Models: 14/20RESAL

KOHLER POWER SYSTEMS

Multi-Fuel LPG/Natural Gas









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 an industry-leading 5-year or 2000 hour warranty.

• Powerful Performance

Exclusive PowerBoost™ technology provides excellent starting power. The Kohler 14 kW generator can easily start and run a 5 ton air conditioner.*

Corrosion-Proof Enclosure

The bold new Kohler design is completely corrosion proof, even in harsh seaside environments, and is impact-resistant even at -34° C (-30° F).

• Fast Response

Kohler's unique Fast-Response ™ excitation system delivers excellent voltage response and short-circuit capability.

Quiet Operation

Kohler home generators provide quiet, neighborhoodfriendly performance.

Standard Features

DC2 Controller

- One digital controller manages both the generator set and Model RXT transfer switch functions
- Designed for today's most sophisticated electronics.
- Electronic speed control responds quickly to varying household demand
- Digital voltage regulation protects your sensitive electronics from harmonic distortion and unstable power quality
- Two-line, backlit LCD display is easy to read, even in direct sunlight or low light

• 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
- o Powerful, reliable air-cooled performance
- Simple field conversion between natural gas and LPG fuels while maintaining emission certification

Designed for Easy Installation

- Polymer base eliminates the need for a concrete mounting pad, reducing installation time and cost
- Hinged, locking roof
- Fuel and electrical connections through the enclosure wall eliminate the need for stub-ups through the bottom
- o Load connection terminal block allows easy field wiring
- Designed for outdoor installation only

• Model RXT Transfer Switch

- Select 100 amp RXT ATS with load center and NEMA 1 steel enclosure or 200 amp standard RXT ATS with NEMA 3R aluminum enclosure
- See page 4 for more information

Certifications

- Meets emission regulations for CA 2011 and later LSI engines (14RESAL only) and U.S. Environmental Protection Agency (EPA) phase 2 small off-road engines with both LPG and natural gas
- UL 2200 listed (60 Hz model)
- CSA certification available (60 Hz model)
- Approved for stationary standby applications in locations served by a reliable utility source
- Model 14RESAL is also approved for non-standby (off-grid) applications (18 month or 1000 hour warranty applies for non-standby applications)

Generator Ratings

					Natural	Gas	LPG	ì
Model	Voltage	Phase	Hz	Alternator	kW/kVA	Amps	kW/kVA	Amps
14RESAL	120/240	1	60	2F5	12/12	50.0	14/14	58.3
20RESAL	120/240	1	60	2F7	18/18	75.0	20/20	83.3

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.

Alternator Specifications

Alternator Specifications

	PowerBoost™ Generator
Specifications	1-Phase
Manufacturer	Kohler
Output reconnectable	120/240
Туре	2-Pole, Rotating Field
Leads, quantity	4
Voltage regulator	Digital
Insulation:	NEMA MG1-1.66
Material	Class H
Temperature rise	Class H
Bearing: quantity, type	1, Sealed Ball
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 @ 240 V:	
14RESAL	35
20RESAL	40.5

Alternator Features

- Compliance with NEMA, IEEE, and ANSI standards for temperature rise
- Self-ventilated and dripproof construction
- Vacuum-impregnated windings with fungus-resistant 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

Application Data

Engine

Engine Specifications	14RESAL	20RESAL	
Manufacturer	Kohler		
Engine: model, type	CH740	CH1000	
	4-Cycle	4-Cycle	
Cylinder arrangement	V	-2	
Displacement, cm ³ (cu. in.)	725 (44)	999 (61)	
Bore and stroke, mm (in.)	83 x 67		
	(3.27 x 2.64)	(3.54 x 3.1)	
Compression ratio	9:1	8.8:1	
Main bearings: quantity, type	2, Parent	t Material	
Rated RPM	3600		
Max. engine power at rated rpm, kW (HP))		
LPG, 60 Hz	17.6 (23.6)	23.0 (30.9)	
Natural gas, 60 Hz	15.3 (20.5)	20.2 (27.1)	
Cylinder head material	Alum	inum	
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	D	ry	

Exhaust

Exhaust System	14RESAL	20RESAL
Exhaust temperature exiting the	000	(F00)
enclosure at rated kW, dry, °C (°F)	260	(500)

Engine Electrical

Engine Electrical System	14RESAL	20RESAL	
Ignition system	gnition system Electronic, Capacitive Discl		
Starter motor rated voltage (DC)	1	2	
Battery (purchased separately):			
Ground	Negative		
Volts (DC)	12		
Battery quantity	-	1	
Recommended cold cranking amps:			
(CCA) rating for -18°C (0°F)	50	00	
Group size	5	1	

Lubrication

Lubricating System	14RESAL	20RESAL	
Туре	Full Pressure		
Oil capacity (with filter), L (qt.)	1.9 (2.0)	2.8 (3.0)	
Oil filter: quantity, type	1, Cartridge		
Oil cooler	Integ	ıral	

Fuel Pipe Size

Minimum Gas Pipe Size Recommendation, in. NPT					
	14RE	SAL	20RI	ESAL	
Pipe Length, m (ft.)	Natural Gas 193,000 Btu/hr.	LPG 203,000 Btu/hr.	Natural Gas 281,000 Btu/hr.	LPG 340,000 Btu/hr.	
8 (25)	3/4	3/4	1	3/4	
15 (50)	1	3/4	1	1	
30 (100)	1	1	1 1/4	1	
46 (150)	1 1/4	1	1 1/4	1 1/4	
61 (200)	1 1/4	1	1 1/4	1 1/4	

Fuel Requirements

Fuel System	14RESAL	20RESAL	
Fuel types	Natural Gas or LPG		
Fuel supply inlet	1/2 NPT		
Fuel supply pressure, kPa (in. H ₂ O):			
Natural gas	1.2-2.7	7 (5-11)	
LP	1.7-2.7	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 1	max.
Lower heating value, MJ/m ³ (Btu/ft ³), min.	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		Fuel Consumption, m ³ /hr. (cfh)			
Fuel Type	% Load	14R	ESAL	20RESAL	
	100	5.4	(193)	8.0	(281)
	75	4.7	(163)	6.9	(243)
Natural Gas	50	3.5	(124)	4.6	(161)
	25	2.6	(93)	3.6	(127)
	Exercise	1.7	(60)	2.0	(71)
	100	2.3	(81)	3.9	(136)
	75	2.1	(75)	3.1	(109)
LPG	50	1.8	(60)	2.3	(82)
	25	1.2	(45)	1.7	(59)
	Exercise	0.8	(30)	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: $8.58 \text{ ft.}^3 = 1 \text{ lb.}$

 $0.535 \text{ m}^3 = 1 \text{ kg}$ $36.39 \text{ ft.}^3 = 1 \text{ gal.}$

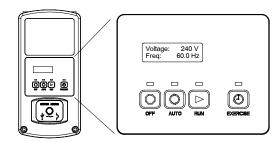
Sound Data

Model 14RESAL sound level is 63 dBA during weekly engine exercise and 67 dBA during full-speed generator diagnostics and normal operation.

Model 20RESAL sound level is 64 dBA during weekly engine exercise and 69 dBA during full-speed generator diagnostics and normal operation.

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

DC2 Controller



The DC2 controller provides integrated control for the generator set, Kohler® Model RXT transfer switch, programmable interface module (PIM), and load control module (LCM)

The DC2 controller's 2-line LCD display provides a clear, easy-to-read display of status messages even in direct sunlight or low light.

DC2 Controller Features

- OFF, AUTO, RUN, and EXERCISE pushbuttons
- · LED indicators for OFF, AUTO, RUN, and EXERCISE modes
- LCD display:
 - o Two lines x 16 characters per line
 - Backlit display with adjustable contrast for excellent visibility
- Scrolling system status display
 - Generator set status
 - Voltage and frequency
 - o Engine temperature
 - o Oil pressure
 - o Battery voltage
 - o Engine runtime hours
 - o Maintenance reminders
 - OnCue® status (connected/disconnected)
- Date and time displays
- Smart engine cooldown senses engine temperature
- Digital isochronous governor to maintain steady-state speed at all loads
- $\bullet~$ Digital voltage regulation: $\pm\,1.0\%$ RMS no-load to full-load
- · Automatic start with programmed cranking cycle
- Exercise modes
 - Unloaded weekly exercise with complete system diagnostics
 - o Unloaded full-speed exercise
 - Loaded full-speed exercise (Model RXT ATS required)
- Front-access mini USB connector for SiteTech™ connection
- · Front access mini-breaker protects the alternator
- Integral Ethernet connector for Kohler® OnCue®
- Built-in 2.5 amp battery charger
- Remote two-wire start/stop capability for optional connection of Model RDT or RSB transfer switches
- Diagnostic messages
 - Displays diagnostic messages for the engine, generator set, model RXT transfer switch, and optional programmable interface module (PIM) and load control module (LCM)
 - o Over 70 diagnostic messages can be displayed
- A laptop computer and Kohler[®] SiteTech[™] software can be used to change system settings or upgrade controller firmware

KOHLER CO., Kohler, Wisconsin 53044 USA Phone 920-457-4441, Fax 920-459-1646 For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444 KohlerPower.com Kohler Power Systems Asia Pacific Headquarters 7 Jurong Pier Road Singapore 619159 Phone (65) 6264-6422, Fax (65) 6264-6455

Standard Generator Set Features

- ATS: Model RXT automatic transfer switch
- Battery cables
- · Braided stainless steel flexible fuel line
- CARB (14RESAL only) and EPA-certified fuel system
- Corrosion-proof polymer sound enclosure
- Critical silencer
- DC2 generator set/ATS controller
- Field-connection terminal block
- Fuel solenoid valve and secondary regulator
- Line circuit breaker: 14RESAL: 70 amps 20RESAL: 100 amps
- Multi-fuel system, LPG/natural gas, field-convertible
- Oil drain extension with shutoff valve
- Premium 5-vear limited warrantv
- 18-month limited warranty for non-standby (off-grid) applications (14RESAL only)
- Rodent-resistant construction
- Sound-deadening, flame-retardant foam per UL 94, class HF-1

Available Accessories*

Communication Accessories

☐ OnCue® Generator Management System

Controller Accessories

- Programmable Interface Module (PIM) (provides 2 digital inputs and 6 relay outputs)
- □ Load Control Module (LCM) (provides 4 power relays and 2 HVAC relays)

Electrical System

- Battery
- Battery heater

Maintenance

- Maintenance kit (air and oil filters)
- ☐ General maintenance literature kit
- Overhaul literature kit
- Production literature kit

Starting Aids

- Carburetor heater, 120 VAC (recommended for reliable starting at temperatures below 0°C [32°F])
- ☐ Fuel regulator heater pad (20RESAL; recommended for reliable starting at temperatures below -18°C [0°F])

RXT Transfer Switch Accessories

Status indicator

Miscellaneous Accessories

Model RXT Transfer Switch



200 Amp with optional status indicator shown.

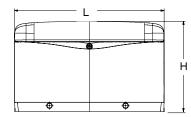
- UL listed
- 240 VAC/60 Hz
- Withstand rating 10,000 amps with specified breakers
- The following transfer switch models are now available with the 14RESAL and 20RESAL:
 - 100 amp RXT with load center and NEMA 1 steel enclosure for indoor installation
 - 200 amp standard RXT with corrosion-resistant NEMA 3R aluminum enclosure for indoor or outdoor installation
- Designed for use only with Kohler[®] generator sets equipped with the RDC2 or DC2 controller
- See Specification Sheet G11-121 for more information

Generator Set Dimensions and Weights

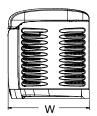
Overall Size, L x W x H: 1216 x 665 x 733 mm (48 x 26.2 x 29 in.)

Shipping Weight (with RXT ATS): 14RESAL w/100 amp RXT ATS 14RESAL w/200 amp RXT ATS 20RESAL w/100 amp RXT ATS

216 kg (476 lb.) 212 kg (467 lb.) 268 kg (590 lb.) 263 kg (580 lb.)



20RESAL w/200 amp RXT ATS



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

DISTRIBUTED) BY:		

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Accessories are available through Kohler authorized distributors and dealers.

Stationary Non-Standby 18-Month Limited Warranty

Your Kohler product has been manufactured and inspected with care by experienced craftsmen. If you are the original retail owner, Kohler Co. warrants, for the period indicated below, each product to be free from defects in materials and workmanship. Repair, replacement, or appropriate adjustment at Kohler Co.'s option will be furnished if the product, upon Kohler Co.'s inspection, is found to be properly installed, maintained, and operated in accordance with Kohler Co.'s instruction manuals. If a Kohler distributor, dealer, or authorized representative performs startup within 12 months of the date of shipment from the factory, warranty coverage will begin on the startup date. This warranty does not apply to malfunctions caused by damage, unreasonable use, misuse, repair or service by unauthorized persons, or normal wear and tear.

During the warranty period, repair or replacement at Kohler Co.'s option will be furnished free of charge for parts, provided an inspection to Kohler Co.'s satisfaction discloses a defect in material and workmanship, and provided that the part or parts are returned to Kohler Co. or an authorized service station, if requested. Some restrictions may apply.

Kohler Product

Warranty Coverage

Generator Set and Factory-Supplied Accessories

Non-standby applications where a utility source is unavailable or unreliable: Eighteen (18) months or 1000 hours (whichever occurs first) from date of shipment from the factory or registered startup date.

The following will **not** be covered by the warranty:

- Normal wear, routine tuneups, tuneup parts, adjustments, and periodic service.
- Damage caused by accidents, improper installation or handling, faulty repairs not performed by an authorized service representative, or improper storage.
- Cosmetic problems, discoloration, or rusting due to improper installation, location in a corrosive or saltwater environment, or scratches that compromise the integrity of the applied paint.
- Damage caused by operation with improper fuel or at speeds, loads, conditions, modifications, or installation contrary to published specifications, recommendations, and codes.
- 5. Damage caused by negligent maintenance such as:
 - Failure to provide the specified type and sufficient quantity of lubricating oil.
 - b. Failure to keep the air intake and cooling fin areas clean.
 - c. Failure to service the air cleaner.
 - d. Failure to provide sufficient coolant and/or cooling air.
 - e. Failure to perform scheduled maintenance as prescribed in supplied manuals.
 - f. Failure to regularly exercise the generator set under load.
 - g. Failure to follow long-term storage procedures.

- Engine coolant heaters, heater controls, and circulating pumps after the first year.
- 7. Original installation charges and startup costs.
- 8. Starting batteries and the following related expenses:
 - a. Labor charges related to battery service.
 - b. Travel expense related to battery service.
- Additional expenses for repair after normal business hours, i.e. overtime or holiday labor rates.
- 10. Rental of equipment during performance of warranty repairs.
- 11. Use of non-Kohler replacement parts. Replacement of a failed Kohler part with a non-Kohler part voids warranty on that part.
- Radiators replaced rather than repaired.
- 13. Non-Kohler-authorized repair shop labor without prior approval from Kohler Co.
- 14. Engine fluids such as fuel, oil, or coolant/antifreeze.
- 15. Shop supplies such as adhesives, cleaning solvents, and rags.
- Expenses incurred investigating performance complaints unless the problem is caused by defective Kohler materials or workmanship.
- Maintenance items such as fuses, lamps, filters, spark plugs, loose or leaking clamps, and adjustments.
- 18. Removal and replacement of non-Kohler-supplied options or equipment.
- 19. Generator sets used in a mobile application.
- 20. Unreasonable costs associated with removal and reinstallation of the complete unit.

To obtain warranty service, call 1-800-544-2444 for your nearest authorized Kohler service representative or write Kohler Co., Power Systems Service Department, MS072, Kohler, WI 53044 USA.

Kohler Co. shall not be liable for special, incidental, or consequential damages of any kind including, but not limited to, incidental consequential labor costs, installation charges, telephone charges, or transportation charges in connection with the replacement or repair of defective parts.

This is our exclusive written warranty. We make no other express warranty nor is anyone authorized to make any on our behalf.

Any implied or statutory warranty, including any warranty of merchantability or fitness of purpose, is expressly limited to the duration of this warranty. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of special, incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.



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