

## **Specification for bid proposal for Atchison County Health Department Generator and Transfer Switch:**

Atchison County Health Department is accepting bids for a backup generator located at 616 Commercial St. Atchison, KS 66002. All work must satisfy local building and safety codes and approved by Atchison County for acceptance. An awarded contract shall be based on the lowest bid that meets and/or exceeds the following minimum specifications. This project must be completed by December 30, 2020.

### **Bidder Instructions:**

This specification shall be posted at the website [www.atchisoncountyks.org](http://www.atchisoncountyks.org) for a period of no less than two weeks beginning 9/8/2020 with the bid period closing by 1:00pm on 9/22/2020. Successful sealed bids shall be submitted via mail, private courier, or in person to:

Atchison County Clerk  
Health Department Generator Bid Proposal  
423 N. 5<sup>th</sup> St.  
Atchison, KS 66002

The bid opening shall be 9/22/2020 at the Atchison County Commission Meeting.

The proposal shall include a firm price for all work and materials necessary for meeting this specification. The bid price shall be good for 30 days after the bid opening. The construction start date shall be included in the proposal and construction shall be completed prior to December 30, 2020. Proposals shall include specification of materials to be used. In addition to the material list, bid shall include the completed attached bid proposal sheet. This project is not exempt from building and trade permits. On site visits may be scheduled with Wesley Lanter, Director Atchison County Emergency Management, Monday through Friday 8:00am to 4:00pm at 913-804-6131. As all Atchison County facilities are adhering to COVID-19 precautions all walk through participants must wear a facemask while in county buildings. Successful bidders will adhere to COVID-19 face mask requirements while working inside county buildings.

Atchison County Emergency Management and Atchison County reserve the right to reject any and all bids.

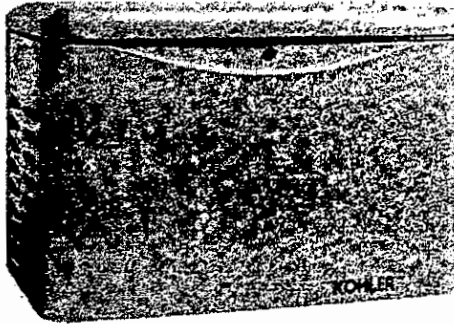
### **Project:**

- Furnish and install a 20 RCA-QS3 17Kw Kohler generator, 3 phase 120/240-volt, 200-amp main breaker.
- Furnish a Kohler 200 Amp automatic transfer switch
- Include a carburetor heater and battery.
- Provide all wiring and electrical hookups.
- Include the required connection to Natural Gas
- Part of the fence will need to be removed for this project.

### **For any questions please contact:**

Wesley Lanter, Director  
Atchison County Emergency Management  
10443 US 59 Hwy.  
Atchison, KS 66002  
913-804-6131

**ISO 9001**  
**ISO KOHLER**  
NATIONALLY REGISTERED



### 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 dripproof 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 <sup>3</sup> (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, Parent Material
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

### 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

### 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

## Fuel Requirements

Fuel System		
Fuel types	Natural Gas or LPG	
Fuel supply inlet	1/2 NPT	
Fuel supply pressure, kPa (in. H <sub>2</sub> 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 <sub>4</sub> and higher, % by volume	0.3 max.	2.5 max.
Sulfur, ppm mass (maximum)	25 max.	
Lower heating value, MJ/m <sup>3</sup> (Btu/ft <sup>3</sup> ), (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 <sup>3</sup> /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/m <sup>3</sup> (1000 Btu/ft. <sup>3</sup> )				
LPG: 93 MJ/m <sup>3</sup> (2500 Btu/ft. <sup>3</sup> )				
LPG conversion factors: 8.58 ft. <sup>3</sup> = 1 lb.				
0.535 m <sup>3</sup> = 1 kg				
36.39 ft. <sup>3</sup> = 1 gal.				

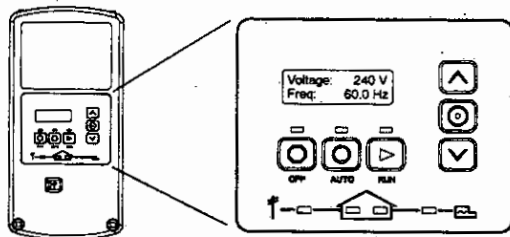
## Generator Set Sound Data

Model 20RCA 8 point logarithmic average sound levels are 64 dB(A) during weekly engine exercise and 69 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
- 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

### Communication Accessories

- OnCue® Plus Wireless Generator Management System

### 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

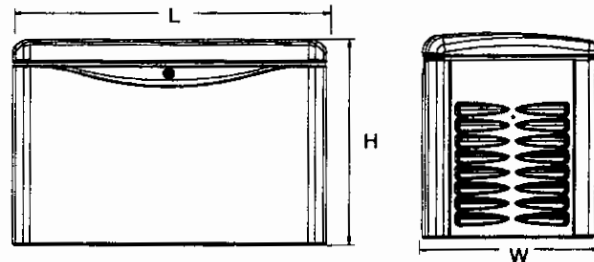
## Warranty

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

## Generator Set Dimensions and Weights

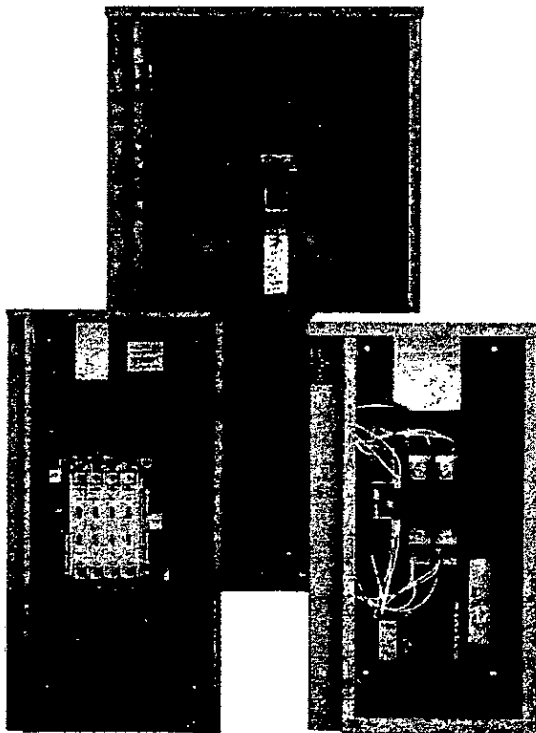
Generator Set Size, L x W x H: 1193 x 666 x 817 mm  
(47 x 26.2 x 32.2 in.)

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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Covers have been removed for illustration.

### Available Models

- 100, 200, and 400 amp standard and service entrance models are available.
- 150 and 300 amp service entrance models are also available.
- Combined interface/load management board is available on single-phase standard and service entrance models. (Not available on 3-phase or load center models.)
- 100 amp standard single-phase models are available with or without a 16-space load center. Up to 8 tandem breakers can be used for a total of 24 circuits.
- 100amp standard single phase model with a 12-space load center and a NEMA 1 enclosure is available as a standalone non-configurable spec (GM85273-SA).
- See page 7 for more information.

### Model RXT Automatic Transfer Switch

The Model RXT automatic transfer switch is designed for use only with Kohler® generator sets equipped with RDC2 or DC2 generator set/transfer switch controls. The transfer switch operation is controlled by the RDC2/DC2 controller.

### Standard Features

- Allows utility voltage display on the RDC2/DC2 generator set/transfer switch controller, available exclusively on Kohler® residential and light commercial generator sets
- UL listed
  - Models with load centers, UL 67 listed, file #E251086
  - Models without load centers, UL 1008 listed, file #E58962
- CSA certification, file #LR58301, is available for:
  - Standard ATS without load center (single and three-phase)
  - Service entrance ATS 100 and 200 amp models
- Corrosion-resistant NEMA 3R aluminum enclosure
  - Padlockable
  - Approved for indoor or outdoor installation
  - ANSI 49 gray
- NEMA 1 enclosure available on 100 amp load center models
- Contactor electrically and mechanically interlocked
- Double throw inherently interlocked design
- Contactor manually operable for maintenance purposes
- Silver alloy main contacts
- Transfer switches are 100% equipment rated and can be applied at the rated current without derating (non-service entrance models)
- Service entrance models include disconnect circuit breaker on the utility (normal) source side (80% rated)
- Five-year limited warranty

### Standard Interface Board

- Standard interface board connects to the Model RDC2 or DC2 generator set/transfer switch controller.
- Includes a load control contact that provides a 5 minute time delay for startup of selected loads after transfer to the emergency source. Use for large motor loads.

### Combined Interface/Load Management Board

- Optional combined interface/load management board replaces the standard interface board and connects to the Model RDC2 or DC2 generator set/transfer switch controller.
- The combined board is available on single-phase standard and service entrance models. (Not available on 3-phase or load center models.)
- The combined board automatically manages up to six residential loads:
  - Up to four customer-supplied power relay modules can be connected for management of non-essential secondary loads.
  - Two HVAC relays are included for control of two independent air conditioner loads.

## Specifications

Standard Interface Board	
Controller interface connections A and B	#20 AWG shielded twisted-pair Belden 9402 or 8762 or equivalent
Controller interface connections PWR and COM	#12-20 AWG (see ATS Installation Manual)
Load control contact rating	10 A @ 250 VAC
Load control connections	#12-18 AWG

**Note:** For combined interface/load management board specifications, see page 3.

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

## Codes and Standards

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

- Underwriters Laboratories UL 67, Enclosed Panel Boards (load center models) file # E251086
- 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 certification available, file # LR58301 (not available for 150, 300, or 400 amp service entrance or 100 amp load center models). Must be selected when the transfer switch is ordered.
- NFPA 70, National Electrical Code
- NFPA 110, Emergency and Standby Power Systems
- NEMA Standard IC10-1993, AC Automatic Transfer Switches

Cable Sizes						
AL/CU UL-Listed Solderless Screw-Type Terminals for External Power Connections						
Switch Size, Amps	Switch	Phases	Range of Wire Sizes, Cu/Al			
			Normal and Emergency	Load	Neutral	Ground
100	Standard	1	(1) #14 - 1/0 AWG	(1) #14 - 1/0 AWG	(5) #12 to 250 KCMIL (Cu) or (5) #10 to 250 KCMIL (Al)	(9) #6 - #14 AWG (4) #14 - 1/0 AWG
	12-space load center (NEMA 1)	1	(1) #14 - 1/0 AWG	per customer-supplied circuit breaker	(13) #4 - 14 AWG or (1) #6 - 2/0 AWG	
	16-space load center (NEMA 3R)	1	(1) #14 - 1/0 AWG	per customer-supplied circuit breaker	(27) #4 - 14 AWG or (3) #4 - 1/0 AWG or (1) #6 - 2/0 AWG	
	Service Entrance	1	Normal: (1) #12 - 2/0 AWG Emerg: (1) #14 - 1/0 AWG	(1) #14 - 1/0 AWG	(5) #12 to 250 KCMIL (Cu) or (5) #10 to 250 KCMIL (Al)	(4) #14 - 1/0 AWG (9) #14 - #6 AWG
	3-Phase	3	(1) #14 - 1/0 AWG	(1) #14 - 1/0 AWG	(3) #4 AWG - 600 KCMIL (6) 1/0 AWG - 250 KCMIL	
150 200	Service Entrance	1	Normal: (1) #4 - 300 KCMIL Emerg: (1) #6 - 250 KCMIL	(1) #6 - 250 KCMIL	(5) #12 to 250 KCMIL (Cu) or (5) #10 to 250 KCMIL (Al)	(9) #14 - #4 AWG (4) #14 - 1/0 AWG
200	Standard	1	(1) #6 AWG - 250 KCMIL	(1) #6 - 250 KCMIL	(5) #12 to 250 KCMIL (Cu) or (5) #10 to 250 KCMIL (Al)	
	3-Phase	3				
300 400	Service Entrance	1	Normal: (1) #1 - 600 KCMIL or (2) #1 - 250 KCMIL Emerg: (2) #6 - 250 KCMIL	(2) #6 - 250 KCMIL	(3) #4 AWG - 600 KCMIL (6) 1/0 AWG - 250 KCMIL	(6) #6 - 3/0 AWG
400	Standard	1	(2) #6 - 250 KCMIL	(2) #6 - 250 KCMIL	(3) #4 AWG - 600 KCMIL (6) 1/0 AWG - 250 KCMIL	(6) #6 - 3/0 AWG
	3-pole 208-240 V	3				
	3 or 4 pole 480 V	3	(1) #4 - 600 KCMIL (2) 1/0 - 250 KCMIL	(1) #4 - 600 KCMIL (2) 1/0 - 250 KCMIL		

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

## Optional Combined Interface/Load Management Board

The RXT transfer switch is available with either a standard interface board or a combined interface/load management board. The combined board allows load management as described below.

### Load Management

- The combined load management board disconnects non-critical loads to prevent generator overload, in compliance with NEC.
- The combined load management board monitors generator current and frequency to determine when to add or shed loads. This monitoring prevents frequency drops that can damage valuable electronics like computers and televisions.
- Load management allows the use of a smaller generator set.

### Operation

- Loads are automatically added or shed based on generator capacity.
- The load control system uses dynamic logic to prevent shedding important loads unnecessarily when air conditioning, refrigerator, or water pump motors start (patent pending).
- The load management board and generator communicate to provide smart power management. The time to shed loads decreases as each load is shed to quickly adapt to critical power requirements.
- Load shed power level and frequency setpoints can be adjusted using a personal computer (laptop) and Kohler® SiteTech™ software, which is only available to Kohler-authorized distributors and dealers.

### Priority Setting

- Loads are added and shed according to their priority. Load 1 is the top priority, which is added first and shed last. Load 6 is the lowest priority.
- Less critical loads can be turned off automatically when essential appliances are running.
- Load priorities are hard-wired at installation.

### Viewing Load Shed Outputs with OnCue® Plus

- Use Kohler's OnCue® Plus Generator Management System (sold separately) to view load status (On or Off) for loads connected to the load shed relays.
- Use OnCue® Plus to remotely monitor when loads are shed or added.
- The load shed outputs can be labeled in OnCue® Plus.

### Current Transformer

- The combined load management board option includes a 400 amp current transformer (CT) for load monitoring.
- A larger diameter CT is available for applications that require larger cables.
- A 500 amp CT is available for use with a 60RCL generator.
- See the table below for current transformer specifications and optional kit numbers.

### Load Shed Specifications

Connection	Rating	Connection
Pilot Relays*	125VAC, 10 A total (general purpose) 120VAC, 125VA (pilot duty)	#12-20 AWG
HVAC Relays (qty. 2)	125VAC, 10 A (general purpose) 120VAC, 125VA (pilot duty)	#12-20 AWG
RBUS Communication and Power Connections to the RDC2/DC2 controller	0.5 A @ 12 VDC	Use Belden #9402 or equivalent 20 AWG shielded, twisted-pair communications cable †

\* Four (4) pilot relays are provided for customer-supplied normally closed load-switching contactors/relays. The combination of four load relay outputs cannot exceed 10 amps total current draw. Kohler® power relay modules are recommended.

† For long distances, use an equivalent shielded, twisted-pair cable for RBUS connections and individual 12-20 AWG wires (qty. 2) for power connections.

### Current Transformer Specifications

Ratio (Amps:VAC)	Outer Diameter mm (in.)	Inner Diameter mm (in.)	Service Part Number	Sales Kit Part Number	CT Availability
400:3	63.5 (2.5)	28.7 (1.13)	GM83929	N/A	Included with combined board
400:3	111.8 (4.4)	57.2 (2.25)	GM17250	GM17250-KP1-QS	Sold Separately
500:3	171.5 (6.75)	108.0 (4.25)	GM60264	GM17250-KP2-QS	Sold Separately (use with 60RCL)



## Withstand and Close-On Ratings (WCR)

### Service Entrance Transfer Switch Ratings

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

Suitable for the 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.

Switch Rating, Amps *	WCR, RMS Symmetrical Amps at 240 VAC
100, 150, 200	22,000
300, 400	35,000
* Continuous load current not to exceed 80% of switch rating.	

### Contactor Ratings with Coordinated Circuit Breakers

Single-phase transfer switches are UL listed at 240 VAC maximum. Three-phase transfer switches are rated at 480 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 the 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.

The transfer switch is rated for use on a circuit capable of delivering not more than the RMS symmetrical amperes maximum as shown in the tables below, but no greater than the interrupting capacity of the selected breaker.

WCR Ratings with Specific Manufacturer's Molded-Case Circuit Breakers						
Switch Rating, Amps	Voltage, max.	Number of Poles/ Phases	WCR, RMS Symmetrical Amps	Manufacturer	Type or Class	Maximum Size, Amps
100	240	2 pole/ 1 phase	10,000	Any Breaker *	Any Breaker (0.025 seconds max.)	—
150 200	240	2 pole/ 1 phase	10,000	Any Breaker *	Any Breaker (0.025 seconds max.)	—
100 200	480	3 pole/ 3 phase	30,000	Eaton	FCL	100
					JGS, JGH, JGC, JGU, JGX, JBD, JD, HJD, JDC, LCL, LCLA	250
					LDC, CLDC, KDB, KD, HKD, KDC, LD, CLD, HLD, CHLD	400
		4 pole/ 3 phase		ITE/Siemens	CED6, HED4, HED6	125
					CFD6, FD6A, FXD6, HFD6, HFXD6, HHFD6, HHFXD6	250
					CJD6	400
				General Electric	SEL, SEP, THLC1, PE_E, PE_N, PE_H, PE_L	150
					THLC2	225
					SFH, SFL, SFP, PE_E, PE_N, PE_H, PE_L	250
					SGH, SGL, SGP, FGN, FGH, FGL, FGP, PG_E, PG_N, PG_H, PG_L, PG_P	400
				Schneider	HG, HJ, HL, HR	150
					JJ, JL, JR	250
					LG, LJ, LL, LR	400

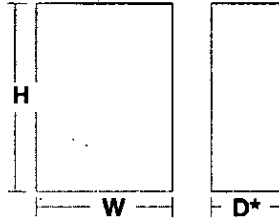
\* For higher WCR values, contact the factory for additional specific breaker ratings.

WCR Ratings with Specific Manufacturer's Molded-Case Circuit Breakers						
Switch Rating, Amps	Voltage, max.	Number of Poles/ Phases	WCR, RMS Symmetrical Amps	Manufacturer	Type or Class	Maximum Size, Amps
300 400	240	2 pole/ 1 phase	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
				Siemens	CJD6, HHJD6, HHJXD6, HJD6, HJGA, HJXD6, JD6, JXD2, JXD6, SCJD6, SHJD6, SJD6, NJGA, LJGA	400
					CLD, HHL, HHLXD, HLD, HLGA, HLXD, LD, LLGA, LX, 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
		Merlin Gerin	CJ400H, CJ400L, CJ400N	400		
			CJ600H, CJ600N	600		
3 pole/ 3 phase	35,000	Any Breaker	Any Breaker (0.017 seconds max.)	600		
		50,000	Eaton	LD	600	
400	480	3 pole/ 3 phase	50,000	Eaton	HJD, JDC, JGC, JGH, JGU, JGX	250
					CHLD4, CLD, HLD4, CLDC, LDC, KDC, HKD, CHMDL4, CMDL4	400
					CHLD6, HDL6, CHMDL6, CMDL6, CLDC, CLD6, LDC6, CLDC6	600
					CHMDL8, HMDL8, MDL8, CMDL8	800
				ITE/Siemens	CFD6, HFD6, HFXD6, HHFD6, HHFXD6	250
					CJD6	400
					CLD6, HHL6, HHLXD6, HLD6, HLXD6	600
					CMD6, MD6, HMD6, HMXD6, MXD6	800
		General Electric	SEL, SEP, PE_N, PE_H, PE_L	150		
			SFL, SFP, PE_N, PE_H, PE_L	250		
			SGL, SGP	400		
			FGL, FGP, SGL, SGP, PG_H, PG_L, PG_N, PG_P	600		
		Schneider	HJ, HL, HR	150		
			JJ, JL, JR	250		
			LJ, LL, LR	600		
			MJ	800		

## Dimensions and Weights

**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	Description	Dimensions, H x W x D, mm (in.) †		Shipping Weight ‡ kg (lb.)	Dimension Drawing
100	Single phase	623 x 335 x 180	(24.5 x 13.2 x 7.1)	7 (15)	ADV-8688
	With 12- or 16-space load center (NEMA 1)	610 x 330 x 154	(24.0 x 13.0 x 6.0)	12 (26)	ADV-8487
	With 16-space load center	614 x 335 x 180	(24.2 x 13.2 x 7.1)	8 (18)	ADV-8690
	Three phase	682 x 462 x 228	(26.8 x 18.2 x 9.0)	14 (30)	ADV-8689
	Service entrance (ASE)	734 x 416 x 175	(28.9 x 16.4 x 6.9)	10 (22)	ADV-9046
	Service entrance (CSE)	754 x 416 x 175	(29.7 x 16.4 x 6.9)	14 (30)	ADV-8797
150	Service entrance (ASE)	734 x 416 x 175	(28.9 x 16.4 x 6.9)	12 (26)	ADV-9046
200	Service entrance (ASE)	734 x 416 x 175	(28.9 x 16.4 x 6.9)	12 (26)	ADV-9046
	Service entrance (CSE)	754 x 416 x 175	(29.7 x 16.4 x 6.9)	16 (36)	ADV-8798
	Single phase	623 x 335 x 180	(24.5 x 13.2 x 7.1)	7 (15)	ADV-8688
	Three phase	682 x 462 x 228	(26.8 x 18.2 x 9.0)	14 (30)	ADV-8689
300	Service entrance	1075 x 559 x 329	(42.3 x 22.0 x 12.9)	46 (101)	ADV-8694
400	Single phase	1067 x 559 x 329	(42.0 x 22.0 x 12.9)	55 (120)	ADV-8691
	3-Pole/208-240 volts	1067 x 559 x 329	(42.0 x 22.0 x 12.9)	41 (90)	ADV-8692
	3-Pole/480 volts	1222 x 610 x 343	(48.1 x 24.0 x 13.5)	59 (130)	ADV-8693
	4-Pole	1222 x 610 x 343	(48.1 x 24.0 x 13.5)	59 (130)	ADV-8693
	Service entrance	1075 x 559 x 329	(42.3 x 22.0 x 12.9)	46 (101)	ADV-8694

† Depth does not include the padlock hasp on the front of the enclosure.

‡ Transfer switch weights are approximate and do not include packaging.

**Note:** Enclosures are type NEMA 3R except as noted.

## Accessories

- Auxiliary position-indicating contacts**
  - One closed on normal position and one closed on emergency position
  - Form C contacts rated 15 A @ 250 VAC
- Power relay modules**
  - 50 amp DPST power relay mounted in a NEMA type 3R enclosure
  - Use up to four modules with the combined interface/load management board
  - 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
- Status indicator kit for standard interface board**
  - LEDs indicate normal and emergency source availability and contactor position
  - Mounts on the outside of the RXT enclosure
  - View transfer switch status without removing enclosure cover
  - An overhang on the enclosure protects the indicator panel and ribbon cable opening
  - Dimensions: 92 mm x 42 mm (3.62 in. x 1.65 in.)
  - Connects to the standard interface board only
  - For more information on the status indicator kit, see specification sheet G11-123
- Status indicator kit for combined interface/load management board**
  - LEDs indicate normal and emergency source availability and contactor position
  - Dual color LEDs for each load indicate load status (powered or shed) and flash during a test
  - Load shed test button allows the operator to cycle the load shed relays in order of priority (when generator is in RUN mode)
  - Mounts on the outside of the RXT enclosure
  - View transfer switch and load status without removing enclosure cover
  - An overhang on the enclosure protects the indicator panel and ribbon cable opening
  - Dimensions: 183 mm x 42 mm (7.20 in. x 1.65 in.)
  - Connects to the combined interface/load management board only
  - For more information on the status indicator kit, see specification sheet G11-123
- Auxiliary circuit breaker (service entrance models only)**
  - 15 amp single-pole type QO circuit breaker
  - Mounts on a bracket inside the enclosure

## Available Models

All Model RXT transfer switches are standard-transition 60 Hz automatic transfer switches. Letters in parentheses refer to the model designation code described on the last page.

Amps	Description (Connections)	Voltages			Poles	Phases	WCR § RMS Symmetrical Amps
		208 (C)	240 (F)	480 (M)			
100	Standard (A)		•		2 (N)	1	10,000
	Standard, with 16-space load center (B) †		•		2 (N)	1	10,000
	Standard, with 12-space load center **		•		2 (N)	1	10,000
	Service entrance (ASE, CSE)		•		2 (N)	1	22,000
150	Standard, 3-phase (A)	•	•	•	3 (T) or 4 (V)	3	30,000
	Service entrance (ASE)		•		2 (N)	1	22,000
200	Standard (A)		•		2 (N)	1	10,000
	Service entrance (ASE, CSE)		•		2 (N)	1	22,000
	Standard, 3-phase (A)	•	•	•	3 (T) or 4 (V)	3	30,000
300	Service entrance (ASE)		•		2 (N)	1	35,000
400	Standard (A)		•		2 (N)	1	50,000
	Service entrance (ASE)		•		2 (N)	1	35,000
	Standard, 3-phase (A)	•	•	•	3 (T) or 4 (V)	3	50,000

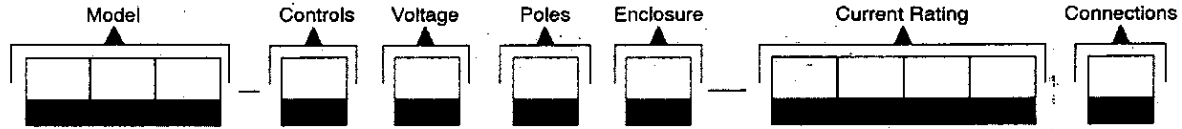
§ Withstand and close-on rating. See pages 3-5 for WCR information and specific breaker ratings.

† With 16-space load center and NEMA 1 or NEMA 3R enclosure. Up to 8 tandem breakers can be used, for a maximum of 24 circuits.

\*\* GM85273-SA\_ with 12-space load center and NEMA 1 enclosure.

**Note:** Combined interface board is available on single-phase standard or service entrance models. (Not available on 3-phase or load center models.)

## Model Designation



Record the transfer switch model designation in the boxes. The transfer switch model designation defines ratings and characteristics as explained below.

Sample Model Designation: **RXT-JFNC-0200A**

### Model

RXT: Kohler Automatic Transfer Switch

### Controls

J: Interface for RDC2/DC2 Controller  
(standard or combined interface/load management)

### Voltage/Frequency

C: 208 Volts/60 Hz (3-phase only)  
F: 240 Volts/60 Hz  
M: 480 Volts/60 Hz (3-phase only)

### Number of Poles/Wires

N: 2-pole, 3-wire, solid neutral (120/240 V only)  
T: 3-pole, 4-wire, solid neutral  
V: 4-pole, 4-wire, switched neutral

### Enclosure

A: NEMA 1 \*  
C: NEMA 3R

\* NEMA 1 enclosure is available on 100 amp load center models only.

### Current Rating

0100: 100 amps  
0150: 150 amps  
0200: 200 amps  
0300: 300 amps  
0400: 400 amps

### Connections

A: No load center  
B: With load center (100 amp single-phase only)  
ASE: Service entrance rated  
CSE: Service entrance rated with CSA certification  
(100/200 amps only)

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