



The Kohler® Advantage

- **High Quality Power**
Kohler home generators provide advanced voltage and frequency regulation along with ultra-low levels of harmonic distortion for excellent generator power quality to protect your valuable electronics.
- **Extraordinary Reliability**
Kohler is known for extraordinary reliability and performance and backs that up with a premium 5-year or 2000 hour limited warranty.
- **Powerful Performance**
Exclusive Powerboost™ technology provides excellent starting power. §
- **Aluminum Enclosure**
 - Attractive aluminum enclosure allows installation as close as 18 inches from your home or small business. †
 - Enclosure panels can be removed without tools to allow easy access for maintenance and service.

Standard Features

- **RDC2 Controller**
 - One digital controller manages both the generator set and transfer switch functions (with optional Model RXT).
 - Electronic speed control responds quickly to varying demand.
 - OnCue® Plus Generator Management System for remote monitoring is included with the generator.
- **Kohler Command PRO Engine Features**
 - Kohler Command PRO® OHV engine with hydraulic valve lifters for reliable performance without routine valve adjustment or lengthy break-in requirements.
- **Designed for Easy Installation**
 - Sturdy aluminum base can be mounted on gravel or a concrete mounting pad.
 - Fuel and electrical connections through the enclosure wall eliminate the need for stub-ups through the base.
 - Customer connection terminal block located near the controller allows easy access for field wiring.
 - Designed for outdoor installation only.
- **Certifications**
 - Meets emission regulations for U.S. Environmental Protection Agency (EPA) with both natural gas and LPG.
 - UL 2200/cUL listed (60 Hz model).
 - CSA certification available (60 Hz model).
 - Accepted by the Massachusetts Board of Registration of Plumbers and Gas Fitters.
 - Meets 181 mph wind rating.
- **Approved for stationary standby applications in locations served by a reliable utility source.**
- **20RCAL models packaged with a Model RXT automatic transfer switch are available. See page 4 and the Model RXT ATS specification sheet.**
- **Warranty**
 - 5-year/2000 hour limited warranty for on-grid (standby) applications in locations served by a reliable utility source.

Generator Ratings

Alternator	Voltage	Phase	Hz	Standby Ratings				Line Circuit Breaker	
				Natural Gas		LPG		Amps	Poles
				kW/kVA	Amps	kW/kVA	Amps		
2F7	120/240	1	60	18/18	75	20/20	83	100	2
	120/208	3	60	17/21	58	17/21	58	70	3
2G7	120/240	3	60	17/21	51	17/21	51	60	3
	277/480	3	60	17/21	26	17/21	26	30	3

Note: The line circuit breaker is automatically selected based on the generator set model and voltage configuration.

RATINGS: Standby ratings apply to installations served by a reliable utility source. All single-phase units are rated at 1.0 power factor. The standby rating is applicable to variable loads with an average load factor of 80% for the duration of the power outage. No overload capacity is specified at this rating. Ratings are in accordance with ISO-3046/1, BS5514, AS2789, and DIN 6271. GENERAL GUIDELINES FOR DERATING: **ALTITUDE:** Derate 4% per 305 m (1000 ft.) elevation above 153 m (500 ft.). **TEMPERATURE:** Derate 2% per 5.5°C (10°F) temperature increase above 16°C (60°F). Availability is subject to change without notice. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler Co. generator distributor for availability.

§ Check the appliance manufacturer's specifications for actual power requirements. Consult a Kohler® Power Systems professional to calculate your exact residential power system requirements.

† Meets NFPA guidelines for 18 inch clearance to combustible materials. Check state and local codes for minimum distance required from a structure.

Alternator Specifications

Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	2-Pole, Rotating Field
Leads, quantity	
2F7	4
2G7	12
Voltage regulator	Digital
Insulation:	NEMA MG1-1.66
Material	Class H
Temperature rise	130°C Standby
Bearing: quantity, type	1, Sealed
Coupling	Direct
Amortisseur windings	Full
Voltage regulation, no-load to full-load RMS	±1.0%
One-step load acceptance	100% of Rating
Peak motor starting kVA: (35% dip for voltages below)	
240 V, 1 ph	2F7 (4 lead) 41 (60 Hz)
240 or 480 V, 3 ph	2G7 (12 lead) 69 (60 Hz)

Alternator Features

- Compliance with NEMA, IEEE, and ANSI standards for temperature rise.
- Self-ventilated and drip-proof construction.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Superior voltage waveform and minimum harmonic distortion from skewed alternator construction.
- Digital voltage regulator with ±1.0% no-load to full-load RMS regulation.
- Rotating-field alternator with static exciter for excellent load response.
- Total harmonic distortion (THD) from no load to full load with a linear load is less than 5%.

Application Data

Engine

Engine Specifications	
Manufacturer	Kohler
Engine: model, type	CH1000 4-Cycle
Cylinder arrangement	V-2
Displacement, cm ³ (cu. in.)	999 (61)
Bore and stroke, mm (in.)	90 x 78.5 (3.54 x 3.1)
Compression ratio	8.8:1
Main bearings: quantity, type	2, Heavy-Duty Sleeve Bearings
Rated RPM	
60 Hz	3600
Max. engine power at rated rpm, kW (HP)	
LPG, 60 Hz	23.0 (30.9)
Natural gas, 60 Hz	20.2 (27.1)
Cylinder head material	Aluminum
Valve material	Steel/Stellite®
Piston type and material	Aluminum Alloy
Crankshaft material	Heat Treated, Ductile Iron
Governor: type	Electronic
Frequency regulation, no load to full load	Isochronous
Frequency regulation, steady state	±0.5%
Air cleaner type	Dry

Exhaust

Exhaust System	
Exhaust temperature exiting the enclosure at rated kW, dry, °C (°F)	260 (500)

Lubrication

Lubricating System	
Type	Full Pressure
Oil capacity (with filter), L (qt.) §	1.9 (2.0)
Oil filter: quantity, type §	1, Cartridge
Oil cooler	Integral
§ Kohler recommends the use of Kohler Genuine oil and filters.	

Fuel Pipe Size

Pipe Length, m (ft.)	Minimum Gas Pipe Size Recommendation, in. NPT	
	Natural Gas 281,000 Btu/hr.	LPG 340,000 Btu/hr.
8 (25)	1	3/4
15 (50)	1	1
30 (100)	1 1/4	1
46 (150)	1 1/4	1 1/4
61 (200)	1 1/4	1 1/4

Engine Electrical

Engine Electrical System	
Ignition system	Electronic, Capacitive Discharge
Starter motor rated voltage (DC)	12
Battery (purchased separately):	
Ground	Negative
Volts (DC)	12
Battery quantity	1
Recommended cold cranking amps: (CCA) rating for -18°C (0°F)	500
Group size	51

Fuel Requirements

Fuel System	
Fuel types	Natural Gas or LPG
Fuel supply inlet	1/2 NPT
Fuel supply pressure, kPa (in. H ₂ O):	
Natural gas	0.9- 2.7 (3.5-11)
LP	1.7- 2.7 (7-11)

Fuel Composition Limits *	Nat. Gas	LPG
Methane, % by volume (minimum)	90 min.	—
Ethane, % by volume (maximum)	4.0 max.	—
Propane, % by volume	1.0 max.	85 min.
Propene, % by volume (maximum)	0.1 max.	5.0 max.
C ₄ and higher, % by volume	0.3 max.	2.5 max.
Sulfur, ppm mass (maximum)	25 max.	
Lower heating value, MJ/m ³ (Btu/ft ³), (minimum)	33.2 (890)	84.2 (2260)

* Contact your local distributor for suitability and rating derates based on fuel compositions outside these limits.

Operation Requirements

Fuel Consumption, m ³ /hr. (cfh) @ 60Hz			
% Load	Natural Gas		LPG
100	8.0	(281)	3.9 (136)
75	6.9	(243)	3.1 (109)
50	4.6	(161)	2.3 (82)
25	3.6	(127)	1.7 (59)
Exercise	2.0	(71)	1.0 (35)

Nominal fuel rating: Natural gas: 37 MJ/m³ (1000 Btu/ft.³)
LPG: 93 MJ/m³ (2500 Btu/ft.³)

LPG conversion factors: 8.58 ft.³ = 1 lb.
0.535 m³ = 1 kg
36.39 ft.³ = 1 gal.

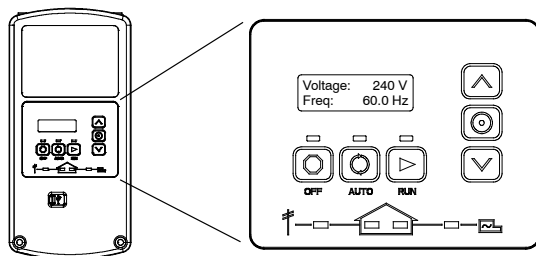
Generator Set Sound Data

Model 20RCA 8 point logarithmic average sound levels are 66 dB(A) during weekly engine exercise and 70 dB(A) during full-speed generator diagnostics and normal operation.*

All sound levels are measured at 7 meters with no load.

* Lowest of 8 points measured around the generator. Sound levels at other points around generator may vary depending on installation parameters.

RDC2 Controller



The RDC2 controller provides integrated control for the generator set, Kohler® Model RXT transfer switch, programmable interface module (PIM), and load shed kit.

RDC2 Controller Features

- Membrane keypad:
 - OFF, AUTO, and RUN pushbuttons
 - Select and arrow buttons for access to system configuration and adjustment menus
- LED indicators for OFF, AUTO, and RUN modes

RDC2 Controller Features, Continued

- LED indicators for utility power and generator set source availability and ATS position (Model RXT transfer switch required)
- LCD display:
 - Two lines x 16 characters per line
 - Backlit display with adjustable contrast for excellent visibility in all lighting conditions
- Scrolling system status display:
 - Generator set status
 - Voltage and frequency
 - Engine temperature
 - Oil pressure
 - Battery voltage
 - Engine runtime hours
- Date and time displays
- Smart engine cooldown senses engine temperature
- Digital isochronous governor maintains steady-state speed at all loads
- Digital voltage regulation: ± 1.0% RMS no-load to full-load
- Automatic start with programmed cranking cycle
- Programmable exerciser can be set to start automatically on any future day and time, and run every week or every two weeks
- Exercise modes:
 - Unloaded weekly exercise with complete system diagnostics
 - Unloaded full-speed exercise
 - Loaded full-speed exercise (Model RXT ATS required)
- Front-access mini USB connector for SiteTech™ or USB Utility connection
- Integral Ethernet connector for Kohler® OnCue® Plus
- Built-in 2.5 amp battery charger
- Remote two-wire start/stop capability for optional connection of a Model RDT transfer switch
- Diagnostic messages: Displays diagnostic messages for the engine, generator, Model RXT transfer switch, programmable interface module (PIM), and load management device.
- Maintenance reminders
- System settings:
 - System voltage, frequency, and phase
 - Voltage adjustment
 - Measurement system, English or metric
- ATS status (Model RXT ATS required):
 - Source availability
 - ATS position (normal/utility or emergency/generator)
 - Source voltage and frequency
- ATS control (Model RXT ATS required):
 - Source voltage and frequency settings
 - Engine start time delay
 - Transfer time delays
 - Voltage calibration
 - Fixed pickup and dropout settings
- Programmable Interface Module (PIM) status displays:
 - Input status (active/inactive)
 - Output status (active/inactive)
- Load control menus:
 - Load status
 - Test function

Generator Set Standard Features

- Battery cables
- EPA certified fuel system
- Aluminum sound enclosure
- Critical silencer
- Field-connection terminal block
- Fuel solenoid valve and secondary regulator
- Line circuit breaker
- Multi-fuel system, LPG/natural gas, field-convertible
- Oil drain extension with shutoff valve
- OnCue® Plus Generator Management System
- Premium 5-year limited warranty
- RDC2 generator set/ATS controller
- Rodent-resistant construction
- Sound-deadening, flame-retardant foam per UL 94, class HF-1

Available Options

Approvals and Listings

- CSA approval

Concrete Mounting Pads

- Concrete mounting pad, 3 in. thick
- Concrete mounting pad, 4 in. thick (recommended for storm-prone areas)

Electrical Accessories

- Battery
- Battery heater, 120VAC
- Battery heater, 240VAC
- Cold weather package, 120VAC
- Cold weather package, 240VAC
- Emergency stop kit
- PowerSync® Automatic Paralleling Module (APM) (single phase only; parallel two 20kW residential generator sets with the RDC2 controller)
- Programmable interface module (PIM) (provides 2 digital inputs and 6 relay outputs)

Fuel System Accessories

- Flexible fuel line (included on QS models)
 - Carburetor heater, 120 VAC
 - Carburetor heater, 240 VAC
- Carburetor heater is recommended for reliable starting at temperatures below 0°C (32°F)

Literature

- General maintenance literature kit
- Overhaul literature kit
- Production literature kit

Maintenance

- Maintenance kit (includes air filter, oil, oil filter, and spark plugs)

Automatic Transfer Switches and Accessories

- Model RDT ATS
- Model RXT ATS
- Model RXT ATS with combined interface/load management board
- Load shed kit for RXT or RDT
- Power relay modules (use up to 4 relay modules for each load management device)
- Other Kohler® ATS

20RCAL Model Packages

- 20RCAL with 100 amp RXT with 16-space load center and NEMA 1 steel enclosure for indoor installation
- 20RCAL with 200 amp service entrance-rated Model RXT with combined interface/load management board and corrosion-resistant NEMA 3R aluminum enclosure

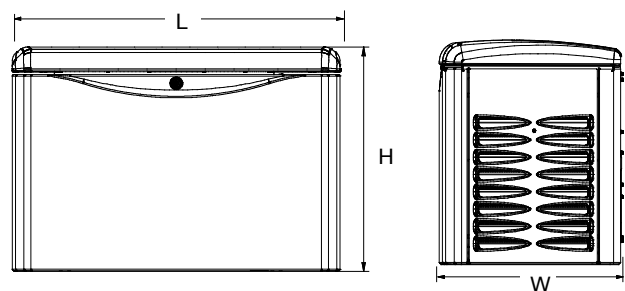
Warranty

- 5- Year Comprehensive Limited Warranty
- 10- Year Comprehensive Limited Warranty

Generator Set Dimensions and Weights

Generator Set Size, L x W x H: 1193 x 666 x 817 mm (47 x 26.2 x 32.2 in.)

Shipping Weights:
 20RCA Generator Set: 252 kg (555 lb.)
 20RCAL with 100 A RXT ATS w/LC: 277 kg (611 lbs.)
 20RCAL with 200 A RXT SE ATS: 272 kg (600 lb.)



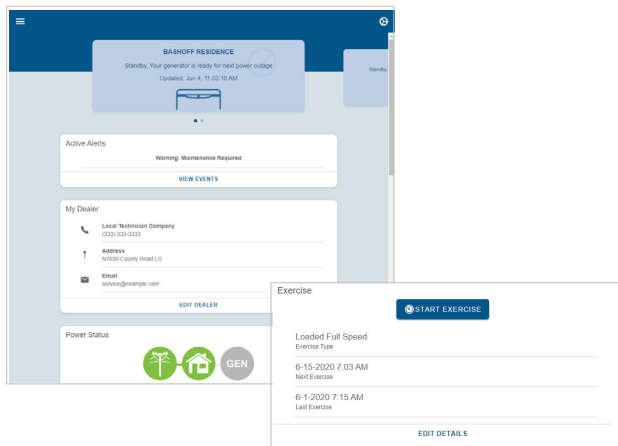
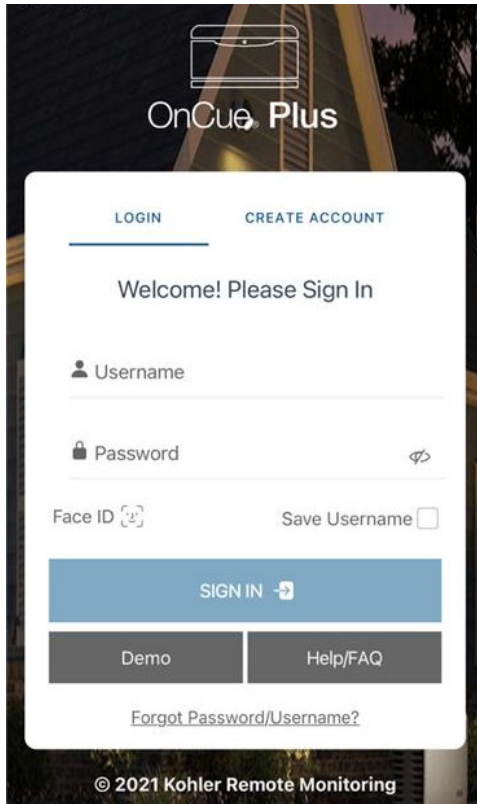
NOTE: Dimensions are provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

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Residential/Light Commercial Generator Accessories



Kohler® OnCue® Plus Generator Management System



OnCue® Plus is a remote monitoring application that is included with Residential and Light Commercial generators equipped with the controllers listed below. It allows you to access your generator from a computer or smart device anytime, anywhere. You can easily monitor and control your generator set using this application.

Applicable Models

OnCue Plus can be used with Kohler Residential and Light Commercial generator sets equipped with the following controllers:

- RDC2 or DC2 Controller
- RDC or DC Controller
- VSC Controller (6VSG variable-speed DC generator set)

The optional OnCue Plus wireless kit is available for generator sets equipped with the following controllers:

- RDC2 or DC2 Controller
- VSC Controller (6VSG variable-speed DC generator set)

OnCue Plus Features

- Simple activation, required just once for each generator.
- Monitor your complete Kohler power system, including the generator, RXT automatic transfer switch, Load Control Module (LCM)*, and Programmable Interface Module (PIM)†.
- Control home automation when the generator set is paired with a Programmable Interface Module (PIM)†. Remote control features:
 - Remotely turn appliances, outdoor lighting, storm shutters, or other electrical equipment on or off.
 - The generator does not need to be running in order to use OnCue Plus for remote control of circuits connected to the PIM.
- Monitor total generator power and percent of generator's rated power on models equipped with a model RXT transfer switch and load shed accessory. *
- Monitor multiple generator sets on one account.
- View time- and date-stamped event history listing generator set starting and stopping, faults, and notifications. (RDC2)
- Receive generator alerts by email, text message, or push notifications on your mobile device or PC. Customize messages by selecting the events that will prompt a notification to be sent to each recipient.
- Start and stop generator exercises from your computer or mobile device, or using the OnCue Plus action/skill on Google Assistant or Amazon Alexa.
- Controller password and generator set serial number protect against access by unauthorized users.

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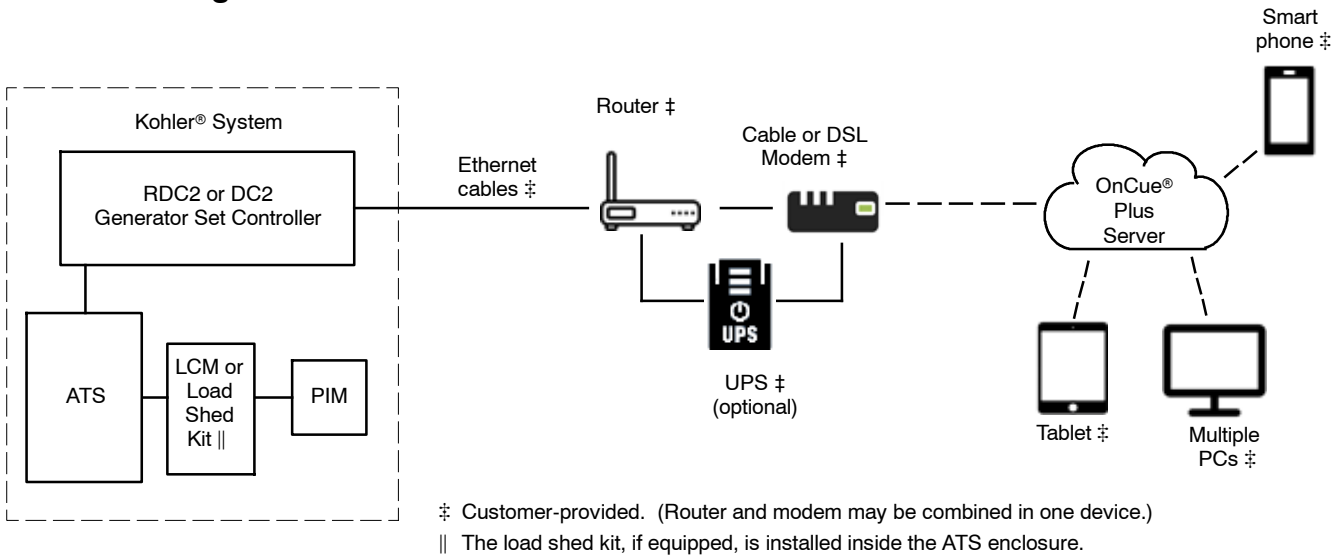
* Model RXT automatic transfer switch and LCM can be used with generator sets equipped with the RDC2 or DC2 controller.

† PIM can be used with generator sets equipped with the RDC2, DC2, or VSC controller.

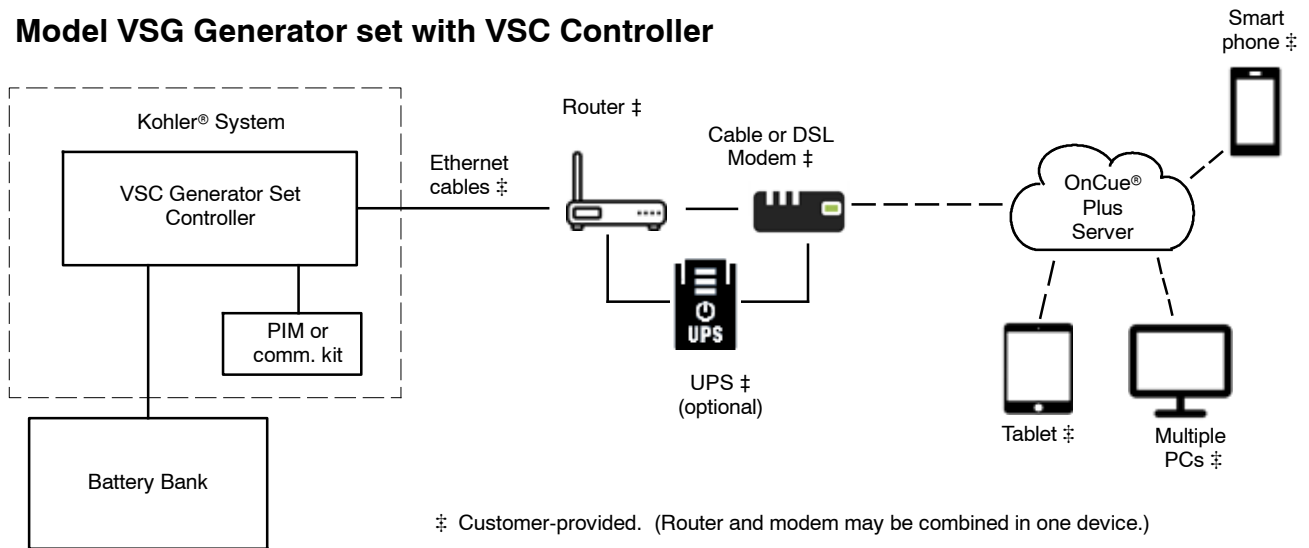
Note: Views shown in this document are samples. Actual views may vary based on customer application and OnCue Plus program updates.

Typical Connections (using cables)

Residential/Light Commercial Generator Set with RDC2 or DC2 Controller

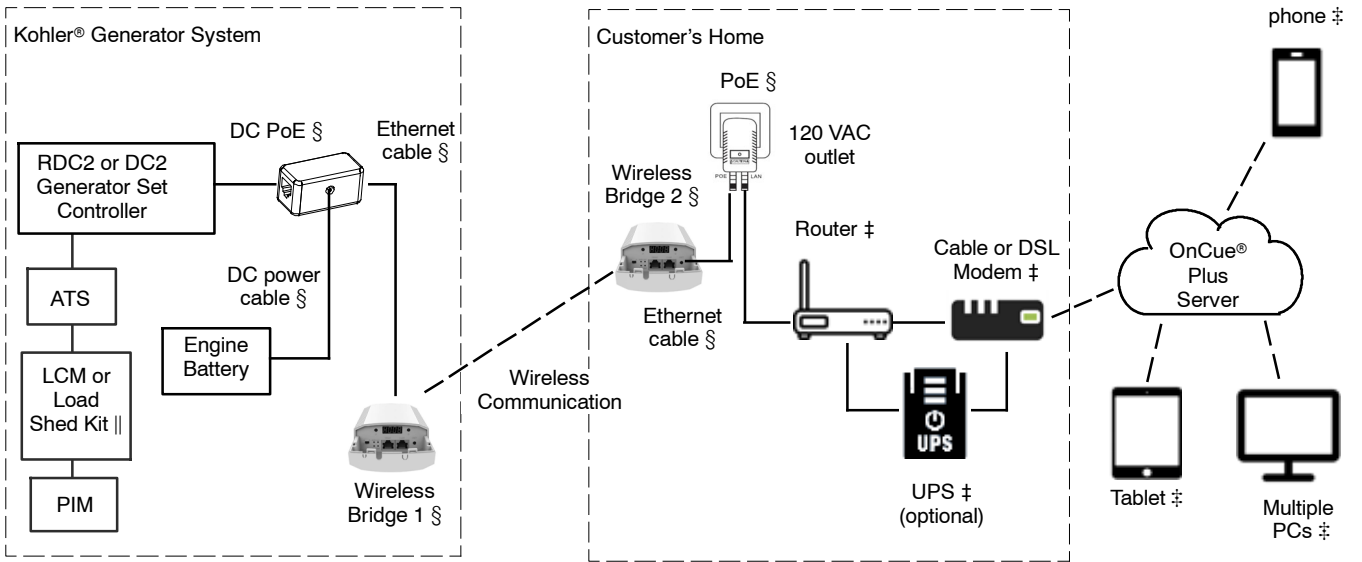


Model VSG Generator set with VSC Controller



Typical Connections (using wireless kit)

Residential/Light Commercial Generator Set with RDC2 or DC2 Controller

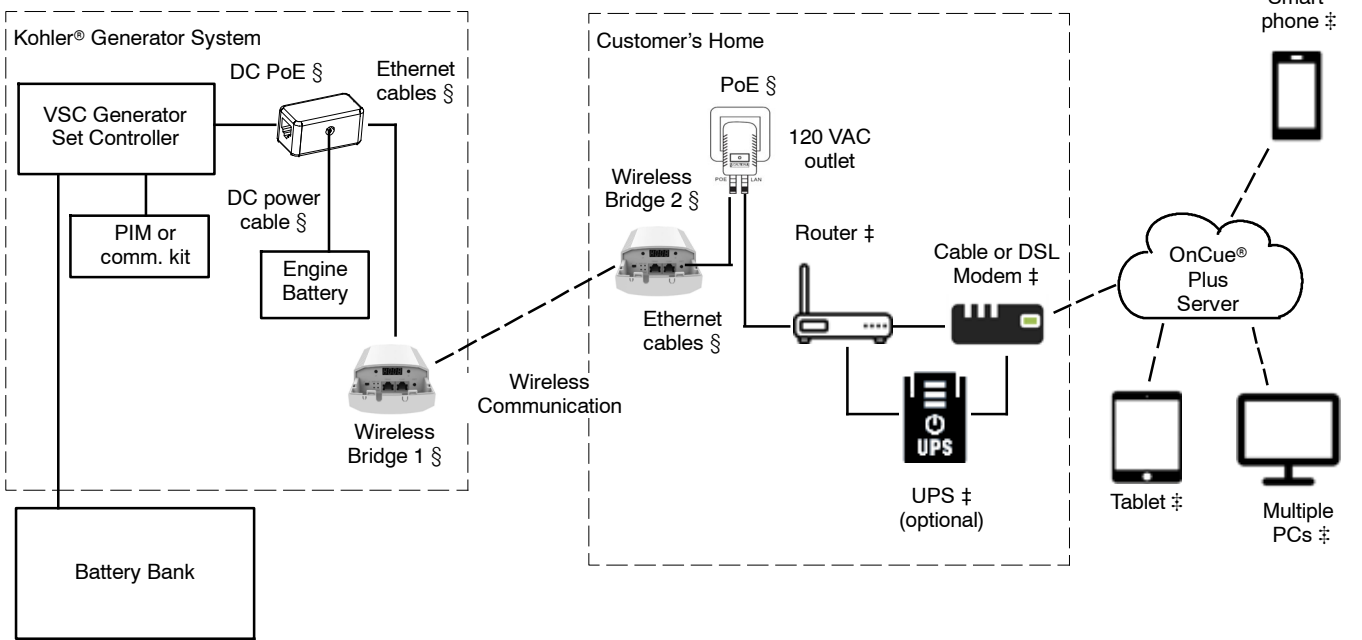


‡ Customer-provided. (Router and modem may be combined in one device.)

§ Provided in the Kohler wireless kit. (Two Ethernet cables for connecting the bridge to the Power over Ethernet [PoE] ports are provided.)

|| The load shed kit, if equipped, is installed inside the ATS enclosure.

Model VSG Generator Set with VSC Controller



‡ Customer-provided. (Router and modem may be combined in one device.)

§ Provided in the Kohler wireless kit. (Two Ethernet cables for connecting the bridge to the Power over Ethernet [PoE] ports are provided.)

System Requirements

- Personal computer (PC) requires one of these Internet browsers:
 - Google Chrome
 - Apple Safari
 - Microsoft Edge 79+
 - Firefox
- Mobile devices require Android™ 5.0 or higher or iOS 11.0 or higher
- Always-on Internet access for the generator (for example, cable, DSL, or phone line modem connected 24 hours a day)
- Amazon Alexa or Google Assistant application on smart devices to access voice control (optional)
- OnCue Plus wireless kit (optional)
- Uninterruptible power supply (UPS) for modem and router (optional)
- See the connection diagrams for customer-provided cables and equipment

Wireless Bridge Specifications

- Environmental specifications:
 - Operating temperature: -30 to 55°C (-22 to 131°F)
 - Storage temperature: -40 to 70°C (-40 to 158°F)
 - Humidity: 5% to 95% (typical)
 - Waterproof level IP65
- Dimensions. L x W x H: 168 x 88 x 48 mm (6.6 x 3.5 x 1.9 in.)
- RF Frequency: 5.150-5.850 GHz
- Regulatory Compliance:
 - CE-LVD
 - EN 60950-1:2006 + A1: 2009 + A1: 2010 + A12: 2011 + A2: 2013
 - IEC 60950-1: 2005 + A1: 2009 + A2: 2013
- Protocol/Standard
 - IEEE 802.3 (Ethernet)
 - IEEE 802.3u (Fast Ethernet)
 - IEEE 802.11b/g/n/ac
- Power Specification:
 - DC PoE: 24 VDC @ 0.5A
- Wireless Bridge Operating Specifications:
 - Voltage 100-240 VAC
 - Frequency 50-60 Hz
 - Input current 300 mA max. @ 90 VAC min.
- LEDs for power and network connection status

View System Operation Data

Generator Set

- Home is powered by the generator or utility power
- Generator set status: running, standby, shutdown, or off
- Active fault indication
- Generator voltage
- Engine starting battery voltage, VDC
- Frequency, Hz
- Generator event history
- Event details, including description, time, and date
- Exercise type
- Next scheduled exercise date and time (estimated based on last exercise date and time)
- Over 20 different parameters
- Generator power, in kW (LCM required*)
- Engine hours
- Last exercise date and time
- Exercise interval, duration and mode

Load Management *

- Loads are added or shed automatically based on generator load
- View connected loads
- On/Off indicators for each circuit indicate status (powered or shed)
- Change load labels to identify the connected circuits

Programmable Interface Module (PIM) †

- View relay status
- On/Off indicators show connected circuits
- Change input and output labels to identify connected circuits

6VSG Communications Kit

- View input and output status
- On/Off indicators show connected circuits

* Model RXT automatic transfer switch and Load Control Module (LCM), load shed kit, or combined interface/load management board can be used with generator sets equipped with the RDC2 or DC2 controller.

† PIM can be used with generator sets equipped with the RDC2, DC2, or VSC controller.

Voice Activation

- Use Google Assistant or Amazon Alexa to control your generator by using your voice.
- Easy setup:
 - Confirm the setup of your OnCue Plus account.
 - Search for OnCue Plus action/skill on the Google Assistant or Amazon Alexa app and follow the simple step-by-step guide to link the accounts.
 - Start talking to your Kohler generator(s) by saying, “Hey Google, ask OnCue Plus,” or “Alexa, ask OnCue Plus.”
- Sample voice commands:
 - What is the status of my generator?
 - Does my generator have any active alerts?
 - What's the battery voltage?
 - What's the oil temperature?
 - What's the engine temperature?
 - When was my last exercise?
 - Start an exercise.
 - Stop an exercise.
 - Change my exercise details.

Notifications

Email, text messages, and push notifications are sent for the following events. Notifications for selected events can be turned off or on for different recipients. Push notifications can be turned on or off using a smart phone or tablet, and then viewed on a smart phone, tablet, or personal computer.

- Exercise Start
- Exercise Ended
- Generator Running
- Generator Stopped
- Generator Not in Auto/ In Auto
- Utility Loss/ Restored
- Communication Loss/ Restored
- Warnings Active/Cleared (includes maintenance reminders)
- Shutdowns Active/Reset

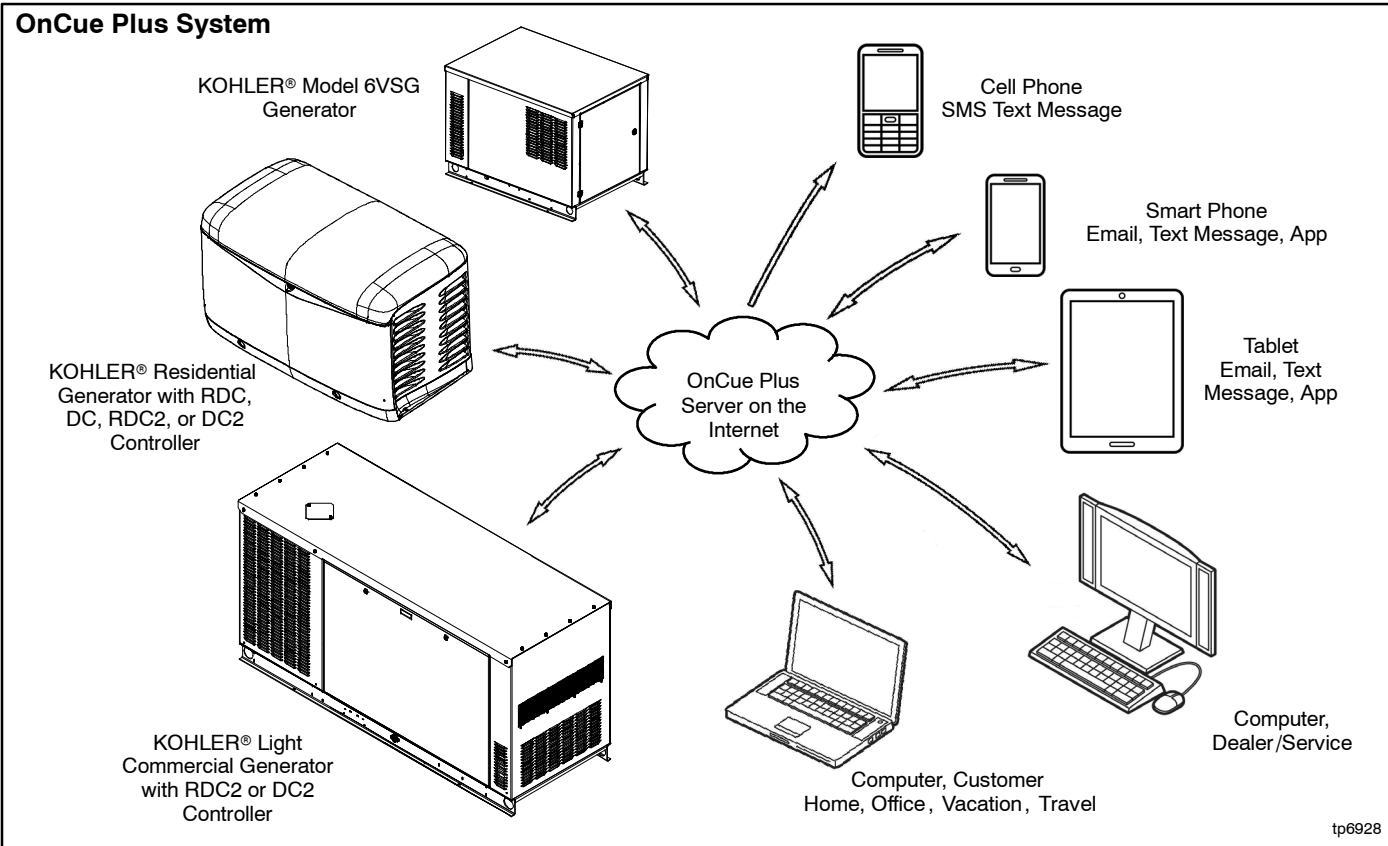
Remote Control/Home Automation

Generator Set

- Start/stop exercises remotely
- Manage exercise interval, duration and mode

Programmable Interface Module (PIM)‡

- Allows remote control of appliances and other electrical devices in your home
- Use your PC or mobile device to turn your lights or appliances on and off from any location with Internet access
- The generator does not need to be running in order to use OnCue Plus for remote control of circuits connected to the PIM.



OnCue® Plus System Kit

Included with every Residential and Light Commercial generator set that is equipped with the RDC2 or VSG controller.

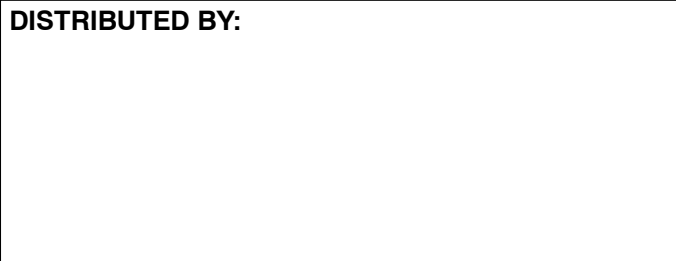
- Activation code decal
- Ethernet connector
- User manual
- Technical Manual

OnCue® Plus Wireless Kit

Optional kit provides wireless connectivity between the generator controller and the homeowner's router.

- Wireless bridges (quantity 2)
- AC power over Ethernet port
- DC power over Ethernet port
- DC power cable
- Ethernet cables (quantity 2 for power over Ethernet connection to wireless bridges)
- Installation instructions with connection diagrams

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ISO 9001
KOHLER
POWER SYSTEMS
NATIONALLY REGISTERED



MPAC® 500 Controller Features

- User-friendly interface with easy-to-read international symbols
- Source available and contactor position indicators
- LED indication of system faults
 - Failure to acquire standby source
 - Failure to transfer
 - Auxiliary switch fault
- Common fault contact: latches closed on system faults shown above
- Engine start contact: provides contact closure to start the generator set
- Load control contact: allows 5-minute delay in startup of selected loads
- Test button (with or without load)
- Exercise set button
 - Weekly 20-minute generator set exercise
 - With or without load
- Single-phase voltage sensing on both sources, $\pm 5\%$
- Line-to-line frequency sensing, $\pm 2\%$
- Fixed time delays

Standard Features

- UL listed
 - UL 1008 listed, file # E58962
 - Models with load centers use UL 67 listed components
- cUL listed
 - 100 and 200 amp models with load centers
- CSA certification available, file # LR58301 (not applicable to service entrance or load center models)
- 220/240 VAC, 50/60 Hz (selectable)
- 100, 200, and 400 amp models available
- Two-pole, single-phase open-transition transfer switch
- Contactor electrically and mechanically interlocked
- Double throw inherently interlocked design
- Solid neutral
- Contactor manually operable for maintenance purposes
- Silver alloy main contacts
- All models are 100% equipment rated and can be applied at the rated current without derating
- 100 and 200 amp models available with or without prewired Square D type QO load center
 - 100 amp load center models use up to 16 circuit breakers (up to 8 tandem breakers can be used for a maximum of 24 circuits)
 - 200 amp load center models use up to 24 circuit breakers
 - 200 amp service entrance model with 42-circuit breaker load center is available
- Two enclosures available
 - NEMA Type 1 steel ANSI 49 gray enclosure for indoor installation. 100 amp and 200 amp models without load centers can be recess-mounted between wall studs (not service entrance model)
 - NEMA Type 3R corrosion-resistant aluminum ANSI 49 gray padlockable enclosure. Approved for indoor or outdoor installation
- Five-year limited warranty
- See page 5 for available accessories

Service Entrance Model Features

- 200 and 400 amp service entrance rated automatic transfer switches available
- Service disconnect circuit breaker on the normal (utility) source (80% rated)
- NEMA 3R aluminum ANSI 49 gray enclosure
- Circuit breaker for generator set battery charger
- See page 5 for available SE model accessories

Environmental Specifications	
Operating temperature:	- 20°C to 70°C (- 4°F to 158°F)
Storage temperature:	- 40°C to 85°C (- 40°F to 185°F)
Humidity:	5 to 95% noncondensing

Contact Ratings	
Engine start	0.5 A @ 125 VAC; 2 A @ 30 VDC SPST normally closed (NC)
Common fault	0.5 A @ 125 VAC; 2 A @ 30 VDC SPST normally open (NO)
Load control	10 A @ 120 VAC SPST normally open (NO)
Auxiliary contacts (optional)	15 A @ 277 VAC Form C

Source Sensing	
Undervoltage dropout	80%
Undervoltage pickup	85%
Underfrequency dropout	90%
Underfrequency pickup	96%

Time Delays			
Time Delay	Factory Setting	Adjustment with Accessory Board*	
		Range	Increment
Engine start	3 seconds	1 - 10 seconds	1 second
Transfer from Normal to Emergency	3 seconds	1 - 10 seconds	1 second
Retransfer from Emergency to Normal	6 minutes	3 - 30 minutes	3 minutes
Engine cooldown	5 minutes	1 - 10 minutes	1 minute
Exercise run time	20 minutes	5 - 50 minutes	5 minutes
Exercise interval	1 week	1 week/2 week (DIP switch)	
Load control connection delay	5 minutes	5 or 10 minutes (DIP switch)	
Failure to acquire Emergency source	78 seconds	NA	
Undervoltage dropout	0.5 second	NA	
Underfrequency dropout	3 seconds	NA	

* Optional accessory board required for time delay adjustments
NA = not adjustable

Cable Sizes					
AL/CU UL-Listed Solderless Screw-Type Terminals for External Power Connections					
Switch Size, Amps	Range of Wire Sizes, Cu/Al				
	Normal (per phase)	Emergency (per phase)	Load (per phase)	Neutral	Ground
100	(1) #14 - 1/0 AWG	(1) #14 - 1/0 AWG	(1) #14 - 1/0 AWG	(5) #12 - 250 MCM (Cu) or (5) #10 - 250 MCM (Al)	(9) #14 - #6 AWG (4) #14 - 1/0 AWG
100 B	(1) #14 - 1/0 AWG	(1) #14 - 1/0 AWG	per customer-supplied branch circuit breakers	(26) #14 - #4 AWG or (2) #14 - 1/0 AWG or (1) #6 - 2/0 AWG	
200	(1) #6 AWG - 250 MCM	(1) #6 AWG - 250 MCM	(1) #6 AWG - 250 MCM	(5) #12 - 250 MCM (Cu) or (5) #10 - 250 MCM (Al)	
200 B	(1) #6 AWG - 250 MCM	(1) #6 AWG - 250 MCM	per customer-supplied branch circuit breakers	(38) #14 - #4 AWG or (3) #14 - 1/0 AWG or (1) #4 AWG - 250 MCM	(9) #14 - #6 AWG (4) #14 - 1/0 AWG
200 BSE	(1) #4 - 300 MCM	(1) #6 - 250 MCM	per customer-supplied branch circuit breakers	(4) #12 - 250 MCM (Cu) or (4) #10 - 250 MCM (Al)	
200 SE	(1) #4 - 300 MCM	(1) #6 - 250 MCM	(1) #6 AWG - 250 MCM	(5) #12 - 250 MCM (Cu) or (5) #10 - 250 MCM (Al)	
400	(2) #6 - 250 MCM	(2) #6 - 250 MCM	(2) #6 - 250 MCM	(3) #4 - 600 MCM (6) 1/0 - 250 MCM	(6) #6 - 3/0 AWG
400 SE	(1) #1 - 600 MCM or (2) #1 - 250 MCM	(2) #6 - 250 MCM	(2) #6 - 250 MCM	(3) #4 - 600 MCM (6) 1/0 - 250 MCM	

B = Load center model
SE = Service entrance model

Note: Data is subject to change. Refer to the transfer switch dimension drawings and wiring diagrams for planning and installation.

Contactor Ratings with Coordinated Circuit Breakers

The transfer switches are UL listed at 240 VAC maximum. The following table lists contactor withstand current ratings (WCR) for 100- 400 ampere non-service entrance rated switches with specific manufacturer's circuit breakers per UL and Canadian safety standards. Suitable for control of motors, electric discharge lamps, tungsten filament lamps and electric heating equipment where the sum of motor full-load ampere ratings and the ampere ratings of other loads do not exceed the ampere rating of the switch and the tungsten load does not exceed 30 percent of switch rating.

WCR Ratings with Specific Manufacturer's Molded-Case Circuit Breakers					
Switch Rating, Amps	Voltage, max.	WCR, RMS Symmetrical Amps	Manufacturer	Type or Class	Maximum Size, Amps
100	240	10,000	Any Breaker *	Any Breaker (0.025 seconds max.)	—
200	240	10,000	Any Breaker *	Any Breaker (0.025 seconds max.)	—
400	240	35,000	ABB	T5, T6	600
			Eaton	CHKD, CKD, DK, HKD, KD, KDB, KDC, LA TRIPAC, LCL	400
				CHLD, CLD, CLDC, HLD, LD, LDB, LDC	600
				HMDL, MDL, NB TRI- PAC	800
			General Electric	FGH, FGL, FGN, FGP, SGHA	600
			Merlin Gerin	CJ400H, CJ400L, CJ400N	400
				CJ600H, CJ600N	600
			Siemens	CJD6, HHJD6, HHJXD6, HJD6, HJGA, HJXD6, JD6, JXD2, JXD6, SCJD6, SHJD6, SJD6, NJGA, LJGA	400
				CLD, HHL, HHLXD, HLD, HLGA, HLXD, LD, LLGA, LXD, NLGA, SCLD, SHLD, SLD	600
				CMD, HLMD, HLMXD, HMD, HMG, HMXD, LMD, LMG, LMXD, MD, MXD, NMG, SCMD, SHMD, SMD	800
			Square D	LA, LC, LE, LH, LI, LX, LXI	400
		DG, DJ, DL, LC, LE, LI, LX, LXI		600	
		50,000	Eaton	LD	600

* For higher WCR values, contact the factory for additional specific breaker ratings.

Service Entrance Transfer Switch Ratings

The service entrance transfer switch is factory-equipped with a normal source disconnect circuit breaker.

Switch Rating, Amps	WCR, RMS Symmetrical Amps at 240 VAC
200	22,000
400	35,000

Codes and Standards

The ATS meets or exceeds the requirements of the following specifications:

- Underwriters Laboratories UL 1008, Standard for Automatic Transfer Switches for Use in Emergency Systems, file #E58962
- Underwriters Laboratories UL 508, Standard for Industrial Control Equipment
- CSA certified, file #LR58301 (not applicable to service entrance models)
- NFPA 70, National Electrical Code
- NFPA 110, Emergency and Standby Power Systems
- IEEE Standard 446, IEEE Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
- NEMA Standard IC10- 1993 (formerly ICS2- 447), AC Automatic Transfer Switches
- ANSI C37.90.1 (IEEE472), 2000, EFT/Surge Relay Systems
- EN61000-4-5 Surge Immunity Class 4 (voltage sensing and programmable inputs only)
- EN61000-4-4 Fast Transient Immunity Severity Level 4
- IEC Specifications for EMI/EMC Immunity
 - CISPR 11, Radiated and Conducted Emissions, Class B
 - IEC 61000-4-2, 2001, Electrostatic Discharge
 - IEC 61000-4-3, 2002, Radiated Immunity
 - IEC 61000-4-4, 2001, Electrical Fast Transients (Bursts)
 - IEC 61000-4-5, 2001, Surge Voltage Immunity
 - IEC 61000-4-6, 2003, Conducted RF Immunity
 - IEC 61000-4-8, Magnetic Field Immunity
 - IEC 61000-4-11, Voltage Dips and Interruptions

Weights and Dimensions

Note: Always use the transfer switch dimension drawing for planning and installation. Weights and dimensions may vary for different configurations. See the Operation/Installation Manual or your local distributor for dimension drawings.

Transfer switch weights and dimensions shown in the table do not include packaging. To estimate the shipping weight, add 3 kg (5 lbs.) or 10% (whichever is larger) to the weight shown.

Amps	Load Center	Enclosure Type	Weight kg (lb.)	Transfer Switch Dimensions H x W x D, mm (in.)	Dimension Drawing	
100	None	NEMA 1 (steel)	7 (15)	610 x 330 x 154 *	(24.0 x 13.0 x 6.0) *	ADV-8437
100 B	16 circuits		18 (40)	914 x 406 x 154	(36.0 x 16.0 x 6.0)	ADV-9181
200	None		7 (15)	610 x 330 x 154 *	(24.0 x 13.0 x 6.0) *	ADV-8438
200 B	24 circuits		21 (45)	914 x 406 x 154	(36.0 x 16.0 x 6.0)	ADV-9182
400	None	NEMA 1 (aluminum)	40 (89)	1067 x 560 x 269	(42.0 x 22.0 x 10.6)	ADV-8439
100	None	NEMA 3R (aluminum)	7 (15)	613 x 340 x 177	(24.1 x 13.4 x 7.0)	ADV-8440
100 B	16 circuits		8 (18)	917 x 416 x 177	(36.1 x 16.4 x 7.0)	ADV-9183
200	None		7 (15)	613 x 340 x 177	(24.1 x 13.4 x 7.0)	ADV-8441
200 B	24 circuits		8 (18)	917 x 416 x 177	(36.1 x 16.4 x 7.0)	ADV-9184
200 BSE	None		12 (26)	858 x 473 x 163	(33.8 x 18.6 x 6.4)	ADV-8444
200 SE	42 circuits		32 (70)	967 x 762 x 165	(38.1 x 30.0 x 6.5)	ADV-9185
400	None		40 (89)	1067 x 560 x 269	(42.0 x 22.0 x 10.6)	ADV-8439
400 SE	None		46 (101)	1067 x 560 x 269	(42.0 x 22.0 x 10.6)	ADV-8445

B = Load center model
SE = Service entrance model

* Can be recess-mounted between 16 in. O.C. wall studs.

Accessories

Auxiliary position-indicating contacts

- One closed on normal position and one closed on emergency position
- Form C contacts rated 15 A @ 250 VAC

Accessory board

- Alarm horn indicates system faults
- Adjustable time delays:
 - Engine start
 - Engine cooldown
 - Preferred to standby
 - Standby to preferred
 - Exercise duration
- Inputs and Outputs:
 - Remote start/stop input (loaded)
 - Programmable exerciser input
 - Generator set supplying load output: 10 A @ 120 V SPST normally open (NO) contact
- External alarm module connection
- Dip switches:
 - 1 week/2 week exerciser
 - Load/no load exercise mode (for optional programmable exerciser)
 - Momentary/maintained external start/stop input: Selects momentary (1 second) push button or maintained contact closure for remote start/stop signal
 - Load control, 5 minutes/10 minutes: Allows adjustment of the startup delay after transfer to generator set for selected loads (e.g. air conditioners or other large motor starting loads)
 - Audible alarm disable

External alarm module

- Alarm horn
- Alarm silence/lamp test button
- Remote start/stop button
- Generator supplying load indicator
- Fault indicator
- Fits into standard outlet box
- Multiple alarm modules can be connected
- Accessory board required

Load shed kit

- Automatically sheds non-critical loads when essential appliances are running
- Prevents generator overload in compliance with NEC 2008
- Provides two (2) HVAC relays, rated 10 A @ 125 VAC, to control two independent air conditioner loads
- Includes four (4) pilot relays rated 120VAC, 125VA (pilot duty), 10 A @ 125 VAC (general purpose) to control customer-provided power relays for non-essential loads
- Mounts inside the ATS enclosure
- Uses Kohler's exclusive RBUS communication protocol
- Requires Kohler® residential generator set with RDC2 or DC2 controller
- See specification sheet G11- 124

Power relay modules

- 50 amp power relay mounted in a NEMA Type 3R enclosure
- Use up to four modules with the load shed kit
- UL/cUL listed
- Dimensions: 172 x 233 x 92 mm (6.8 x 9.2 x 3.6 in.)
- For more information, see specification sheet G6-143

Programmable exerciser

- Seven-day programmable timer allows scheduling up to 56 on/off events
- LCD display indicates day, time, program/run modes, and on/off/skip status
- Skip next cycle button
- Lithium backup battery with 5-year expected life
- Accessory board required

Wall-mount bezel (for Type 1 enclosures)

- For 100 and 200 amp recess-mounted switches
- For NEMA type 1 enclosures only (not for NEMA 3R or service entrance switches)

Additional Accessories for Service Entrance Models

Accessory circuit breaker

- For generator set engine heater or other AC accessory
- 15 A single-pole Square D type QO circuit breaker

Enclosure space heater

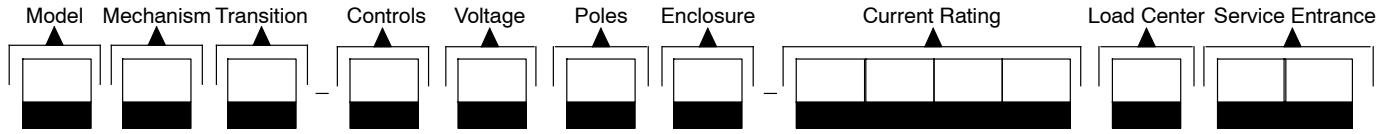
- 150 Watts
- Hygrostat (humidity control)
- Built-in temperature limiter for overheat protection
- 15 A single-pole Square D type QO circuit breaker

Utility-side surge suppressor

- Surge protection reduces transient voltages to harmless levels
- Protection modes: L-L / L-N / L-G / N-G
- Replaceable phase and neutral cartridges for service
- Frequency: 50-60 Hz
- Operating Temperature Range: -40 to 176°F (-40 to 80°C)
- Remote contacts for customer-supplied status indicators:
 - Contacts: 1 NO, 1 NC
 - Min Load: 12VDC / 10 mA
 - Max. Load: 250 VAC / 1 A
 - Wire Size (max.): 16AWG
- Fuse protection: 30 amps / 600 V
- UL 1449, 3rd Edition for Type 2 applications
- IEC 61-643-1, 2nd Edition T2/11
- See additional specifications below

Surge Suppressor Specifications

Nominal Voltage (V ± 15%)	Max. Discharge Current (kA)	Phase	Poles	UL VPR 3rd Ed (L-N/N-G/L-G) (kV)	Limiting Voltage, (L-N/N-G/L-G) (kV)		Short Circuit Withstand Current (kA)	Maximum Continuous Operating Voltage (VAC)
					at 3kA	at 10kA		
240/120	40	Split	3	0.6 / 1.2 / 0.7	0.6 / 0.4 / 0.6	0.8 / 0.7 / 0.8	200	175 / 350



Kohler® Model Designation Key

This chart explains the Kohler® transfer switch model designation system. The sample model designation shown is for a Model R service entrance rated automatic transfer switch that uses a standard-transition contactor with MPAC® 500 electrical controls rated at 240 Volts/60 Hz with 2 poles, 3 wires, and solid neutral in a NEMA 3R enclosure with a current rating of 200 amperes and no load center.

SAMPLE MODEL DESIGNATION

RDT-CFNC-0200ASE

Model

R: Model R automatic transfer switch

Mechanism

D: Specific-breaker rated

Transition

T: Standard transition

Electrical Controls

C: MPAC® 500 (Microprocessor ATS Control)

Voltage/Frequency

D: 220 Volts/50 Hz

F: 240 Volts/60 Hz

Number of Poles/Wires

N: 2-pole, 3-wire, solid neutral

Enclosure

A: NEMA 1 (steel) *

C: NEMA 3R (aluminum)

Current Rating: Numbers indicate the current rating of the switch in amperes:

0100: 100 amps 0200: 200 amps 0400: 400 amps

Load Center

A: Without load center

B: With load center (not available on 400 Amp models)

Service Entrance:

SE: Service entrance model (200 and 400 Amp models available)

Blank: Not rated for service entrance

* NEMA 1 only: 100 and 200 amp models without load centers can be recess-mounted between wall studs. Optional wall-mount bezel available. The NEMA 1 enclosure for 400 amp models is aluminum.

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