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.

TRUE POWER™ ELECTRICAL TECHNOLOGY: Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.

TEST CRITERIA:
- PROTOTYPE TESTED
- SYSTEM TORSIONAL TESTED
- NEMA MG1-22 EVALUATION
- MOTOR STARTING ABILITY

SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION. This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at ±1%.

SINGLE SOURCE SERVICE RESPONSE from Generac’s extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.

GENERAC TRANSFER SWITCHES. Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

INCLUDES:
- True Power™ Electrical Technology
- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese)
- Two Transfer Switch Options Available: 100 Amp Pre-Wired Switch or 200 Amp Service Rated Switch. See Page 4 for Details.
- Electronic Governor
- External Main Circuit Breaker, System Status & Maintenance Interval LED Indicators
- GFCI Duplex Outlet
- Sound Attenuated Enclosure
- Flexible Fuel Line Connector
- Composite Mounting Pad
- Natural Gas or LP Gas Operation
- 5 Year Limited Warranty
- Capability to be installed within 18" (457 mm) of a building*

Standby Power Rating
Models 006459-2, 006461-1, 006462-2 (Steel - Bisque) - 16 kW 60 Hz
Model 006721-1 (Aluminum - Gray) - 16 kW 60 Hz
Models 006729-2, 006730-1 (Steel - Bisque) - 20 kW 60 Hz
Models 006551-2, 006552-1 (Aluminum - Gray) - 22 kW 60 Hz

GUARDIAN® SERIES Residential Standby Generators Air-Cooled Gas Engine

Includes:
- True Power™ Electrical Technology
- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese)
- Two Transfer Switch Options Available: 100 Amp Pre-Wired Switch or 200 Amp Service Rated Switch. See Page 4 for Details.
- Electronic Governor
- External Main Circuit Breaker, System Status & Maintenance Interval LED Indicators
- GFCI Duplex Outlet
- Sound Attenuated Enclosure
- Flexible Fuel Line Connector
- Composite Mounting Pad
- Natural Gas or LP Gas Operation
- 5 Year Limited Warranty
- Capability to be installed within 18" (457 mm) of a building*

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.
- True Power™ Electrical Technology: Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- Test Criteria:
  - Prototype Tested
  - System Torsional Tested
  - NEMA MG1-22 Evaluation
  - Motor Starting Ability
- Solid-State, Frequency Compensated Voltage Regulation. This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized fast response to changing load conditions and maximum motor starting capability by electronically torque-matching the surge loads to the engine. Digital voltage regulation at ±1%.
- Single Source Service Response from Generac’s extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- Generac Transfer Switches. Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

Standby Power Rating
Models 006459-2, 006461-1, 006462-2 (Steel - Bisque) - 16 kW 60 Hz
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Models 006729-2, 006730-1 (Steel - Bisque) - 20 kW 60 Hz
Models 006551-2, 006552-1 (Aluminum - Gray) - 22 kW 60 Hz
# 16/20/22 kW Features and Benefits

## Engine
- **Generac (OHVI) design**
  - Maximizes engine “breathing” for increased fuel efficiency. Plateau honed cylinder walls and plasma moly rings help the engine run cooler, reducing oil consumption resulting in longer engine life.
- **Quiet-Test™**
  - Greatly reduces sound output and fuel consumption during bi-weekly exercise, compared to other brands.
- **“Spiny-loc” cast iron cylinder walls**
  - Rigid construction and added durability provide long engine life.
- **Electronic ignition/spark advance**
  - These features combine to assure smooth, quick starting every time.
- **Full pressure lubrication system**
  - Pressurized lubrication to all vital bearings means better performance, less maintenance and longer engine life. Now featuring up to a 2 year/200 hour oil change interval.
- **Low oil pressure shutdown system**
  - Shutdown protection prevents catastrophic engine damage due to low oil.
- **High temperature shutdown**
  - Prevents damage due to overheating.

## Generator
- **Revolving field**
  - Allows for a smaller, light weight unit that operates 25% more efficiently than a revolving armature generator.
- **Skewed stator**
  - Produces a smooth output waveform for compatibility with electronic equipment.
- **Displaced phase excitation**
  - Maximizes motor starting capability.
- **Automatic voltage regulation**
  - Regulates the output voltage to ±1% prevents damaging voltage spikes.
- **UL 2200 listed**
  - For your safety.

## Transfer Switch
- **Fully automatic**
  - Transfers your vital electrical loads to the energized source of power.
- **Pre-wired, color-coded conduits**
  - Ensures the easiest, trouble-free installation.
- **Remote mounting**
  - Mounts near your existing distribution panel for simple, low-cost installation.

## Evolution™ Controls
- **Auto/Manual/Off illuminated buttons**
  - Selects the operating mode and provides easy, at-a-glance status indication in any condition.
- **Two-line LCD multilingual display**
  - Provides homeowners easily visible logs of history, maintenance and events up to 50 occurrences.
- **Sealed, raised buttons**
  - Smooth, weather-resistant user interface for programming and operations.
- **Utility voltage sensing**
  - Constantly monitors utility voltage, setpoints 60% dropout, 80% pick-up, of standard voltage.
- **Generator voltage sensing**
  - Constantly monitors generator voltage to ensure the cleanest power delivered to the home.
- **Utility interrupt delay**
  - Prevents nuisance start-ups of the engine, adjustable 2-1500 seconds from the factory default setting of 5 seconds by a qualified dealer.
- **Engine warm-up**
  - Ensures engine is ready to assume the load, setpoint approximately 5 seconds.
- **Engine cool-down**
  - Allows engine to cool prior to shutdown, setpoint approximately 1 minute.
- **Programmable exerciser**
  - Operates engine to prevent oil seal drying and damage between power outages by running the generator for 5 minutes every other week. Also offers a selectable setting for weekly or monthly operation providing flexibility and potentially lower fuel costs to the owner.
- **Smart battery charger**
  - Delivers charge to the battery only when needed at varying rates depending on outdoor air temperature.
- **Electronic governor**
  - Maintains constant 60 Hz frequency.

## Unit
- **SAE weather protective enclosure**
  - Sound attenuated enclosure ensures quiet operation and protection against mother nature, withstanding winds up to 150 mph. Hinged key locking roof panel for security. Lift-out front for easy access to all routine maintenance items. Electrostatically applied textured epoxy paint for added durability.
- **Enclosed critical grade muffler**
  - Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
- **Small, compact, attractive**
  - Makes for an easy, eye appealing installation, as close as 18” away from a building. *

## Installation System
- **1 ft (305 mm) flexible fuel line connector**
  - Absorbs any generator vibration when connected to rigid pipe.
- **Composite mounting pad**
  - Eliminates the need to pour a concrete pad unless required by local municipalities.
**Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters. Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). ** Maximum wattage and current are subject to and limited by such factors as fuel Btu/megajoule content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases about 3.5 percent for each 1,000 feet (304.8 meters) above sea level; and also will decrease about 1 percent for each 6 °C (10 °F) above 16 °C (60 °F).**

### Generator Specifications

**Model**
- **006459-2, 006461-1, 006462-2, 006721-1 (16 kW)**
- **006729-2, 006730-1, (20 kW)**
- **006551-2, 006552-1 (22 kW)**

#### Rated Maximum Continuous Power Capacity (LP)
- **16,000 Watts**
- **20,000 Watts**
- **22,000 Watts**

#### Rated Maximum Continuous Power Capacity (NG)
- **16,000 Watts**
- **18,000 Watts**
- **19,500 Watts**

#### Rated Voltage
- **240**
- **240**
- **240**

#### Rated Maximum Continuous Load Current – 240 Volts (LP/NG)
- **66.6/66.6**
- **83.3/75**
- **91.6/81.3**

#### Total Harmonic Distortion
- **Less than 5%**
- **Less than 5%**
- **Less than 5%**

#### Main Line Circuit Breaker
- **65 Amp**
- **90 Amp**
- **100 Amp**

#### Battery Requirement (not included)
- Group 26R, 12 Volts and 525 CCA Minimum

#### Unit Weight (lb/kg)
- **455/206.4 (Steel)***
- **419/190 (Aluminum)***
- **505/229***

#### Dimensions (L x W x H) in/mm
- **48 x 25 x 29/1218 x 638 x 732**

#### Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load
- **66**
- **66**
- **67**

#### Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test™ low-speed exercise mode
- **60**
- **60**
- **58**

#### Exercise duration
- **5 min**
- **5 min**
- **5 min**

### Engine Specifications

#### Type of Engine
- GENERAC OHVI V-TWIN
- GENERAC OHVI V-TWIN
- GENERAC OHVI V-TWIN

#### Number of Cylinders
- 2
- 2
- 2

#### Cylinder Block
- Aluminum w/ Cast Iron Sleeve
- Aluminum w/ Cast Iron Sleeve
- Aluminum w/ Cast Iron Sleeve

#### Valve Arrangement
- Overhead Valve
- Overhead Valve
- Overhead Valve

#### Ignition System
- Solid-state w/ Magneto
- Solid-state w/ Magneto
- Solid-state w/ Magneto

#### Governor System
- Electronic
- Electronic
- Electronic

#### Compression Ratio
- 9.5:1
- 9.5:1
- 9.5:1

#### Starter
- 12 Vdc
- 12 Vdc
- 12 Vdc

#### Oil Capacity Including Filter
- Approx. 1.9 qt/1.8 L
- Approx. 1.9 qt/1.8 L
- Approx. 1.9 qt/1.8 L

#### Operating rpm
- 3,600
- 3,600
- 3,600

#### Fuel Consumption
- Natural Gas
  - 1/2 Load: 193 (5.47)
  - Full Load: 312 (8.83)
- Liquid Propane
  - 1/2 Load: 72.4 (1.97) [7.2]
  - Full Load: 130 (3.19) [12.07]

#### Note: Fuel pipe must be sized for full load. Required fuel pressure to generator fuel inlet at all load ranges - 3.5-7” water column (7-13 mm mercury) for natural gas, 10-12” water column (19-22 mm mercury) for LP gas. For Btu content, multiply ft³/hr x 2500 (LP) or ft³/hr x 1000 (NG). For Megajoule content, multiply m³/hr x 93.15 (LP) or m³/hr x 37.26 (NG).

### Controls Specifications

#### 2-Line Plain Text Multilingual LCD Display
- Simple user interface for ease of operation.

#### Mode Buttons:
- Auto
- Manual
- Off

#### Ready to Run/Maintenance Messages
- Standard

#### Engine Run Hours Indication
- Standard

#### Programmable start delay between 2-1500 seconds
- Standard (programmable by dealer only)

#### Utility Voltage Loss/Return to Utility Adjustable (Brownout Setting)
- From 140-171 V/190-216 V

#### Future Set Capable Exerciser/Exercise Set Error Warning
- Standard

#### Run/Alarm/Maintenance Logs
- 50 Events Each

#### Engine Start Sequence
- Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration).

#### Smart Battery Charger
- Starter cannot re-engage until 5 sec after engine has stopped.

#### Charger Fault/Missing AC Warning
- Standard

#### Low Battery/Battery Protection and Battery Condition Indication
- Standard

#### Automatic Voltage Regulation with Over and Under Voltage Protection
- Standard

#### Under-Frequency/Overload/Stepper Overcurrent Protection
- Standard

#### Safety Fused/Fuse Problem Protection
- Standard

#### Automatic Low Oil Pressure/High Oil Temperature Shutdown
- Standard

#### Overcrank/Overspeed (@ 72 Hz)/rpm Sense Loss Shutdown
- Standard

#### High Engine Temperature Shutdown
- Standard

#### Internal Fault/Incorrect Wiring Protection
- Standard

#### Common External Fault Capability
- Standard

#### Field Upgradable Firmware
- Standard

**Note:** All ratings in accordance with BS5514, ISO3046 and DIN6271. **Maximum wattage and current are subject to and limited by such factors as fuel Btu/megajoule content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases about 3.5 percent for each 1,000 feet (304.8 meters) above sea level; and also will decrease about 1 percent for each 6 °C (10 °F) above 16 °C (60 °F).**
**16/20/22 kW switch options**

### Pre-wired Features
available on Steel 16 kW models only
- Electrically operated, mechanically-held contacts for fast, positive connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2 pole, 250 VAC contactors.
- 30 millisecond transfer time.
- Dual coil design.
- Main contacts are silver plated or silver alloy to resist welding and sticking.
- NEMA 1 (indoor rated) enclosure is standard on the pre-wired switch.
- Multi listed for use with 1” standard, tandem, GFCI and AFCI breakers from Siemens, Murray, Eaton and Square D for the most flexible and cost effective install.
- Pre-wired 30 foot (9.1 meter) whip to connect to the provided 5 foot (1.5 meter) pre-wired whip and external connection box.
- Pre-wired 2 foot (0.61 meter) whip, color coded to connect into the existing electrical panel.

### Dimensions

#### Mechanical Dimensions

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<td>2/0 - #14</td>
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### Service Rated Switch Features
- Electrically operated, mechanically-held contacts for fast, clean connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2 pole, 250 VAC contactors.
- Service equipment rated, dual coil design.
- Rated for both aluminum and copper conductors.
- NEMA/UL 3R aluminum outdoor enclosure.
- Main contacts are silver plated or silver alloy to resist welding and sticking.

### Dimensions

#### Service Rated Switch

<table>
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<tr>
<td>mm W2</td>
<td>343.0</td>
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#### Lug Range

- 250 MCM - #6

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**Model Information**

**Model 006461-1 (16 kW)**
- No. of Poles: 2
- Current Rating (Amps): 100
- Voltage Rating (VAC): 120/240, 1Ø
- Utility Voltage Monitor (Fixed)* - Pick-up 80% - Dropout 60%
- Return to Utility* approx. 15 sec.
- Exercise bi-weekly for 12 minutes*
- Standard
- UL Listed

**Model 006462-2 (16 kW), 006729-2 (20 kW), 006551-2 (22 kW)**
- No. of Poles: 2
- Current Rating (Amps): 200
- Voltage Rating (VAC): 120/240, 1Ø
- Utility Voltage Monitor (Fixed)* - Pick-up 80% - Dropout 60%
- Return to Utility* approx. 13 sec.
- Exercise weekly for 12 minutes*
- Standard
- UL Listed
- Enclosure Type: NEMA/UL 3R
- Withstand Rating (Amps): 22,000

*Function of Evolution Controller
### Mobile Link™
Generac’s Mobile Link allows you to check the status of your generator from anywhere that you have access to an Internet connection from a PC or any smart device. You will even be notified when a change in the generator’s status occurs via e-mail or text message.

Available in the U.S. only.

### 26R Wet Cell Battery
Every standby generator requires a battery to start the system. Generac offers the recommended 26R wet cell battery for use with all air-cooled standby product (excluding PowerPact®).

### Cold Weather Kit
If the temperature regularly falls below 32 °F (0 °C), a cold weather kit is required to maintain optimal battery and oil temperatures. Kit consists of a battery warmer and oil filter heater with built-in thermostats.

### Auxiliary Transfer Switch Contact Kit
The auxiliary transfer switch contact kit allows the transfer switch to lock out a single large electrical load you may not need. Not compatible with 50 amp pre-wired switches.

### Fascia Base Wrap Kit*
The fascia base wrap snaps together around the bottom of the new air cooled generators. This offers a sleek, contoured appearance as well as offering protection from rodents and insects by covering the lifting holes located in the base.

### Paint Kit*
If the generator enclosure is scratched or damaged, it is important to touch-up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch-up a generator enclosure.

### Scheduled Maintenance Kit
Generac’s scheduled maintenance kits provide all the hardware necessary to perform complete routine maintenance on a Generac automatic standby generator.

### Wireless Remote Monitor
Completely wireless and battery powered, Generac’s wireless remote monitor provides you with instant status information without ever leaving the house. Not compatible with CorePower or EcoGen systems.

### Smart Management Module (50 Amps)
Smart Management Modules are used in conjunction with the Automatic Transfer Switch to increase its power management capabilities. It provides additional power management flexibility not found in any other power management system.

* Note: Bisque kits are used in conjunction with steel enclosures. Gray kits are used in conjunction with aluminum enclosures.

### Dimensions & UPCs
Dimensions shown are approximate. Refer to installation manual for exact dimensions. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.

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