

Spa Control Troubleshooting Guide

Model: RS101, Voltage: 240V



Major System Components

TOPSIDE PANEL



SYSTEM PACK



GROUND FAULT CIRCUIT INTERRUPTER (GFCI)

*GFCI models vary in size and style.
Your GFCI may look different.*



HEATER



PUMP

*Pump models vary in size and style.
Your pump may look different.*



OZONE GENERATOR

*This is an optional component.
Your system may not have it.*



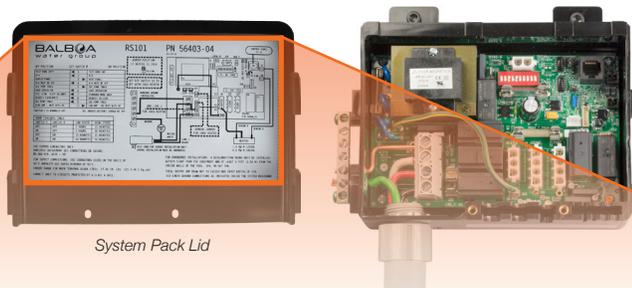
LIGHT

*Light models vary in size and style.
Your lights may look different.*

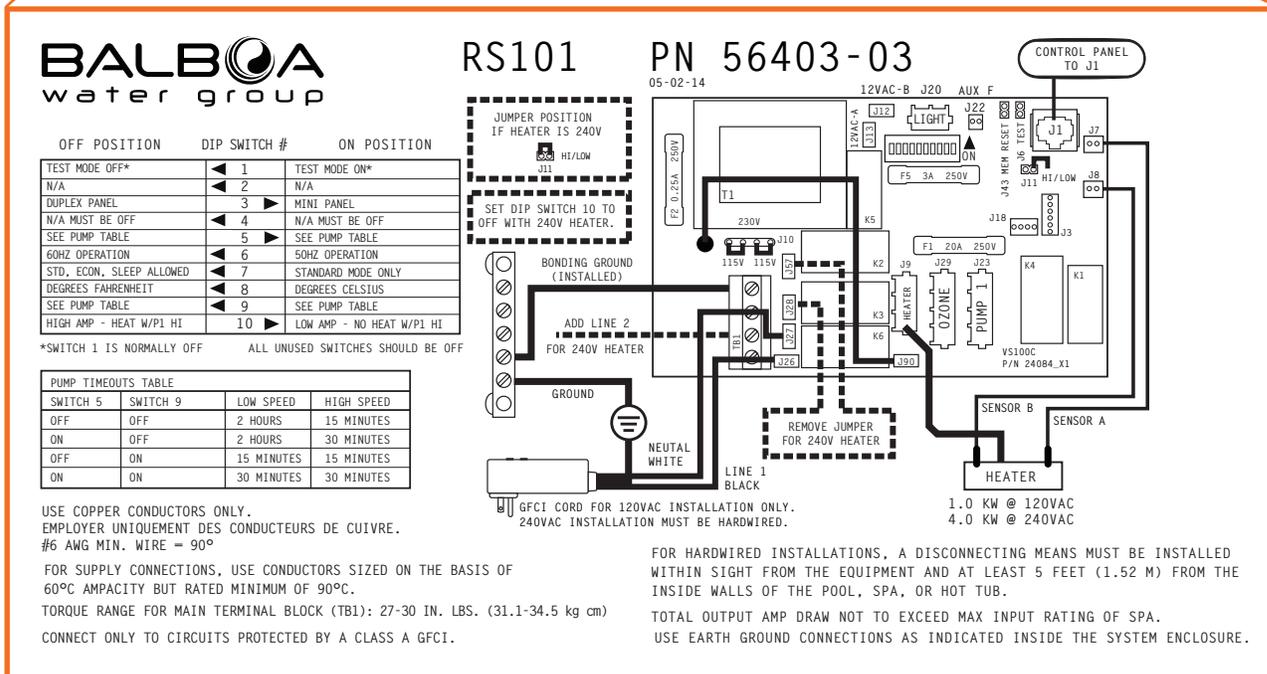


Wire Diagram

The system's wire diagram is on the inside of the system pack lid.



System Pack Lid

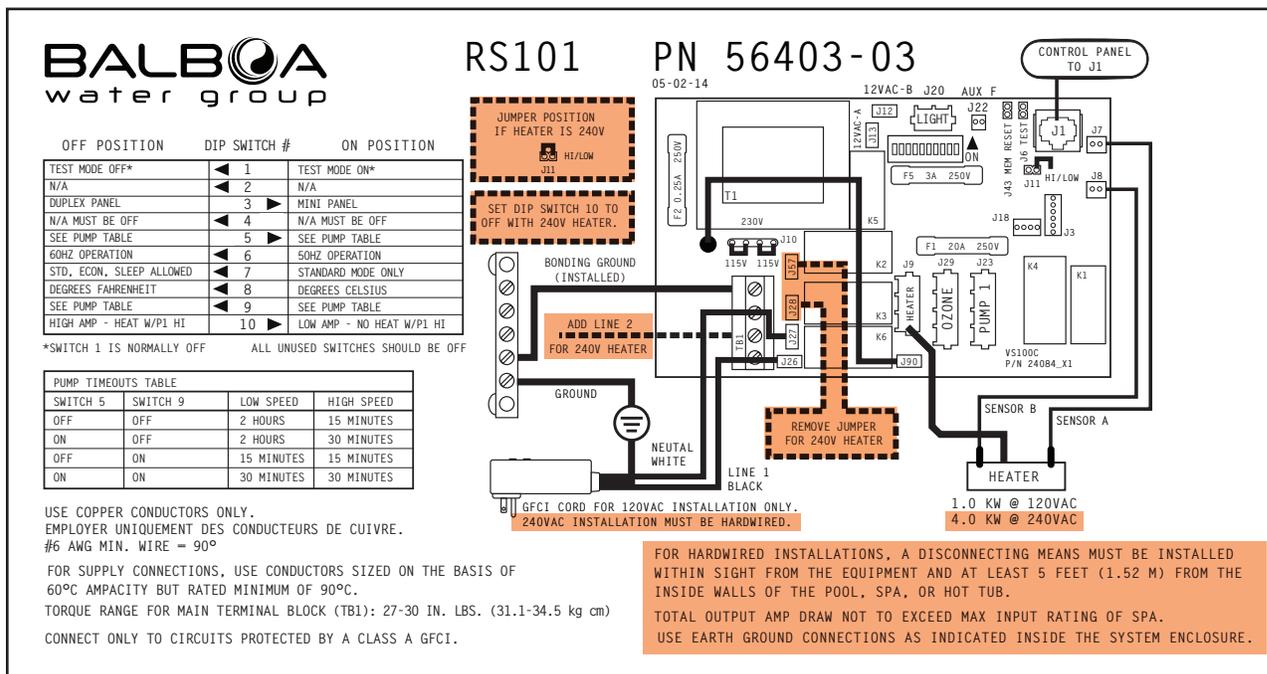


Wire Diagram

The wire diagram contains important information for troubleshooting. The following pages explain how to read the diagram.

Wire Diagram

120V and 240V specifications are contained on one wire diagram. 240V specifications are highlighted in orange.



Wire Diagram

Wire Diagram

Wire Diagram

This page explains the J11 logic jumper.



OFF POSITION	DIP SWITCH #	ON POSITION
TEST MODE OFF*	1	TEST MODE ON*
N/A	2	N/A
DUPLEX PANEL	3	MINI PANEL
N/A MUST BE OFF	4	N/A MUST BE OFF
SEE PUMP TABLE	5	SEE PUMP TABLE
60HZ OPERATION	6	50HZ OPERATION
STD. ECON. SLEEP ALLOWED	7	STANDARD MODE ONLY
DEGREES FAHRENHEIT	8	DEGREES CELSIUS
SEE PUMP TABLE	9	SEE PUMP TABLE
HIGH AMP - HEAT W/P1 HI	10	LOW AMP - NO HEAT W/P1 HI

*SWITCH 1 IS NORMALLY OFF ALL UNUSED SWITCHES SHOULD BE OFF

SWITCH 5	SWITCH 9	LOW SPEED	HIGH SPEED
OFF	OFF	2 HOURS	15 MINUTES
ON	OFF	2 HOURS	30 MINUTES
OFF	ON	15 MINUTES	15 MINUTES
ON	ON	30 MINUTES	30 MINUTES

USE COPPER CONDUCTORS ONLY.
EMPLOYER UNIQUEMENT DES CONDUCTEURS DE CUIVRE.
#6 AWG MIN. WIRE = 90°

FOR SUPPLY CONNECTIONS, USE CONDUCTORS SIZED ON THE BASIS OF 60°C AMPACITY BUT RATED MINIMUM OF 90°C.

TORQUE RANGE FOR MAIN TERMINAL BLOCK (TB1): 27-30 IN. LBS. (31.1-34.5 kg cm)

CONNECT ONLY TO CIRCUITS PROTECTED BY A CLASS A GFCI.

RS101

05-02-14

JUMPER POSITION IF HEATER IS 240V

SET DIP SWITCH 10 TO OFF WITH 240V HEATER.

BONDING GROUND (INSTALLED)

ADD LINE 2 FOR 240V HEATER

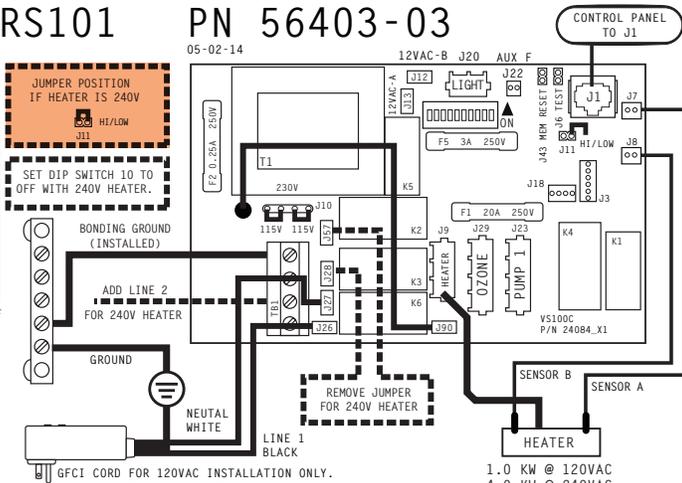
GROUND

NEUTRAL WHITE

LINE 1 BLACK

GFCI CORD FOR 120VAC INSTALLATION ONLY.
240VAC INSTALLATION MUST BE HARDWIRED.

PN 56403-03



12VAC-B J20 AUX F

CONTROL PANEL TO J1

1.0 KW @ 120VAC
4.0 KW @ 240VAC

Logic Jumper

Two Pin Connector at J11

The logic jumper does not connect the pins on a 120V system.

The logic jumper connects both pins on a 240V system.

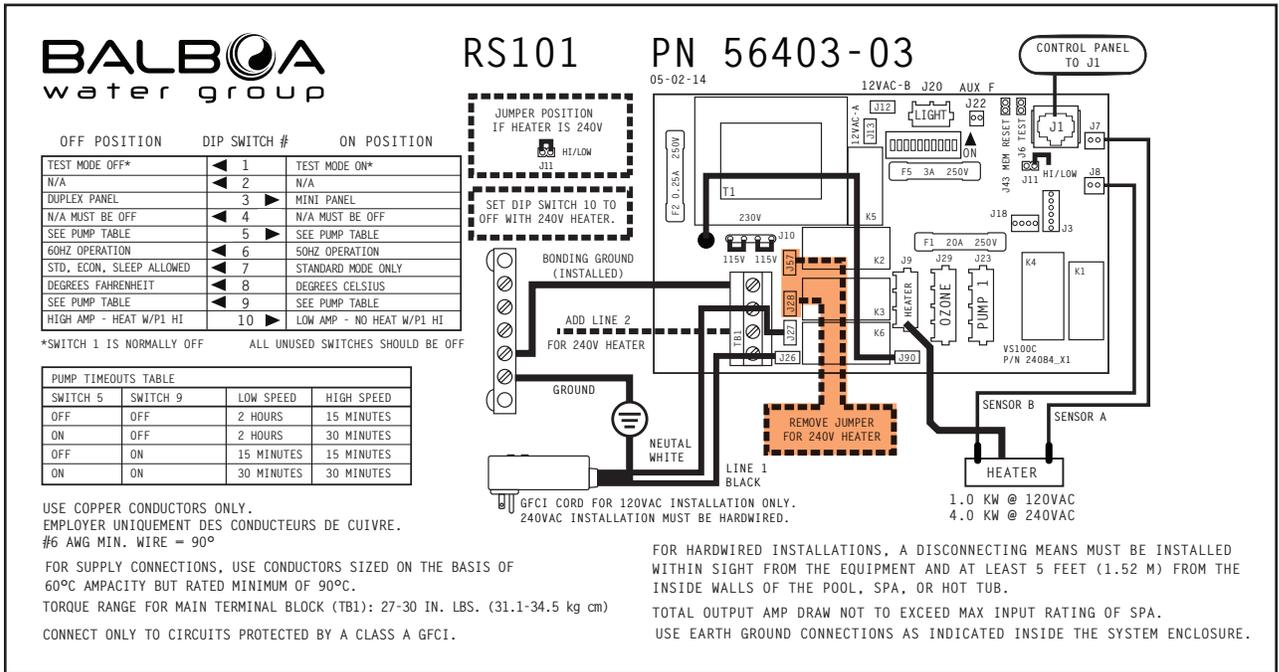
System Voltage: 240V

Dreammaker Troubleshooting Guide - RS101 System

Wire Diagram

Wire Diagram

This page explains the wire jumper.



The wire jumper connects J28 and J57 on a 120V system.



The wire jumper is removed from a 240V system.

Wire Diagram

Wire Diagram

This page explains the hard-wired GFCI.



OFF POSITION	DIP SWITCH #	ON POSITION
TEST MODE OFF*	1	TEST MODE ON*
N/A	2	N/A
DUPLEX PANEL	3	MINI PANEL
N/A MUST BE OFF	4	N/A MUST BE OFF
SEE PUMP TABLE	5	SEE PUMP TABLE
60HZ OPERATION	6	50HZ OPERATION
STD. ECON. SLEEP ALLOWED	7	STANDARD MODE ONLY
DEGREES FAHRENHEIT	8	DEGREES CELSIUS
SEE PUMP TABLE	9	SEE PUMP TABLE
HIGH AMP - HEAT W/P1 HI	10	LOW AMP - NO HEAT W/P1 HI

*SWITCH 1 IS NORMALLY OFF ALL UNUSED SWITCHES SHOULD BE OFF

PUMP TIMEOUTS TABLE			
SWITCH 5	SWITCH 9	LOW SPEED	HIGH SPEED
OFF	OFF	2 HOURS	15 MINUTES
ON	OFF	2 HOURS	30 MINUTES
OFF	ON	15 MINUTES	15 MINUTES
ON	ON	30 MINUTES	30 MINUTES

USE COPPER CONDUCTORS ONLY.
EMPLOYER UNIQUEMENT DES CONDUCTEURS DE CUIVRE.
#6 AWG MIN. WIRE = 90°

FOR SUPPLY CONNECTIONS, USE CONDUCTORS SIZED ON THE BASIS OF 60°C AMPACITY BUT RATED MINIMUM OF 90°C.
TORQUE RANGE FOR MAIN TERMINAL BLOCK (TB1): 27-30 IN. LBS. (31.1-34.5 kg cm)

CONNECT ONLY TO CIRCUITS PROTECTED BY A CLASS A GFCI.

RS101

05-02-14

JUMPER POSITION IF HEATER IS 240V

SET DIP SWITCH 10 TO OFF WITH 240V HEATER.

BONDING GROUND (INSTALLED)

ADD LINE 2 FOR 240V HEATER

NEUTRAL WHITE

GROUND

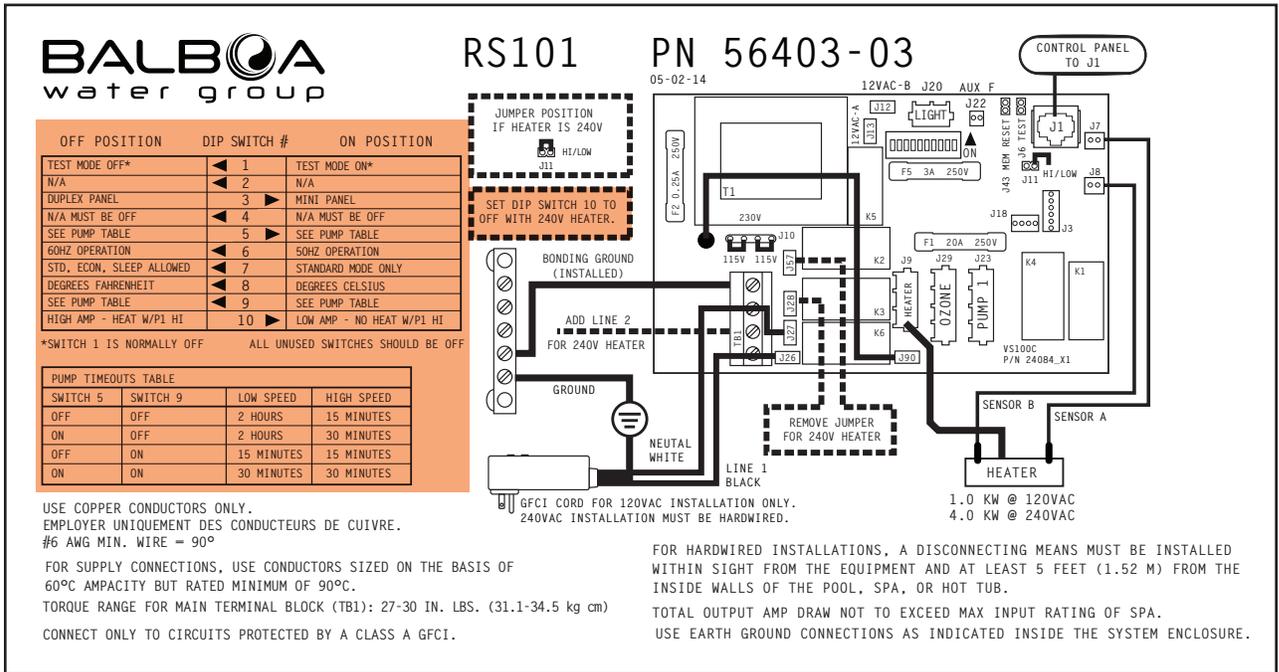
GFCI CORD FOR 120VAC INSTALLATION ONLY.
240VAC INSTALLATION MUST BE HARDWIRED.

PN 56403-03

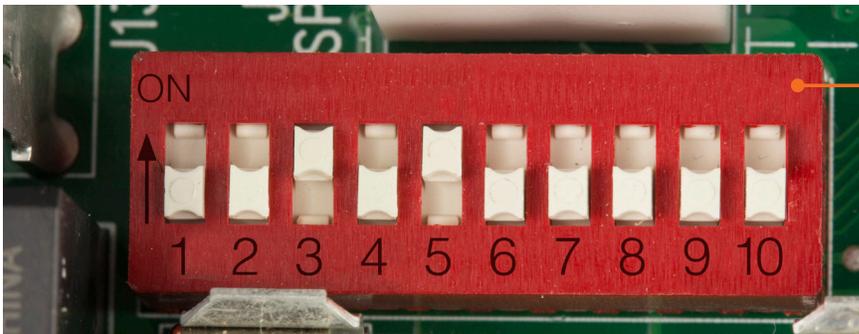
Wire Diagram

Wire Diagram

This page explains dip switch settings.



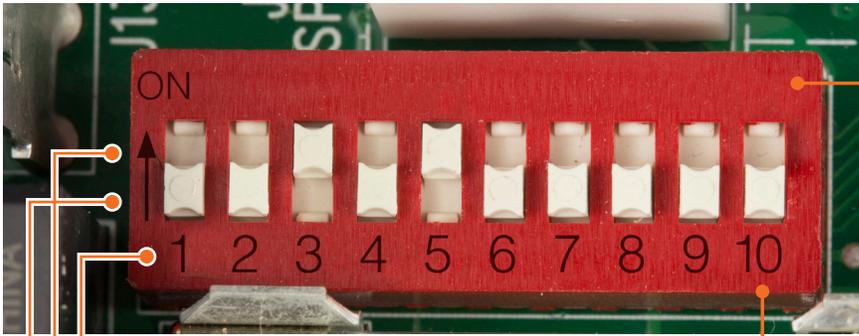
Dip Switch Bank



IMPORTANT TROUBLESHOOTING CONCEPTS

- 1 - The wire diagram shows factory default dip switch settings. Before you start troubleshooting, make sure the dip switches on the circuit board match the factory default settings.
- 2 - DO NOT change dip switch settings when the system is powered ON. The only exception is dip switch #1.

Dip Switch Bank



OFF POSITION DIP SWITCH # ON POSITION

TEST MODE OFF*	◀ 1	TEST MODE ON*
N/A	◀ 2	N/A
DUPLEX PANEL	3 ▶	MINI PANEL
N/A MUST BE OFF	◀ 4	N/A MUST BE OFF
SEE PUMP TABLE	5 ▶	SEE PUMP TABLE
60HZ OPERATION	◀ 6	50HZ OPERATION
STD, ECON, SLEEP ALLOWED	◀ 7	STANDARD MODE ONLY
DEGREES FAHRENHEIT	◀ 8	DEGREES CELSIUS
SEE PUMP TABLE	◀ 9	SEE PUMP TABLE
HIGH AMP - HEAT W/P1 HI	10 ▶	LOW AMP - NO HEAT W/P1 HI

*SWITCH 1 IS NORMALLY OFF

ALL UNUSED SWITCHES SHOULD BE OFF

SET DIP SWITCH 10 TO OFF WITH 240V HEATER.

Dip switch 10 determines if the heater runs with the high speed pump. If dip switch 10 is ON, the heater will not run. This is called "low amperage mode." If dip switch 10 is OFF, the heater will run. This is called "high amperage mode." Usually 240V systems are configured with high amperage mode. However, if the combined amperage of the high speed pump and heater trip the GFCI, the system can be configured with low amperage mode.

SWITCH 5	SWITCH 9	LOW SPEED	HIGH SPEED
OFF	OFF	2 HOURS	15 MINUTES
ON	OFF	2 HOURS	30 MINUTES
OFF	ON	15 MINUTES	15 MINUTES
ON	ON	30 MINUTES	30 MINUTES

This chart list available pump durations (or "Timeouts"). Dip switches #5 and #9 control pump durations. For example, if dip switches #5 and #9 are OFF, the low speed pump duration (or "timeout") will be 2 hours. And, the high speed pump duration will be 15 minutes.

Circuit Board - Component Connections

Each major circuit board connector is named and labeled on the circuit board and on the wire diagram. For example, the HEATER connector is labeled J9. The OZONE connector is labeled J29. The PUMP connector is labeled J23.

