

# MQT150

## Generac Modular Power System (MPS)

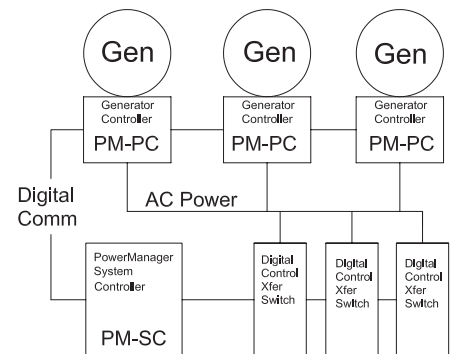
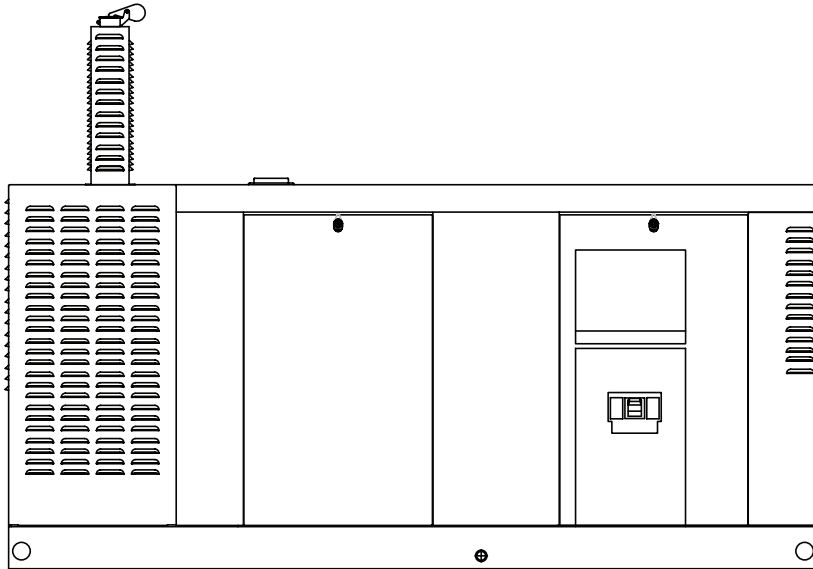
Standby Power Rating  
150KW 60 Hz

Power Matched

**GENERAC 6.8L ENGINE**

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
  - ✓ PARALLELS WITH UP TO 3 MQT 150'S
- **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

MQT150

## GENERATOR SPECIFICATIONS

TYPE .....	Two-pole, revolving field
ROTOR INSULATION .....	Class H
STATOR INSULATION .....	Class H
TOTAL HARMONIC DISTORTION .....	<3.5%
TELEPHONE INTERFERENCE FACTOR (TIF) .....	<50
SHORT CIRCUIT CURRENT .....	300%
ALTERNATOR .....	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED) .....	1
COUPLING .....	Quiet Drive
LOAD CAPACITY (STANDBY) .....	100%
ALTERNATOR TEMP RISE .....	120°C

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

EXCITATION SYSTEM .....	Brushless ✓
REGULATION .....	Digital Solid-state ✓
	± .25% regulation ✓
SENSING .....	3 Phase ✓

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

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

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

The instrumentation screen displays the following:

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

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

■ Programmable

■ Built in Synchronizer for paralleling control and protection

■ Digital Voltage Regulator for concise control

■ Three Pole paralleling switch

- 208 & 240V: 600amp
- 480V: 400amp
- Rated 600 volts

- UL Recognized device
- Electrically Operated - Mechanically held
- Built in arc suppression

■ 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 .....	V Type
CYLINDERS .....	10
DISPLACEMENT .....	6.8 Liter
BORE .....	3.55
STROKE .....	4.17
COMPRESSION RATIO .....	9:1
INTAKE AIR SYSTEM .....	Naturally Aspirated
VALVE SEATS .....	Hardened
LIFTER TYPE .....	Hydraulic

## GOVERNOR SPECIFICATIONS

TYPE .....	Electronic
FREQUENCY REGULATION .....	Isochronous
STEADY STATE REGULATION .....	± 0.25%
ADJUSTMENTS	
Speed .....	Yes
Droop .....	Yes

## ENGINE LUBRICATION SYSTEM

OIL PUMP .....	Gear
OIL FILTER .....	Full flow cartridge
CRANKCASE CAPACITY .....	.5 Quarts

## ENGINE COOLING SYSTEM

TYPE .....	Closed
WATER PUMP .....	Belt driven
FAN SPEED .....	2200
FAN DIAMETER .....	26 inches
FAN MODE .....	Puller

## FUEL SYSTEM

FUEL TYPE .....	Natural gas, propane vapor
CARBURETOR .....	Down Draft
SECONDARY FUEL REGULATOR .....	Standard
FUEL SHUT OFF SOLENOID .....	Standard
OPERATING FUEL PRESSURE .....	11" - 14" H <sub>2</sub> O

## ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR .....	12V 30 Amp
STATIC BATTERY CHARGER .....	12V 10 Amp
RECOMMENDED BATTERY .....	24F 625CCA
SYSTEM VOLTAGE .....	12 Volts

## MQT150

OPERATING DATA	STANDBY		
	MQT150		
<b>GENERATOR OUTPUT VOLTAGE/KW-60Hz</b> 120/208V, 3-phase, 0.8 pf 120/240V, 3-phase, 0.8 pf 277/480V, 3-phase, 0.8 pf 600V, 3-phase, 0.8 pf NOTE: Consult your Generac dealer for additional voltages.	<b>N.G.</b> 150 150 150 150	<b>Rated AMP</b> 521 451 225 180	
<b>MOTOR STARTING KVA</b> Maximum at 35% instantaneous voltage dip with standard alternator — 60 Hz	<b>208/240V</b> 313 kVA	<b>480V</b> 418 kVA	
<b>ENGINE FUEL CONSUMPTION</b>	<b>Natural Gas</b> (cu ft/hr)	<b>Propane</b> (gal/hr.)	(cu ft/hr)
Exercise cycle 25% of rated load 50% of rated load 75% of rated load 100% of rated load*	155 556 1070 1491 2061	1.70 6.09 11.72 16.33 22.57	62.6 224.1 431.3 600.9 830.6
<b>COOLING</b> Coolant capacity System - US gal. Coolant flow/min. 60 Hz - US gal. Heat rejection to coolant Inlet air 60 Hz - cfm Max. operating air temperature on radiator °F Max. operating ambient temperature °F Max. external pressure drop on radiator " H <sub>2</sub> O		4.5 45 568,000 7,800 140 122 0.5	
<b>COMBUSTION AIR REQUIREMENTS</b> Flow at rated power 60 Hz - cfm		410	
<b>EXHAUST</b> Exhaust flow at rated output 60 Hz - cfm Max recommended back pressure Hg Exhaust temp at rated output °F		1535 1.5" 1100	
<b>ENGINE</b> Rated RPM 60 Hz HP at rated KW** 60 Hz Piston speed 60 Hz - ft./min. BMEP 60 Hz - psi		3600 254 2502 123	
<b>DERATION FACTORS</b> Temperature 1.65% for every 10°F above - °F Altitude 3.0% for every 1000 ft. above - ft.		110 600	

\* 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.
- 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.
- A complete MPS system requires a PowerManager Paralleling Controller (PM-PC), a PowerManager System Controller (PM-SC), and switch(es) from Generac Power System's GTS line of digitally controlled transfer switches. In addition, Generac Power Systems' Genlink® Communications Software provides remote monitoring and user interface with the Power Manager Digital Control Platform.
- Values given are maximum temperatures to which power adjustment factors can be applied. Consult your Generac representative if operating conditions exceed these maximums.
- 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
- Sound Attenuation Enclosure
- 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
- Low Fuel Pressure
- 10 Amp Dual Rate Battery Charger
- Exhaust Silencer

## GENERATOR CONNECTIONS

1. 4 Wire load connections on Paralleling Contactor – 480VAC: (2) 1/0 to 250MCM or (1) #4 to 600MCM  
208 & 240VAC: (2) #1 to 500MCM
2. 2 wire shielded cable (RS485) to Power Manager System 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.

## OPTIONS

- **OPTIONAL FUEL ACCESSORIES**
  - Flex Fuel Lines
- **OPTIONAL ELECTRICAL ACCESSORIES**
  - Battery, 12 Volt
  - Battery warmer
- **GENERAC POWERMANAGER™ INTEGRATED**
  - Controller and ATS Note 5 - See Spec 0167390SBY for additional information
- **GENERAC POWERMANAGER™ SYSTEM**
  - Controller Note 5 for Multiple Transer Switches See Spec 0167380SBY for Additional Information
- **ADDITIONAL OPTIONAL EQUIPMENT**
  - 21 Light Remote Annunciator
  - Remote Relay Panels
  - GenLink® Communications Software
- **OPTIONAL ENCLOSURE MATERIAL**
  - Aluminum

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