GENERAC®

XG
Protector® Series

Protector® Series
Standby Generators
Liquid-Cooled Gaseous Engine

STANDARD FEATURES

- 1–Phase 48 kW Models Include ecobee by Generac Smart Home Thermostat[1]
- Power Zone® 410 Controller, NFPA 110 System Control Capable
- Padlockable Control Panel Cover with UV Protection
- Cellular Connectivity for Mobile Link and Fleet[2]
- Quiet Operation
- Corrosion Resistant Aluminum Enclosure, Electro-Galvanized Baseframe Components, and Stainless Steel Exhaust System
- 5 Year/2,000 Hour Limited Warranty
- High Motor-Starting & Surge Capacity
- ±1% Digital Voltage Regulation
- <5% Total Harmonic Distortion Power Quality
- Fuel Efficiency
- Controller-Selectable Fuel Type - Propane or Natural Gas
- Single-Side Regular Maintenance Access
- EPA Emissions Certified
- CA & MA Emissions Compliant Model Available
- UL 2200 Listed
- SwRI listed and labeled allowing installation as close as 18 in (457 mm) to a structure[3]
- 145 mph (233 km/h) Wind Speed Rating[4]

1 - Reference XG Protector Series specification sheet A0005286945 for 3-phase 48 kW and other power output models.

2 - Cellular service for the US, Canada, and other supported countries using the Generac Generator Connectivity Accessory, Cellular (GGCAC).

3 - Must be located away from doors, windows, and fresh air intakes and in accordance with all applicable codes and regulations.

4 - Requires correctly prepared concrete pad and anchoring system.

OPTIONAL FIELD-INSTALLABLE FEATURES

Available as field-installable kits

- Generator Ready-Status Indicator
- Push-Button Emergency Stop
- NFPA 110 System Control & Remote Annunciation
- Cold Weather Operation Heaters
- Baseframe Blockoff
- Engine Fluid Containment

STANDBY POWER RATING

Models XG04845ANAX & XG04845ANAC – 48 kW, 1–Phase, 60 Hz Emergency Standby Power Generator

Product may vary from above image.

USA ENGINEERED & BUILT
*Assembled in the USA using domestic and foreign parts
c ETL us LISTED
QUIET-TEST™
GENERAC® Mobile Link™

EPA Emissions Certified
CA & MA Emissions Compliant Model Available

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.

○ **MOBILE LINK® CONNECTIVITY:** Standard with the Generac Liquid-Cooled XG Protector Series home standby generators, Mobile Link Cellular allows users to monitor the status of their generator from anywhere using a smartphone, tablet, or PC. Easily access real-time operating status, maintenance alerts, and generator readiness. Users can also connect their account to an authorized generator servicer for proactive support and streamlined service. With Mobile Link, users can see their generator is ready before the next power outage.

○ **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.

○ **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 service 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 the GENERAC product line is offered with its own transfer systems and controls for total system compatibility.

○ **ecobee by Generac SMART THERMOSTAT:** This new energy manager for the home offers a seamless integration into the Generac ecosystem, managing the home's HVAC system(s) and protecting the generator from potential overloads with precision. Leveraging Mobile Link, users may also view the status of the generator and the LP tank level (if applicable).

GENERAC®

GENERATOR SPECIFICATIONS

GENERATOR OUTPUT

PROPANE

Voltage (V)	XG04845	
	Power (kW)	Current (A)
120/240 1–Phase	48	200

NATURAL GAS

Voltage (V)	XG04845	
	Power (kW)	Current (A)
120/240 1-Phase	48	200

Emergency Standby Power (ESP) Rating: Standby ratings apply to installations served by a reliable utility source. The ESP rating is applicable to varying loads for the duration of a power outage. The average power output over 24 hours shall not exceed 70% of the ESP rating.

ALTERNATOR SYSTEM

Voltage Output (V)	120/240 1–Phase
Circuit Breaker (CB) Size (A)	200
Alternator Type	Synchronous
Rotor Insulation Class	F
Stator Insulation Class	H
Telephone Interference Factor (TIF)	$<$50
Bearings	Sealed Ball
Coupling	Flexible Disc
Excitation System	Direct
Total Harmonic Distortion	$<$5%

VOLTAGE REGULATION

Type	Digital
Sensing	All Phases
Regulation	$\pm$1%

SURGE CAPACITY

Surge Amps at $<$0.4 Power Factor for Voltage Output (V)	XG04845	
	15% Voltage Dip (A)	30% Voltage Dip (A)
120/240 1-Phase	220	340

ENGINE SYSTEM

Make	Generac
Model	4.5 L, Inline 4-Cylinder, Naturally Aspirated
Compression Ratio	9.9:1
Lifter Type	Hydraulic
Oil Pump Type	Gear
Oil Filter Type	Full Flow Spin-on Cartridge
Crackcase Capacity (qt (L))	12 (11)
Temperature Derate	1.7% per 10 °F above 77 °F (1.5% per 5 °C above 25 °C)
Altitude Derate	3% per 1,000 ft above 600 ft (1% per 100 m above 183 m)
Exercise Speed (rpm)	1,200
Operating Speed (rpm)	1,800
Exhaust Flow at Rated Output (cfm (m^3/min))	280 (7.9)

GOVERNOR

Type	Electronic
Frequency Regulation	Isochronous

COOLING SYSTEM

Coolant	50/50 (50% Ethylene Glycol)
Coolant System Capacity (US gal (L))	2.9 (11)
Water Pump Type	Belt Driven
Fan Type	Electric
Fan Quantity	3
Maximum Ambient Air Temperature (°F (°C))	122 (50)

GENERATOR SPECIFICATIONS

FUEL SYSTEM

Usable Fuels	Liquid Propane (LP) Vapor or Natural Gas (NG)
Fuel Type Configuration	Controller–Selected Only
LP Vapor Pressure (in H_2O (kPa))	7-14 (1.74-3.48)
NG Pressure (in H_2O (kPa))	3.5-14 (0.87-3.48)
Fuel Shutoff Solenoid	Standard, Dual

FUEL CONSUMPTION

LIQUID PROPANE

Rated Load	XG04845	
	(US gph)	(L/h)
No Load @ Exercise Speed	1.1	4.1
25%	3.0	11.5
50%	4.2	15.9
75%	5.4	20.4
100%	6.6	24.8

Propane – 91,452 BTU/US gal (25.5 MJ/L); 36 ft^3/US gal (0.27 m^3/L); 2,516 BTU/ft^3 (93.7 MJ/m^3); 4.24 lb/US gal (0.508 kg/L)

NATURAL GAS

Rated Load	XG04845	
	(CFH)	(m^3/h)
No Load @ Exercise Speed	71	2.0
25%	215	6.1
50%	335	9.5
75%	456	12.9
100%	576	16.3

Natural Gas – 1,036 BTU/ft^3 (37.3 MJ/m^3)
See Emissions Data Sheets for maximum fuel flow for EPA and SCAQMD permitting purposes.

ELECTRICAL SYSTEM

System Voltage (V)	12
Charge Alternator (A)	145
Battery Charger (A)	5
Recommended Battery (not included)	Flooded Lead Acid, Group 27, 600 CCA Minimum
Maximum Allowable Battery	Flooded Lead Acid, Group 31, 750 CCA Minimum

ENCLOSURE

Sound Level at Exercise Speed (dB(A) @ 23 ft (7 m))[5]	54
Sound Level at Operating Speed & No Load (dB(A) @ 23 ft (7 m))[5]	58
Wind Speed Rating (mph (km/h))[6]	145 (233)
Color	Metro Gray

[5] - Lowest sound level measurement of 8 locations around the generator. Sound levels at other locations around the generator may vary depending on the installation.
[6] - ASCE 7-16 exposure B wind speed rating

GENERATOR SPECIFICATIONS

POWER ZONE 410 CONTROLLER

016030

Standard Features
● 128 x 64 Pixel Graphical Display with Heater

● Multilingual
  · English
  · French
  · Spanish
  · Portuguese

● Full Range Standby Operation

● Full System Status
  · Power
  · Power Factor
  · Oil Pressure
  · Engine Coolant Temperature
  · Oil Temperature (check for oil temp sensor)
  · Fuel Pressure
  · Engine Speed
  · Battery Voltage
  · Output Frequency
  · Time
  · Date
  · Load On Line Power and Gen Power
  · Hourmeter
  · Service Reminders
  · Fault History (Alarm Log)

● Remote Communications

● Programmable Auto Crank

● Emergency Stop

● Not in Auto Flashing Light

● Selectable Low Speed Exercise

● NFPA 110 System Control Capable

● 5A Integrated Battery Charger

Standard Protections
● Low Oil Pressure

● Low Coolant Level

● High/Low Coolant Temperature

● Oil Temperature

● Over/Under Speed

● Over/Under Voltage

● Over/Under Frequency

● Over/Under Current

● Overload

● Battery Voltage

● Battery Charger Current

● Phase-to-Phase and Phase-to-Neutral Short Circuits (I^2T Algorithm)

● Ground Fault

Display
● Easy Menu Structure

● Multilingual (English, Spanish, French, and Portuguese)

● On Screen Editable Parameters

● Key Function Monitoring
  · Selectable Average or Line-to-Neutral Voltage Measurements
  · Frequency
  · Engine Speed
  · Engine Coolant Temperature
  · Oil Pressure
  · Battery Voltage
  · Warning and Alarm Indication
  · Diagnostics
  · Maintenance Events/Information
  · Hourmeter

Control Panel
● AUTO/OFF/MANUAL
  · Operation Through Onboard Buttons or Optional Key Switch
  · Indication Through Display Screen and LEDs

● Audible Alarm and Silence

● Auxiliary Shutdown Rocker Switch (on controller)

● Not-in-Auto Indication

Voltage Regulation
● Digital Control

● 3-Phase Sensing

● Variable V/F Slope Settings

● Negative Power Limit

● Loss of Sensing Protection

● Fault Protection (I^2T Function)

● High Voltage Limit

● Low Voltage Limit

● Maximum Power Limit

Governor Functionality
● Speed Control through ECM Integration

Communications Ports
● 1 CANbus Port

● 1 USB Port (for Configuration Transfer and Firmware Upgrades)

● 1 RS-485 Modbus Master Port (for External RAP/RRP/External I/O Modules)

● 1 RS-485 Modbus Slave Port (for other uses, e.g. Building Management System)

● 2 RS-232 Communication Ports (for GGCAC or other uses)

Codes And Standards
● UL 6200

● CE

● NFPA 110

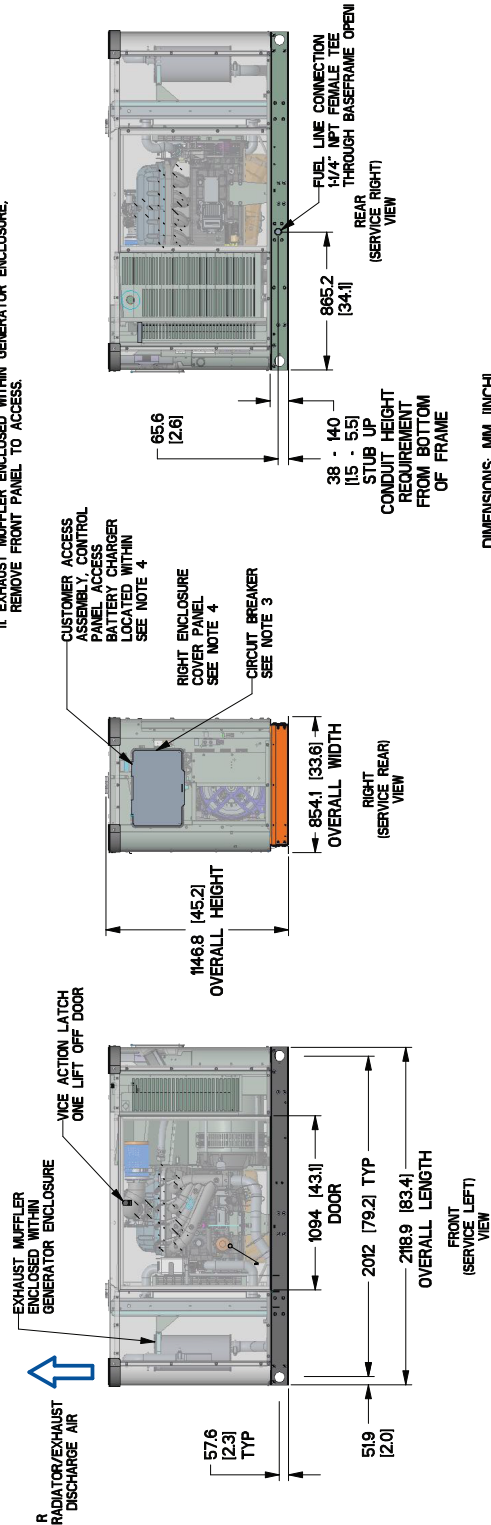| PRODUCT	PART NUMBER	DESCRIPTION
Control System Kits		
Generator Ready-Status Indicator Kit	G0099100	3-color LED providing at-a-glance indication of generator ready-to-run status. The display mounts to the front of the generator and plugs into the wire harness.
Enclosure Mounted Emergency Stop Kit	G0079930	Emergency Stop consists of a red push button switch. It mounts to the exterior of the generator enclosure replacing the Generator Emergency Shutdown rocker switch in the same location.
Remote Emergency Stop Kit, Surface Mount	G0099250	Emergency Stop consists of a red push button switch with twist release. The switch has an aluminum enclosure which can be mounted extending out from a surface. It mounts remote from the generator such as near an electrical panel.
Remote Emergency Stop Kit, Flush Mount	G0099260	Emergency Stop consists of a red push button switch with twist release. The switch has an aluminum enclosure which can be mounted flush. It mounts remote from the generator such as near an electrical panel.
Remote Emergency Stop Kit, Break Glass	G0099270	Emergency Stop consists of a spring-loaded switch behind breakable glass. The glass can be broken with the tethered hammer. The switch has an aluminum enclosure which can be mounted extending out from a surface. It mounts remote from the generator such as near an electrical panel.
Generac Load Manager, 50 A	G0070001	50 A Load Manager helps optimize the performance of the standby generator by managing large electrical loads upon startup and shed them to aid in recovery when overloaded.
Generac Load Manager, 100 A	G0070061	100 A Load Manager helps optimize the performance of the standby generator by managing large electrical loads upon startup and shed them to aid in recovery when overloaded.
Generac LTE Propane Tank Fuel Level Monitor	G0070090	The Propane Tank Fuel Level Monitor connects to 4G LTE cellular service to measure and report the amount of LP fuel remaining in the tank. The app alerts the user of both remaining LP fuel and usage reports.
Power Zone Kits		
NFPA 110 Controller Kit	G0099120	Includes controller module with Key Switch, Alarm Horn, and Emergency Stop Switch that connects to the Power Zone 410 controller. The module mounts below the controller and is visible through the control panel cover. The G0098511, G0098521, or G0098531 panel and a capable transfer switch are required to be considered for NFPA 110 system control and remote annunciation.
Remote Annunciator Panel with 8 Relays	G0098511	Remote annunciator panel with relays. The panel mounts in the structure that is connected to the backup generator.
Remote Relay Panel	G0098521	Remote relay panel without LEDs or keypad. The panel mounts in the structure that is connected to the backup generator.
Remote Annunciator Panel without Relays	G0098531	Remote annunciator panel without relays. The panel mounts in the structure that is connected to the backup generator.
Power Zone 410 I/O Extender Kit	G0089370	The kit expands I/O for the Power Zone 410 controller to provide connections for additional accessories. It connects to the controller with a 3-wire RS-485 interface.
Power Zone Gateway Kit	G0089360	The Gateway provides an Ethernet connection port for the generator for a Building Management System (BMS). The Gateway is NOT intended for or able to be used with Mobile Link or Fleet.
Operating Environment Kits		
Battery Heater Kit	G0079920	Recommended for operating environments where the temperature drops below 32 °F (0 °C). The heater is externally powered by 120 VAC, 60 Hz.
Engine Block Heater Kit	G0099230	Recommended for operating environments where the temperature drops below 0 °F (-18 °C). The heater is externally powered by 120 VAC, 60 Hz.

PRODUCT	PART NUMBER	DESCRIPTION
Installation Kits		
Baseframe Blockoff Kit	G0099150	Aluminum panel and hardware to close off the bottom of the generator. It ensures proper airflow is maintained through the generator for cooling while keeping animals and objects out. It is required anytime the generator is elevated. Fits XG03245, XG04045, and XG04845.
Engine Fluid Containment Kit	G0099160	Containment pan to capture all engine oil and coolant. Kit includes a sensor to detect the presence of fluid in the pan then displays a warning on the controller screen. The G0089370 Power Zone 410 I/O Extender Kit is required for the sensor installation.
Base Plug Kit	G0056510	Base plugs to fit in the lifting holes of the baseframe to keep debris out.
Maintenance Kits		
4.5 L Gaseous Engine Regular Maintenance Kit	G0079910	Regular maintenance kit includes oil filter, oil funnel, air filter, and spark plugs.
Metro Gray Paint Kit	G0099180	It is important to touch-up the paint to protect against corrosion if the generator enclosure is scratched or damaged. The paint kit includes the necessary paint to correctly maintain or touch-up a generator enclosure.

48 KW

Drawing # A0005421459 Rev E (1 of 2)
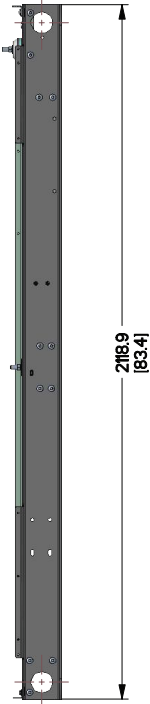
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INSTALLATION DRAWING

Drawing # A0005421459 Rev E (2 of 2)

NOTE:
STUB-UP AREA FOR HIGH AND LOW
VOLTAGE CONNECTIONS, CIRCUIT BREAKER,
NEUTRAL AND CUSTOMER CONNECTION OPENING.

MOUNTING SLOT CENTERS

804.1 [31.7]

752 [29.6]

STUB-UP AREA

157.5 [6.2]

51.1 [2.0]

16.94 [.7]

162 [6.4]
STUB-UP AREA

304.6 [12.0]

46.6 [1.8]

MOUNTING SLOT CENTERS

TOP VIEW

1918.9 [75.5]

1814.3 [71.4]

100 [3.9]

820.2 [32.3]
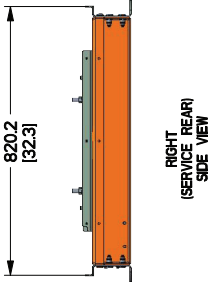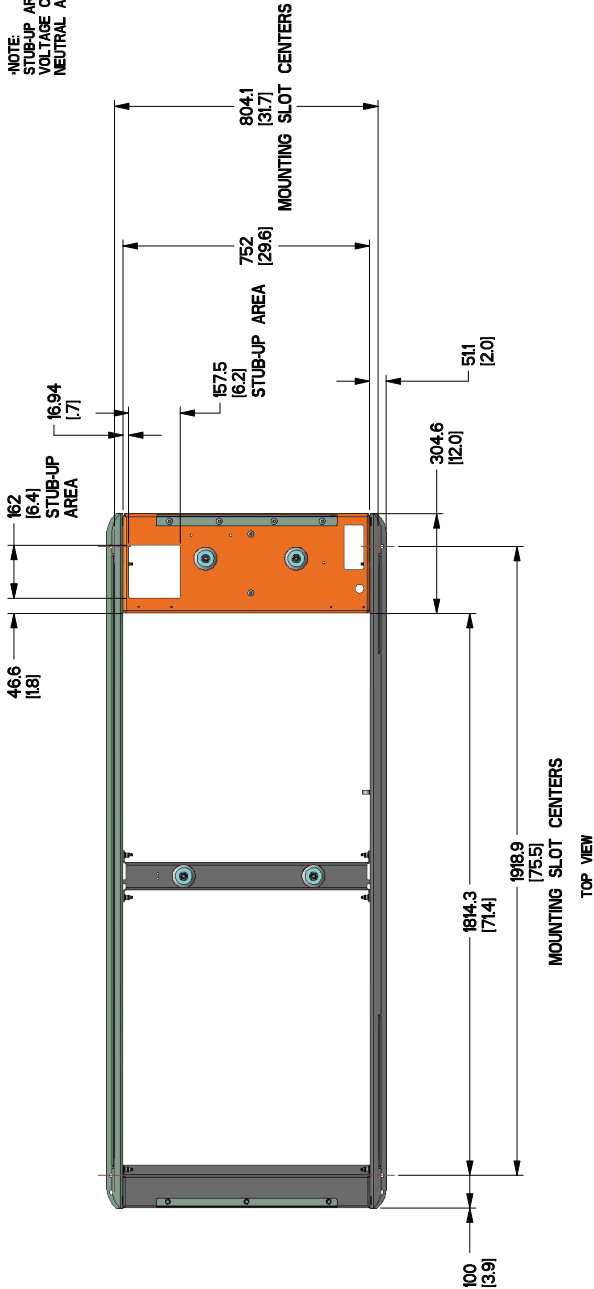
RIGHT
(SERVICE REAR)
SIDE VIEW

DIMENSIONS: MM [INCH]

2118.9 [83.4]

FRONT
(SERVICE LEFT)
SIDE VIEW

GENERAC®

SMART THERMOSTAT ENHANCED

Bundle Models: XG04845ANAX
                    XG04845ANAC

DESCRIPTION

The new ecobee by Generac Smart Thermostat utilizes Generac's Home Energy Management to combine ecobee's smart home tech with Generac's Standby Generators and PWRcell 2 Solar Battery storage systems. It is designed to improve resiliency and maximize comfort during a power outage event, all while producing everyday energy savings. ecobee by Generac is built on the proven Enhanced platform of ecobee's Smart Thermostat offering.

STANDARD FEATURES

This new Smart Thermostat is compatible with most HVAC systems, including conventional, heat pumps, radiant, multistage, and dual-fuel systems. It provides the ability to support HVAC accessories such as, but not limited to, humidifiers and dehumidifiers. The Smart Thermostat offers smart home integrations and comes with a downloadable, free mobile application for remote monitoring, visibility, and control.

This new Smart Thermostat provides integration with Generac Standby Generators and PWRcell 2 systems. With a built-in HVAC Energy Manager, it is capable of preventing an overload of the home backup system during outages. Leveraging Mobile Link, a user may view the generator status on the thermostat and stay informed about the liquid propane fuel level. PWRcell 2 users can monitor batteries' status and leverage such to make informed decisions about their home's preferred temperature settings, maximizing comfort with consideration to remaining capacity. The new ecobee by Generac is covered with a five year limited warranty when installed by a Generac Authorized Installer.
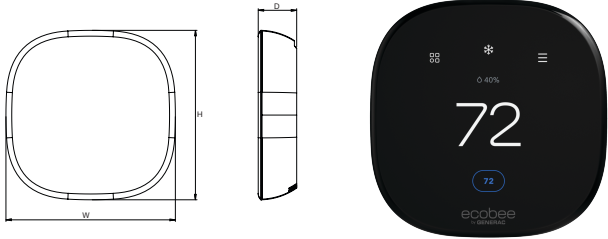
SMART THERMOSTAT SPECIFICATIONS

Power Supply Source	24 VAC (from HVAC equipment transformer via line input)
Compliance	Energy Star, FCC Part 15 Class B, UL 916
Display	4 inch full-color touch screen LCD (540 x 540 pixel)
Sensors	Built-in Occupancy Sensor
System Compatibility	Conventional (2H/2C), Heat Pump (3H/2C) 2 stage heat + 2 stage cool + 1 stage AUX, Boilers, 3 speed PTAC's or fan coil units
HVAC Accessory Support	One-wire HVAC Control NOTE: Self-powered accessories will require an additional 24V isolation relay.
Wire Terminals	C, R, G, Y1, Y2, W1, W2/OB, PEK+
Generac Home Energy Management System Integrations	HVAC Energy Manager, Generator Status, LP Tank Monitoring, PWRcell 2 Dashboard
User Configurable Temperature Range	40°F to 100°F (5°C to 37°C)
Operating Temperature Rating	14°F to 122°F (-10°C to 50°C)
Remote User Applications	ecobee and Mobile Link
Smart Home Integrations	Works with Apple HomeKit®, Hey Google™, Alexa™, SmartThings™, Alarm.com™
Mounting	Included backplate, screws, drywall plugs and optional trim adaptor plate.
Warranty	5 year limited*

* When installed by a Generac Authorized Installer

DIMENSIONS

Model	G0073640
Height (in / mm)	4.09 / 103.89
Width (in / mm)	4.09 / 103.89
Depth (in / mm)	0.94 / 23.88
Weight (lb / kg)	1.1 / 0.49