6
DIAMETER OF FAN .....	30 in.
COOLANT HEATER .....	240V, 2000 W

### FUEL SYSTEM

FUEL	<input type="checkbox"/> Natural Gas..... Standard
CARBURETOR .....	Down draft
SECONDARY FUEL REGULATOR .....	Nat. Gas
AUTOMATIC FUEL LOCKOFF SOLENOID .....	Standard
OPERATING FUEL PRESSURE .....	7" to 15" H <sub>2</sub> O
MINIMUM BTU (ft <sup>3</sup> ) .....	875
INPUT PIPE SIZE .....	1 1/2" NPT

### ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	20 Amps at 24 V
STARTER MOTOR .....	24 V
RECOMMENDED BATTERY .....	(2) 12 V, Size 31
GROUND POLARITY .....	Negative

## MG200

OPERATING DATA		STANDBY			
MG200					
<b>GENERATOR OUTPUT VOLTAGE/KW-60Hz</b>		<u>N.G.</u>		<u>Rated Amp</u>	
120/208V, 3-phase, 0.8 pf	NOTE: Consult your Generac dealer for additional voltages.	200		695	
277/480V, 3-phase, 0.8 pf		200		301	
600V, 3-phase, 0.8 pf		200		241	
<b>GENERATOR OUTPUT VOLTAGE/KW-50Hz</b>		<u>N.G.</u>		<u>Rated Amp</u>	
115/200 3-phase 0.8 pf	NOTE: Consult your Generac dealer for additional voltages.	160		577	
220/380 3-phase 0.8 pf		160		304	
<b>MOTOR STARTING KVA</b>		<u>200/208V</u>		<u>380/480V</u>	
Maximum at 35% instantaneous voltage dip					
Standard Alternator	60 Hertz	490		653	
Optional Alternator	60 Hertz	900		1356	
Standard Alternator	50 Hertz	400		540	
Optional Alternator	50 Hertz	740		1100	
<b>FUEL</b>					
Fuel Consumption Cubic Ft / Hr.*					
		<u>25%</u>	<u>50%</u>	<u>75%</u>	<u>100%</u>
	60 Hertz	700	1380	1970	2550
	50 Hertz	580	1130	1640	2140
<b>COOLING</b>					
Coolant capacity - US gal.				7.7	
	System			5.6	
	Engine			2.1	
	Radiator			45	
Cooling Flow/min - US gal.	60 Hertz			36	
Cooling Flow/min - US gal.	50 Hertz			703,000	
Heat Rejected to Coolant	60 Hertz			605,000	
Heat Rejected to Coolant	50 Hertz			17,400	
Inlet Cooling Air	60 Hertz			14,600	
Inlet Cooling Air	50 Hertz				
<b>COMBUSTION AIR REQUIREMENTS</b>					
Cooling Flow/min - US gal.	60 Hertz - cfm			718	
Cooling Flow/min - US gal.	50 Hertz - cfm			585	
<b>EXHAUST</b>					
Exhaust Flow at Rated Output	60 Hertz - cfm			2710	
Exhaust Flow at Rated Output	50 Hertz - cfm			2150	
Max recommended back pressure	Hg			1.5"	
Exhaust Temp at rated output	60 Hertz			1265	
Exhaust Temp at rated output	50 Hertz			1235	
Exhaust outlet size	I.D. (flange)			4"	
<b>ENGINE</b>					
Rated RPM	60 Hz			1800	
	50 Hz			1500	
HP at rated KW**	60 Hz			309	
	50 Hz			260	
Piston speed	60 Hz - ft./min.			1773	
	50 Hz - ft./min.			1477	
BMEP	60 Hz - psi			168	
	50 Hz - psi			169	
<b>DERATION FACTORS</b>					
Temperature	2.77% for every 10°F above - °F			110	
Altitude	3.5% for every 1000 ft. above - ft.			3500	

\* Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

\*\* Refer to "Emissions Data Sheets" for maximum bHP for EPA and SCAQMD permitting purposes.

### Notes:

- Motor Starting kVA adds directly for each generator on the bus. With Generac's PowerManager® Control System, the load is shared proportionally.
- For Additional voltages consult factory.
- Maximum distance between Generator Sets is determined by the voltage drop of the power conductors and the maximum distance allowed for the RS485 connection. If the Distance between units exceeds **500** feet, consult factory for wire and communication recommendations.
- Fuel consumption like motor starting kVA is additive. Each Generator will proportionally share the load and the fuel consumption will be based on the percentage of load shared.
- For complete system operation, the MPS requires either the Power Manager Integral Control (**PM-IC**) which is part of the Generac Power Manager Automatic Transfer Switch or the Power Manager System Control (**PM-SC**) which is a separate enclosure and connects to multiple transfer switches with 2 wire start. Up to 3 separate switches or 3 groups of multiple switches can be controlled individually.
- MPS Gensets are available for Standby Applications Only, at this time.

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain
- Factory-Installed Cool Flow Radiator
- Closed Coolant System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- 24 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Isochronous Governor
- Jacket water heater
- Autosynchronizer
- Isochronous Load Sharing Module
- Reverse Power Protection Relay
- Dead Bus Sensing
- Sync Check Relay
- Main Line Circuit Breaker
- 2 Year Warranty
- Engine Coolant Heater

## GENERATOR CONNECTIONS

1. 4 Wire load connections on Paralleling Contactor: Each phase will accept (4) #6 to 350MCM aluminum or copper conductor.
2. 2 wire shielded cable (RS485) to Power Manager System Control or Power Manager Integral Control
3. 2 wire Twisted pair from Transfer switch ( when multiple transfer switches are used) Can also go to the Power Manager System Controller
4. 120 Volt 15 amp input circuit for Battery Charger.
5. 240 Volt 20 amp input for Coolant Heater.

## OPTIONS

- **OPTIONAL COOLING SYSTEM ACCESSORIES**
  - Radiator Duct Adapter
- **OPTIONAL FUEL ACCESSORIES**
  - Flex Fuel Lines
  - Low Pressure Alarm
- **OPTIONAL ELECTRICAL ACCESSORIES**
  - 10A Dual Rate Battery Charger
  - Battery, 24 Volt
  - Battery warmer
- **OPTIONAL ALTERNATOR ACCESSORIES**
  - Alternator Heater
- **OPTIONAL EXHAUST ACCESSORIES**
  - Critical Exhaust Silencer
- **GENERAC POWERMANAGER® INTEGRATED**
  - Controller and ATS Note 5 - See Spec 0167390SBY for additional information
- **GENERAC POWERMANAGER® SYSTEM**
  - Controller Note 5 for Multiple Transfer Switches See Spec 0167380SBY for Additional Information
- **ADDITIONAL OPTIONAL EQUIPMENT**
  - 20 Light Remote Annunciator
  - Remote Relay Panels
  - Oil Make-Up System
  - Oil Heater
  - GenLink® Communications Software
- **OPTIONAL ENCLOSURES**
  - Weather Protective
  - Sound Attenuated
  - Aluminum and Stainless Steel

Distributed by:

Design and specifications subject to change without notice. Dimensions shown are approximate. Contact your Generac dealer for certified drawings. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.

