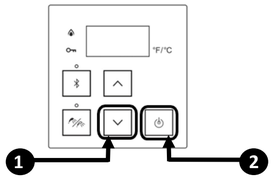
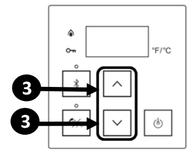
PERFORMANCE DATA

To Obtain Performance Data:

1. Press and hold the down arrow button.
2. While holding the down arrow button for 2 seconds, press and hold the “On/Off” button (hold both buttons simultaneously) until 01 appears.



3. Use the up and down arrow buttons to scroll to the desired performance information described below.



Performance Data Table

	DATA	UNIT
01	Water Flow Rate	x0.1 gal/min
02	Outgoing Temperature	°F
03	Combustion Hours	x100 Hours
04	Combustion Cycles	See following information
05	Fan Frequency	Hz
06	Additional Controllers Connected	See following information
07	Water Flow Control Position	0=Mid, 1=Open, 2=Closed
08	Inlet Temperature	°F
09	Fan Current	x10 mA
10	Total Bath Fill Amount	Gallons
11	HEX Outlet Temperature	°F
12	Bypass Flow Control Position	Degrees of opening
17	Freeze Protection Temperature	°F
19	Pump Hours	x100 Hours
20	Pump Cycles	See following information
21	Exhaust Temperature	°F
22	Pump Frequency	Hz
23	Lime Detecting Temperature	°F
24	Descaling Cycles	

04	**Combustion Cycles**
20	**Pump Cycles**

DISPLAY	CYCLE COUNT
000 to 999	x100 (0 to 99,900)
10- to 99-	x10,000 (100,000 to 990,000)
1-- to 6--	x1,000,000 (1,000,000 to 6,000,000)

06	**Controllers Connected**

CONTROLLER MODEL	CONNECTED	NOT CONNECTED
MC	_ _1	_ _0
BC	_1_	_0_
BSC & BSC2	1_ _, 2_ _ (QTY2)	0_ _

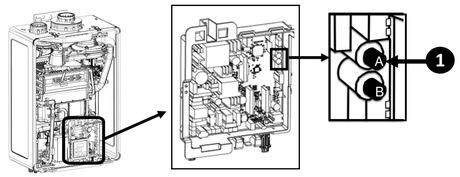
Default display is 100.

_ depends on connection status of another controller.

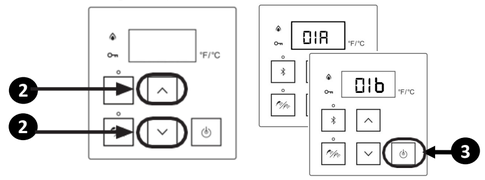
PARAMETER SETTINGS

To Adjust the Parameters:

1. Press the “A” button for 1 second.



2. Use the up and down arrow buttons on the controller to select a setting number (See *Parameter Settings Table*).



3. Once the desired setting number is selected, use the “On/Off” button on the controller to change the selection for the setting number.
   Example: Display will change from 01A to 01b for Maximum Temperature setting (as shown below).
4. To exit the parameters, press the “A” button on the PC board for 1 second.

Parameter Settings Table

SETTING		SELECTION					
#	DESCRIPTION	A	b	C	d	E	F
01	Maximum Set Temperature	Residential: 120°F (49°C) Commercial: 140°F (60°C)	Residential: 140°F(60°C) Commercial: 185°F(85°C)				
02	High Altitude (Installation Location)	0 - 2,000 ft (0 - 610 m)	2,001 - 5,400 ft (610 - 1,646 m)	5,401 - 7,700 ft (1,646 - 2,347 m)	7,701 - 10,200 ft (2,347 - 3,109 m)		
03	Service Soon[1]	Disabled	0.5 Year	1 Year	2 Years		
04[3]	Recirculation Settings	No Recirculation	Recirculation (Dedicated)	Recirculation (Crossover)			
05	Recirculation Mode*[2]	Economy	Comfort	Commercial[5]			
06	Control Switch	BMS[7]	Air Handler (AH)				
07	Units in Standby (EZConnect™)	2	1				
08	EZConnect™/ Cascade	Secondary	Primary				
09	Units in Standby (Cascade)	1	2	3	4	5	6
10	Gas Type	NG	LPG				
12	Built-in Pump Setting	Without Pump	With Pump				
13	Water Heater Model (Factory set values and not adjustable)	199 (3237)	180 (2934)	160 (2530)	130 (2024)		
14	Indoor/ Outdoor	Internal (Indoor)	External (Outdoor)				
15[3]	Low Activation Mode	On	Off				
16	Pump Speed*	Max	High	Medium	Low		
17[4]	First Day Pump Operation*	Off	On				
18[6]	Smart-Circ with BLE Button*	Smart-Circ is Disabled	Smart-Circ is Enabled				

* Pump models only.
[1] See section “4.13.2 Service Indicator (Service Soon, 55)” in the “Tankless Water Heater Installation and Operation Manual” for more information.
[2] Setting 05 is available only if setting 04b or 04C is selected.
Economy mode cycles the pump less often, using less energy to maintain the circulation loop temperature.
Comfort mode cycles the pump more frequently, ensuring the loop temperature remains higher (but also uses more energy).
[3] Low Activation Mode must be in the ON position (15A) if crossover recirculation is selected (Parameter 04C).
[4] For the first 24-hours of operation, Smart-Circ will learn hot water usage patterns and operate pump based on the learned patterns. On the first day, when the tankless water heater has no learned patterns, the unit can be set to no pump operation (Pump Off/No Recirc) for the first 24 hours or to the pump operating (Pump On/Recirc) multiple times per hour depending on setting 05 (Recirculation Mode).
[5] Commercial mode should not be used for residential applications. Application of commercial mode may result in excessive machine wear and energy consumption.
[6] To comply with California Title 24, select 18A (Smart-Circ is disabled).
[7] BMS = Building Management System

ELECTRICAL DIAGNOSTICS

NOTE: Wiring diagram is available in manual and on the inside front cover.

Important Safety Notes
There are a number of (live) tests required when performing electrical diagnostics on this product. Proceed with caution at all times to avoid contact with energized components inside the water heater. Only trained and qualified service technicians should attempt to repair this product. Before checking for resistance readings, disconnect the power source to the unit and isolate the item from the circuit (unplug it).

Freeze Protection
This unit has freeze protection heaters mounted at different points to protect the water heater from freezing. All of them should display a positive resistance reading.

Flame Rod
Place one lead of your meter to the flame rod and the other to ground. With the unit running you should read between 5 - 150 VAC. Set your meter to the micro (µ) amp scale and arrange meter leads in line with the flame rod. You should read 1 µ amp or greater for proper flame circuit. In the event of low flame circuit, remove the flame rod and check for carbon or damage. The flame rod gasket must be replaced after it is removed.

Amp Fuses
This unit has two glass fuses located on the PC Board, one inline (10) amp and one (4) amp glass fuse. Remove the fuses and check continuity through it. If you have continuity through each fuse then it is functioning. Otherwise the fuse is blown and must be replaced.

Thermistors
Check all thermistors by inserting meter leads into each end of the thermistor plug. Set your meter to the 20 K scale and read resistance. Applying heat to the thermistor bulb should decrease the resistance. Applying ice to the thermistor bulb should increase the resistance.
Below are examples of typical temperatures and resistance readings.

Temperature	Resistance Readings
59°F	11.4 - 14 KΩ
86°F	6.4 - 7.8 KΩ
113°F	3.6 - 4.5 KΩ
140°F	2.2 - 2.7 KΩ
221°F	0.6 - 0.8 KΩ

Electrical Circuit Table

COMPONENT	WIRE COLOR	VOLTAGE	RESISTANCE	PCB	
				CONNECTOR	PIN
Power Supply	Black-White	AC 108-132 V	N/A	CN100	1-3
Flame Rod	Yellow-Body	More than 0.5 VAC	N/A	CN9	19
	Black-Body	More than 0.5 VAC	N/A	CN7	19
Spark Electrode	White-Black	11-14 VDC*	N/A	CN9	10-12
Combustion Fan	Red-Black	7-48 VDC*	N/A	CN7	1-2
	White-Black	2-14VDC*	N/A	CN7	4-2
	Yellow-Black	11-13 VDC*	N/A	CN7	3-2
Water Flow Control Device	Red-Pink	N/A	40-60Ω	CN9	16-17
	Blue-White			CN9	14-15
	Orange-Grey	11-13 VDC	N/A	CN9	9-5
	Brown-Grey	Limiter On: less than 1 VDC Limiter Off: 4-6 VDC	N/A	CN9	13-5
By-Pass Flow Control Device	Red-Pink	N/A	40-60Ω	CN10	17-18
	Blue-White			CN10	15-16
Venturi Control Device	Blue-Black	N/A	350-550Ω	CN10	3-2 4-2 5-2 6-2
	Red-Black			CN10	9-1 10-1 11-1 12-1
	Black-Black	4-6VDC	N/A	CN10	1-14
Gas Solenoid Valve	Yellow-Black	11-13 VDC*	N/A	CN9	4-3
Outgoing Thermistor	White-White	N/A	59°F: 11.4-14kΩ 86°F: 6.4-7.8kΩ 113°F: 3.6-4.5kΩ 140°F: 2.2-2.7kΩ 221°F: 0.6-0.8kΩ Disconnect the connector and measure at thermistor side.	CN7	6-8
	Blue-Blue			CN7	14-16
Inlet Thermistor	White-White			CN7	11-12
Exhaust Thermistor	White-White			CN7	5-12
Heat Exchanger Thermistor	White-Blue			CN7	13-16
Freeze Protection Thermistor	Black-White		32°F: 38k-43k 50°F: 22k-26k	CN7	9-12
Overheat Switch	Black-Black	11-13 VDC	less than 1Ω	CN9	1-11
Water Flow Sensor	Red-Black	11-14 VDC	N/A	CN9	8-7
	Yellow-Black	4-7 VDC* Comment: more than 1.0L/min		CN9	6-7
Integrated Pump	White-Black	AC 108-132 V	N/A	CN101	1-2
	Red-Brown	11-14 VDC*	N/A	CN8	2-1
External Pump	White-Black	AC 108-132 V*	N/A	CN101	1-2
Additional Controller(s)	White-White	10-13 VDC	N/A	CN4	1-3

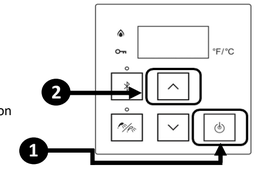
(Value to be measured while unit is in operation)*

DIAGNOSTIC CODES

Visit **rinnaipro.myabsorb.com** for additional troubleshooting resources

To Display Diagnostic Codes:

1. Turn off the water heater by pressing the “On/Off” button.
2. Press and hold the “On/Off” for 2 seconds and then the up arrow button simultaneously.
3. The last 9 maintenance codes display and flash one after the other.
4. To exit diagnostic codes and return the water heater to normal operation, press and hold the “On/Off” button for 2 seconds and then the up arrow button simultaneously.
5. Turn on the water heater by pressing the “On/Off” button.



03 Power interruption during bath fill (Water will not flow when power returns)
- Turn off all hot water taps. Press ON/ OFF twice.

10 Air Supply or Exhaust Blockage/ Condensate Trap is Full
- Ensure condensate line is not blocked.
- Ensure internal air filter is clean with no obstructions.
- Ensure High Altitude setting. (See Parameter Settings)
- Ensure Combustion air and Exhaust vents are not blocked and approved venting materials are being used.
- Ensure vent length is within limits. (Indoor Water Heaters Only)
- Check fan for debris and ensure wheel turns freely.
- Verify check valve is not stuck between fan casing and burner body.

11 No Ignition (Heater Not Turning On)
- Check that the gas is turned on at the water heater, meter, or cylinder.
- Ensure gas line, meter, and/or regulator is sized properly.
- If the system is propane, make sure that gas is in the tank.
- Ensure gas type and inlet gas pressure are correct.
- Bleed all air from gas lines.
- Check the ground wire for the PC Board.
- Ensure flame rod wire is connected.
- Ensure igniter is operational.*
- Check gas solenoid valves for open or short circuits.*
- Verify selected gas type is correct.
- Ensure condensate line is not blocked.

12 No Flame
- Check that the gas is turned on at the water heater, gas meter, or cylinder.
- If the system is propane, make sure that gas is in the tank.
- Ensure flame rod wire is connected.
- Ensure gas type and inlet gas pressure is correct.
- Bleed all air from gas lines.

14 Heat Exchanger Overheat
- Measure resistance or voltage of Overheat Switch.*
- Check heat exchanger surface for hot spots which indicate blockage due to scale build-up.
- Refer to instructions in manual for flushing heat exchanger. Hard water must be treated to prevent scale build up or damage to the heat exchanger.
- Ensure it is not in forced Hi setting.

15 Venturi Control
- Ensure the Venturi motor is operating correctly.*
- Replace gas valve assembly.
- Clear diagnostic code by resetting the main power supply to the water heater.

16 High Outgoing Temperature
(safety shutdown because water heater is too hot)
- Confirm fan motor is functioning correctly.
- Replace the gas valve assembly.

17 Venturi Blockage
- First, follow the recommended solutions for Diagnostic Code 10.
- If the Code 10 solutions do not correct the problem, ensure the Venturi is not blocked.
- Please call Rinnai technical department to reset the code.

18 Gas Valve Adjustment Limit
- Ensure gas type is correct.
- Ensure gas type parameter is correct.

19 Electrical Grounding
- Check all components for electrical short.

21 Data Transfer Error
- If the PCB has been replaced, ensure the data transfer process has been completed.

22 Gas Valve Adjustment Error
- Ensure a black reed switch is located properly.
- Ensure the gas adjustment is operating correctly.

25 Condensate Pump (Accessory)
- Confirm wire connections and harness are good.
- Ensure condensate reservoir is empty and condensate pump is operating.

32 Outgoing Thermistor
- Check sensor wiring for damage.
- Measure resistance or voltage of sensor.*
- Clean sensor of scale build-up.
- Replace sensor.

33 Heat Exchanger Thermistor
- Follow the steps above for Code 32 for troubleshooting.

34 Lime Detecting Thermistor
- Check sensor wiring for damage.
- Measure resistance or voltage of sensor.*
- Clean sensor of scale build-up.
- Replace sensor.

38 Exhaust Thermistor
- Check sensor wiring for damage.
- Measure resistance or voltage of sensor.*
- Replace sensor.

41 Freeze Protection Thermistor
- Follow the steps above for Code 38 for troubleshooting.

51 Inlet Thermistor
- Check sensor wiring for damage.
- Measure resistance or voltage of sensor.*
- Clean sensor of scale build-up.
- Replace sensor.

52 Gas Valve
- Check flame rod and wire for damage.
- Check gas solenoid valve for open or short circuit.*
- Replace gas valve assembly.
- Please call Rinnai Technical Support.

54 High Exhaust Gas Temperature
- Ensure Heat Exchanger fins are clean and not blocked.
- Check heat exchanger surface for hot spots which may be caused by scale build-up. Refer to instructions in manual for flushing heat exchanger. Hard water must be treated to prevent scale build up or damage to the heat exchanger.
- Confirm inlet water temperature is not too high.
- Clear diagnostic code by resetting the main power supply to the water heater.
- Ensure condensate is not blocked.

61 Combustion Fan
- Check the motor wire harness for loose or damaged connections.
- Measure resistance or voltage of motor wire harness.*
- Ensure the combustion fan spins freely.

63 Recirculation Low Flow
- If recirculation water temperature is not adequate, confirm pump speed is set to Max (Parameter 16A). Recirculation flow rate must be greater than 0.4 GPM (1.5 L/min).
- Ensure the inlet water filter is clean and free of debris.
- Ensure Parameter setting are correctly set for recirculation mode.
- Ensure Pump supply voltage.
- Ensure air is removed from the recirculation line.

65 Water Flow Control
- Measure resistance or voltage values of the water flow control.*
- The water flow control valve has failed to close during the bath fill function. Immediately turn off the water and discontinue the bath fill function. Contact a trained and qualified professional to service the appliance.

66 Flow Servo
- Measure the resistance values and voltage of the flow servo valve.*
- Ensure the harness and connector are not wet.
- If the voltage from the PC Board is abnormal, replace the PC board; otherwise replace the flow servo valve.

70 PC Board
- Replace PC Board.

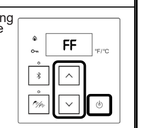
71 Solenoid Valve Circuit
- Ensure dip switch on PC board is in the OFF position.
- Ensure gas control wire is not loose or damaged.
- Ensure heater circuit is not grounded.
- Replace PC Board.
- Check flame rod and wire for damage.
- Verify HEX is not leaking.
- Please call Rinnai Technical Support.

72 Flame Rod
- Check flame rod and wire for damage.
- Verify heat exchanger is not leaking.
- Please call Rinnai Technical Support.

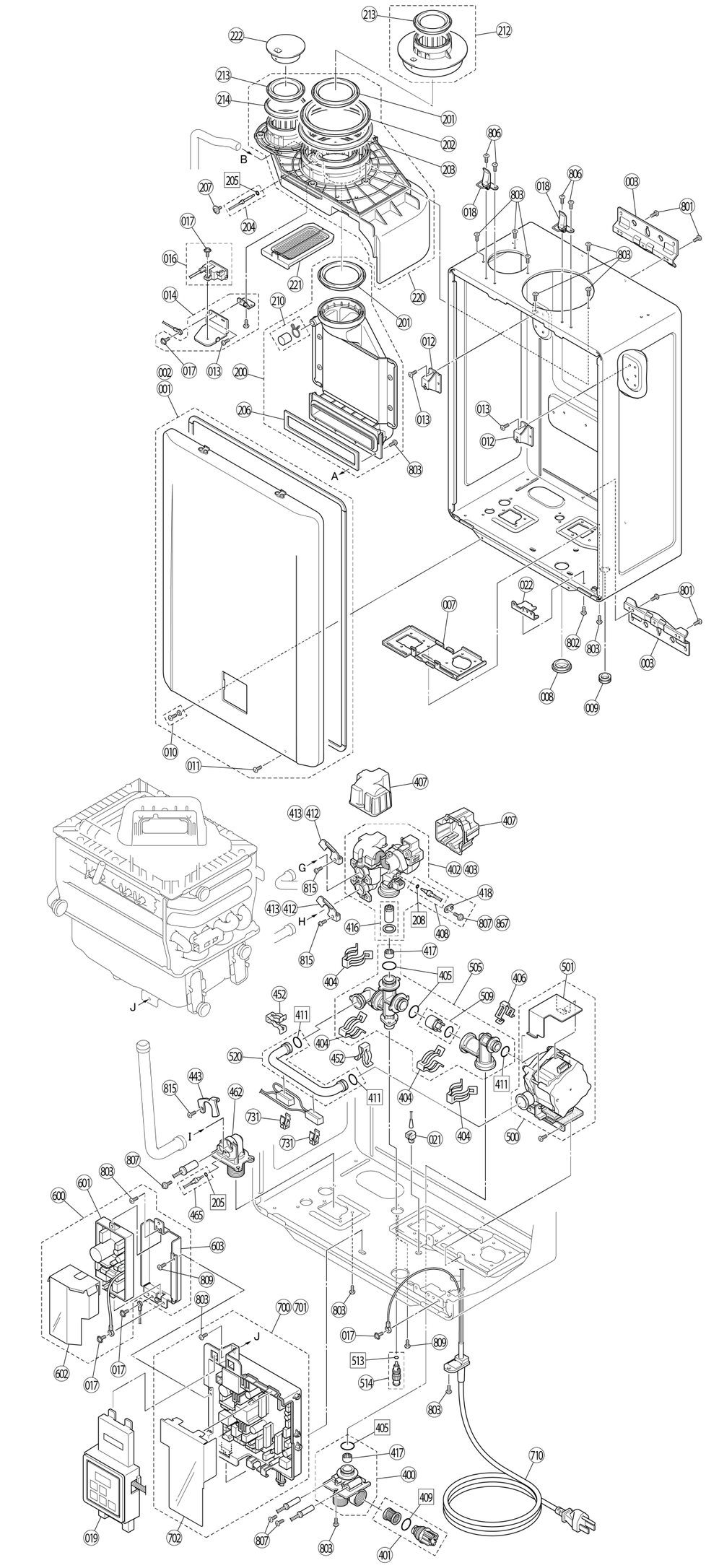
LC Scale Build-up in Heat Exchanger (when checking maintenance code history, “00” is substituted for “LC”
- LC indicates that there is scale build up in the heat exchanger and that the heat exchanger needs to be flushed to prevent damage. Refer to the flushing instructions in the manual. Hard water must be treated to prevent scale build up or damage to the heat exchanger.
- After flushing, reset LC code as instructions.
- Please call Rinnai technical department.
- To reset the LC code temporarily, push the “On/Off” button on the temperature controller five times in five seconds.

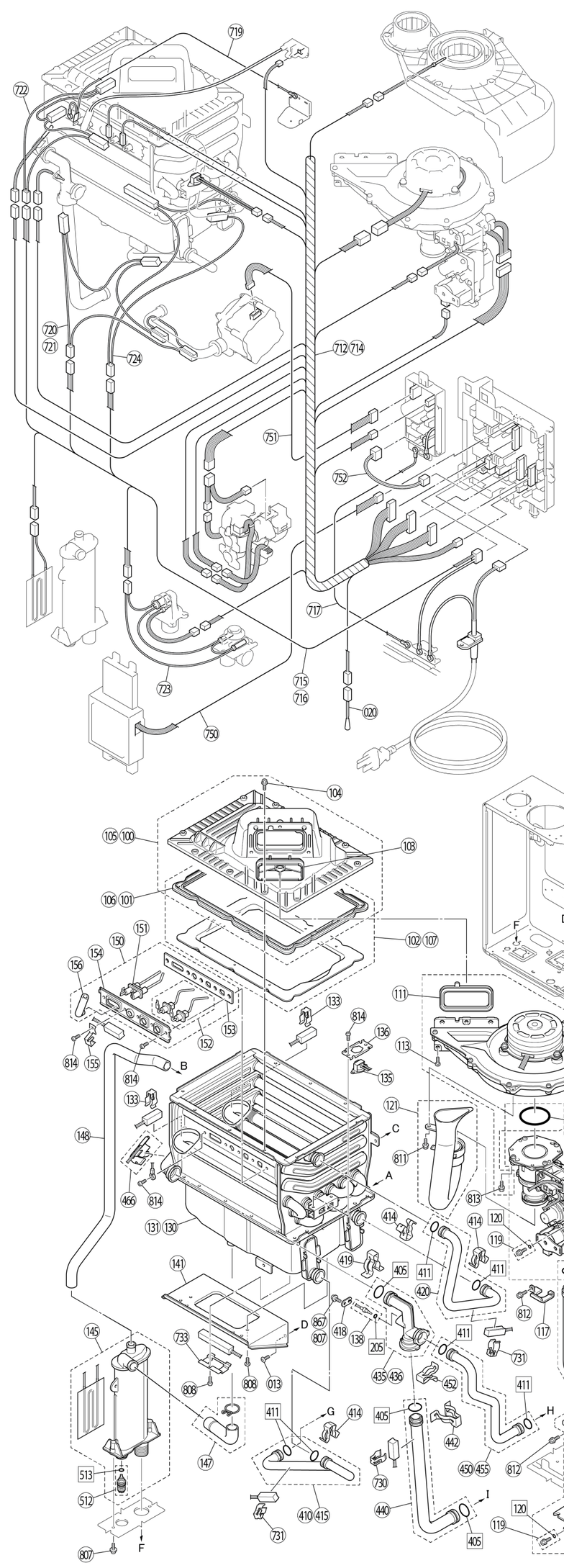
55 (55) Service Soon
- **55** is a time-based service indicator set during installation. See section “4.12 Configure Parameter Settings” for additional details on setting and changing the SS indicator.
- **55** indicates that it is time for service.
- To reset the **55** code, push and hold the "A" button until "55" disappears.

FF Maintenance Indicator
- Placeholder in Diagnostic code history indicating that a service provider performed maintenance or service.
- Enter this code after performing service by pressing the up and down arrow buttons and "On/Off" simultaneously.
- FF is visible on the monitor.

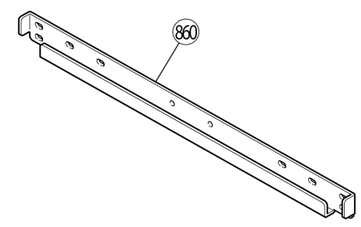


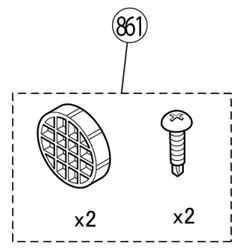
* See “Electrical Diagnostics”

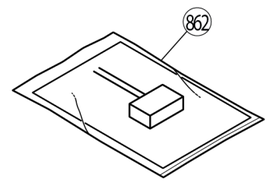


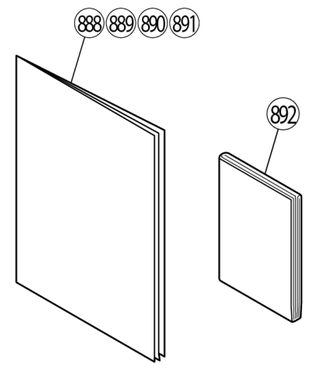


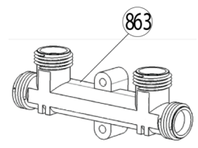
Gas Conversion Kit
104000330











ITEM	DESCRIPTION	PART NUMBER	RX199i/180i	RX160i/130i	CX199i	CX160i	RXP199i	RXP160i	CXP199i	CXP160i
001	Front Cover—Residential	109001388	1	1			1	1		
002	Front Cover—Commercial	109001389			1	1			1	1
003	Wall Mount Bracket	109000594	2	2	2	2	2	2	2	2
007	Connection Reinforcement Plate	109001390	1	1	1	1	1	1	1	1
008	Rubber Bushing	109000634	1	1	1	1	1	1	1	1
009	Rubber Bushing A	CF79-41020-A	1	1	1	1	1	1	1	1
010	Screw and Washer	106000645	1	1	1	1	1	1	1	1
011	Ground Screw	109000076	1	1	1	1	1	1	1	1
012	Combustion Chamber Support Plate	109001391	2	2	2	2	2	2	2	2
013	Truss Screw	109000598	13	13	13	13	13	13	13	13
014	Igniter Bracket	109001392	1	1	1	1	1	1	1	1
016	Igniter Assembly (Module)	105002016	1	1	1	1	1	1	1	1
017	Self Tapping Grounding Screw	CP-80452	5	5	5	5	5	5	5	5
018	Latch	109001393	2	2	2	2	2	2	2	2
019	Controller	105002017	1	1	1	1	1	1	1	1
020	Ambient Thermistor	105002018	1	1	1	1	1	1	1	1
021	TH Gasket	109000490	1	1	1	1	1	1	1	1
022	Ground Plate	109000774	1	1	1	1	1	1	1	1
100	Burner Assembly-Large	106000265	1		1		1		1	
101	Burner Gasket-Large	109001394	1		1		1		1	
102	Burner Plate Assembly-Large	106000266	1		1		1		1	
103	Combustion Check Valve Assembly	108000135	1	1	1	1	1	1	1	1
104	Screw	109001419	9	9	9	9	9	9	9	9
105	Burner Assembly-Small	106000267		1		1		1		1
106	Burner Gasket-Small	109001395		1		1		1		1
107	Burner Plate Assembly-Small	106000268		1		1		1		1
110	Combustion Fan Assembly	108000130	1	1	1	1	1	1	1	1
111	Fan Mounting Packing	109001396	1	1	1	1	1	1	1	1
112	O-Ring	109000612	1	1	1	1	1	1	1	1
113	Hexagon Head Screw	ZQAA0514UK	3	3	3	3	3	3	3	3
114	Gas Valve Assembly	106000269	1	1	1	1	1	1	1	1
115	O-Ring	109000252	2	2	2	2	2	2	2	2
116	Gas Connection Pipe	106000270	1	1	1	1	1	1	1	1
117	Gas Tube Bracket	109000635	1	1	1	1	1	1	1	1
118	Inlet Gas Supply Connection	106000119	1	1	1	1	1	1	1	1
119	Inlet Gas Test Port Screw	106000138	2	2	2	2	2	2	2	2
120	O-Ring	M10B-13-4	2	2	2	2	2	2	2	2
121	Noise Filter	106000271	1	1	1	1	1	1	1	1
130	Heat Exchanger Assembly-Large	107000640	1		1		1		1	
131	Heat Exchanger Assembly-Small	107000641		1		1		1		1
133	Heater Bracket	109001397	2	2	2	2	2	2	2	2
135	Over Heat Switch (OHS)	105002019	1	1	1	1	1	1	1	1
136	OHS Bracket	109001398	1	1	1	1	1	1	1	1
138	Thermistor	105002020	1	1	1	1	1	1	1	1
141	Secondary Heat Exchanger Bracket	109001399	1	1	1	1	1	1	1	1
145	Condensate Trap	107000642	1	1	1	1	1	1	1	1
147	Condensate Drain tube	107000643	1	1	1	1	1	1	1	1
148	Drain Tube at Air Intake	107000644	1	1	1	1	1	1	1	1
150	Electrode/Flame Rod Assembly	105002021	1	1	1	1	1	1	1	1
151	Electrode	105002022	1	1	1	1	1	1	1	1
152	Flame Rod	105002023	1	1	1	1	1	1	1	1
153	Electrode Gasket	109001400	1	1	1	1	1	1	1	1
154	Electrode Plate	109001401	1	1	1	1	1	1	1	1

ITEM	DESCRIPTION	PART NUMBER	RX199i/180i	RX160i/130i	CX199i	CX160i	RXP199i	RXP160i	CXP199i	CXP160i
155	Electrode Heater Bracket	109001402	1	1	1	1	1	1	1	1
156	Electrode Sleeve	109000620	1	1	1	1	1	1	1	1
200	Exhaust Duct Assembly	108000131	1	1	1	1	1	1	1	1
201	Exhaust Gasket	109001403	2	2	2	2	2	2	2	2
202	Intake Gasket	109001404	1	1	1	1	1	1	1	1
203	Air Supply Seal Ring	109001405	1	1	1	1	1	1	1	1
204	Exhaust Thermistor	105002024	1	1	1	1	1	1	1	1
205	O-Ring	107000323	3	3	3	3	3	3	3	3
206	Exhaust Duct Gasket	109001406	1	1	1	1	1	1	1	1
207	Thermistor Screw	109000622	1	1	1	1	1	1	1	1
208	O-Ring	M10B-2-4	1	1	1	1	1	1	1	1
210	Rubber Cap	109001407	1	1	1	1	1	1	1	1
212	Exhaust Adapter Ring	108000132	1	1	1	1	1	1	1	1
213	Air Inlet Seal Ring - 2 inch	109001408	2	2	2	2	2	2	2	2
214	Air Inlet Gasket	109001409	1	1	1	1	1	1	1	1
220	Duct Assembly	108000133	1	1	1	1	1	1	1	1
221	Air Inlet Filter	108000086	1	1	1	1	1	1	1	1
222	Air Inlet Cap	108000134	1	1	1	1	1	1	1	1
400	3/4 Water Inlet Connection	107000645	1	1	1	1	1	1	1	1
401	Water Inlet Filter Plug Assembly	107000646	1	1	1	1	1	1	1	1
402	Water Flow Servo Assy - Residential	107000647	1	1			1	1		
403	Water Flow Servo Assy - Commercial	107000648			1	1			1	1
404	Quick Fastener 16B	109000636	1	1	1	1	4	4	4	4
405	O-Ring	107000324	6	6	6	6	6	6	6	6
406	Quick Fastener 12.7	809000172					1	1	1	1
407	Cover	107000093	2	2	2	2	2	2	2	2
408	Inlet Water Thermistor	105002025	1	1	1	1	1	1	1	1
409	O-Ring	107000325	1	1	1	1	1	1	1	1
410	Cold Water Connection Pipe - Non-Pump Model	107000649	1	1	1	1				
411	O-Ring	109001410	8	8	8	8	9	9	9	9
412	Retention Clip - Residential	109001284	2	2			2	2		
413	Retention Clip - Commercial	AH69-310			2	2			2	2
414	Quick Fastener	109000244	3	3	3	3	3	3	3	3
415	Cold Water Connection Pipe - Pump Model	107000650					1	1	1	1
416	Flow Turbine Assembly	107000621	1	1	1	1	1	1	1	1
417	Rectifier	M8D1-15	1	1	1	1	2	2	2	2
418	Plate	109001287	1	1	1	1	1	1	1	1
419	Quick Fastener	109001418	1	1	1	1	1	1	1	1
420	Secondary Connecting Pipe Assembly	107000651	1	1	1	1	1	1	1	1
435	Bypass Connection Joint - Residential	107000652	1	1			1	1		
436	Bypass Connection Joint - Commercial	107000653			1	1			1	1
440	Hot Water Connection Pipe	107000654	1	1	1	1	1	1	1	1
442	Quick Fastener	109000638	1	1	1	1	1	1	1	1
443	Retention Clip	U211-322X01	1	1	1	1	1	1	1	1
450	Bypass Pipe - Non-Pump Model	107000655	1	1	1	1				
452	Quick Fastener	109000639	1	1	1	1	3	3	3	3
455	Bypass Pipe - Pump Model	107000656					1	1	1	1
462	Hot Water Outlet Connection	107000657	1	1	1	1	1	1	1	1
465	Outlet Twin Thermistor	105002026	1	1	1	1	1	1	1	1
466	Surface Mount Thermistor	105002045	1	1	1	1	1	1	1	1
500	Recirculation Pump	107000658					1	1	1	1
501	Pump Connector Cover	109001411					1	1	1	1

ITEM	DESCRIPTION	PART NUMBER	RX199i/180i	RX160i/130i	CX199i	CX160i	RXP199i	RXP160i	CXP199i	CXP160i
505	Water Recirc Joint Assy w Check Valve	107000659					1	1	1	1
509	Check Valve	107000134					1	1	1	1
512	Drain Plug	107000661	1	1	1	1	1	1	1	1
513	O-ring	109000182	1	1	1	1	2	2	2	2
514	Drain Plug	107000058					1	1	1	1
520	Pump Outlet Connection Pipe	107000660					1	1	1	1
600	Pump Circuit Assembly	105002027					1	1	1	1
601	Pump Circuit	105002001					1	1	1	1
602	Pump Circuit Cover	109001412					1	1	1	1
603	Pump Circuit Plate	109001413					1	1	1	1
700	PC Board - Residential	105002028	1	1			1	1		
701	PC Board - Commercial	105002029			1	1			1	1
702	PCB Cover	109001414	1	1	1	1	1	1	1	1
710	Power Cord Assembly	105002030	1	1	1	1	1	1	1	1
712	Sensor Harness 1	105002031	1	1			1	1	1	1
714	Sensor Harness 3	105002032			1	1				
715	Heater Relay Harness - Non-Pump Model	105002033	1	1	1	1				
716	Heater Relay Harness - Pump Model	105002034					1	1	1	1
717	Ground Harness	105002035					1	1	1	1
719	Ignitor Harness	105002036	1	1	1	1	1	1	1	1
720	Freeze Protect Heater - Non-Pump Model	105002037	1	1	1	1				
721	Freeze Protect Heater - Pump Model	105002038					1	1	1	1
722	HEX Freeze Protection Heater	105002039	1	1	1	1	1	1	1	1
723	Ceramic Heater	105002040	1	1	1	1	1	1	1	1
724	Sec. HEX Freeze Protection Heater	105002041	1	1	1	1	1	1	1	1
730	Heater Clip A	AU124-618X01	1	1	1	1	1	1	1	1
731	Heater Clip C	U250-625	2	2	2	2	4	4	4	4
733	Freeze Protection Heater Bracket	109000647	1	1	1	1	1	1	1	1
750	Control Harness	105002042	1	1	1	1	1	1	1	1
751	Pump Harness	105002043					1	1	1	1
752	Pump Circuit Harness	105002044					1	1	1	1
801	Screw	CP-30583	4	4	4	4	4	4	4	4
802	Screw	ZBA0408UK	1	1	1	1	1	1	1	1
803	Screw	CP-30580	25	25	25	25	25	25	25	25
806	Screw	109000649	4	4	4	4	4	4	4	4
807	Screw	U217-449	5	5	7	7	5	5	7	7
808	Screw	209000206	5	5	5	5	5	5	5	5
809	Screw	109001415	2	2	2	2	2	2	2	2
811	Screw	108000021	1	1	1	1	1	1	1	1
812	Screw	109001416	2	2	2	2	2	2	2	2
813	Screw	109000179	4	4	4	4	4	4	4	4
814	Screw	109001417	7	7	7	7	7	7	7	7
815	Screw	809000179	3	3	3	3	3	3	3	3
860	Mount Bracket	109000628	1	1	1	1	1	1	1	1
861	Vent Screen Set	108000104	1	1	1	1	1	1	1	1
862	External Pump Harness	105000250			1	1				
863	Thermal Bypass Valve	107000143					1	1		
867	Screw	109001300	2	2			2	2		
888	I/O Manual, Residential—EN	100000839	1	1			1	1		
889	I/O Manual, Residential—FR	100000851	1	1			1	1		
890	I/O Manual, Commercial—EN	100000840			1	1			1	1
891	I/O Manual, Commercial—FR	100000852			1	1			1	1
892	Technical Data Sheet	100000849	1	1	1	1	1	1	1	1

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