

# BP2100G1 Tech Sheet

**Customer:** Balboa Water Group

**Part Number:** 56389-02 800 Incoloy 3kW  
56390-02 825 Incoloy 3kW  
56391-02 Titanium 3kW  
56587 800 Incoloy 2kW

Custom Box Overlay   
Box Overlay Part Number N/A

CE System Model: BP21-BP2100G1-RCA3.0K  
Software Version ID: M100\_225 V20.0  
Software Version: 20.0  
File Name: BP2100\_20.0\_BP2100G1\_18.hex  
Configuration Signature: EBCE9FD8

Eng. Project Number: 4132

Base PCBA: 56392-02 for systems 56389-02, 56390-02, 56391-02  
56588 for system 56587

**Control Panels:**

TP600CE version 2.7 or later

TP600 (non-CE) should not be used.

TP800 version 3.1 or later (Version 3.13 or later required for bba™)

TP900 version 3.1 or later (Version 3.13 or later required for bba™)



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2012 Balboa Water Group.

# System Revision History

Part #	EPN	Date	Originator	Changes Made
56389 56390 56391	3936	12-07-12	BWG	Initial Release BP2100G1
56389-01 56390-01 56391-01	4008	01-31-13	BWG	Add Setup 18. Add TP600 support.
56389-02 56390-02 56391-02	4132	09-12-13	BWG	Update to latest software version.
56389-02 56390-02 56391-02 56587	4132	01-30-14	BWG	Updated to latest software version, adding topside-intergrated bba™ support. Released to production. Add 2kW model.

bba™ (Balboa Bluetooth Amp) connection is documented separately.

bba™ is only integrated into graphic display panels (TP800, TP900 and spaTouch™). With TP600 the Aux button operation of bba™ must be used.

# Basic Functions Setup 1-18

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## Power Requirements:

**Single Service** [3 wires (line, neutral, ground)]

230VAC, 50/60Hz\*, 1p, 32A, (Circuit Breaker rating = 40A max.)

**Dual Service** N/A

**3-Service** [5 wires (line 1, line 2, line 3, neutral, ground)]

400VAC, 50/60Hz\*, 3p, 16A, (Circuit Breaker rating = 20A max each phase line.)

**IMPORTANT** - Service must include a neutral wire, with a line to neutral voltage of 230VAC.

\*BP systems automatically detect 50Hz vs 60Hz.

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# Basic Functions Setup 1-18

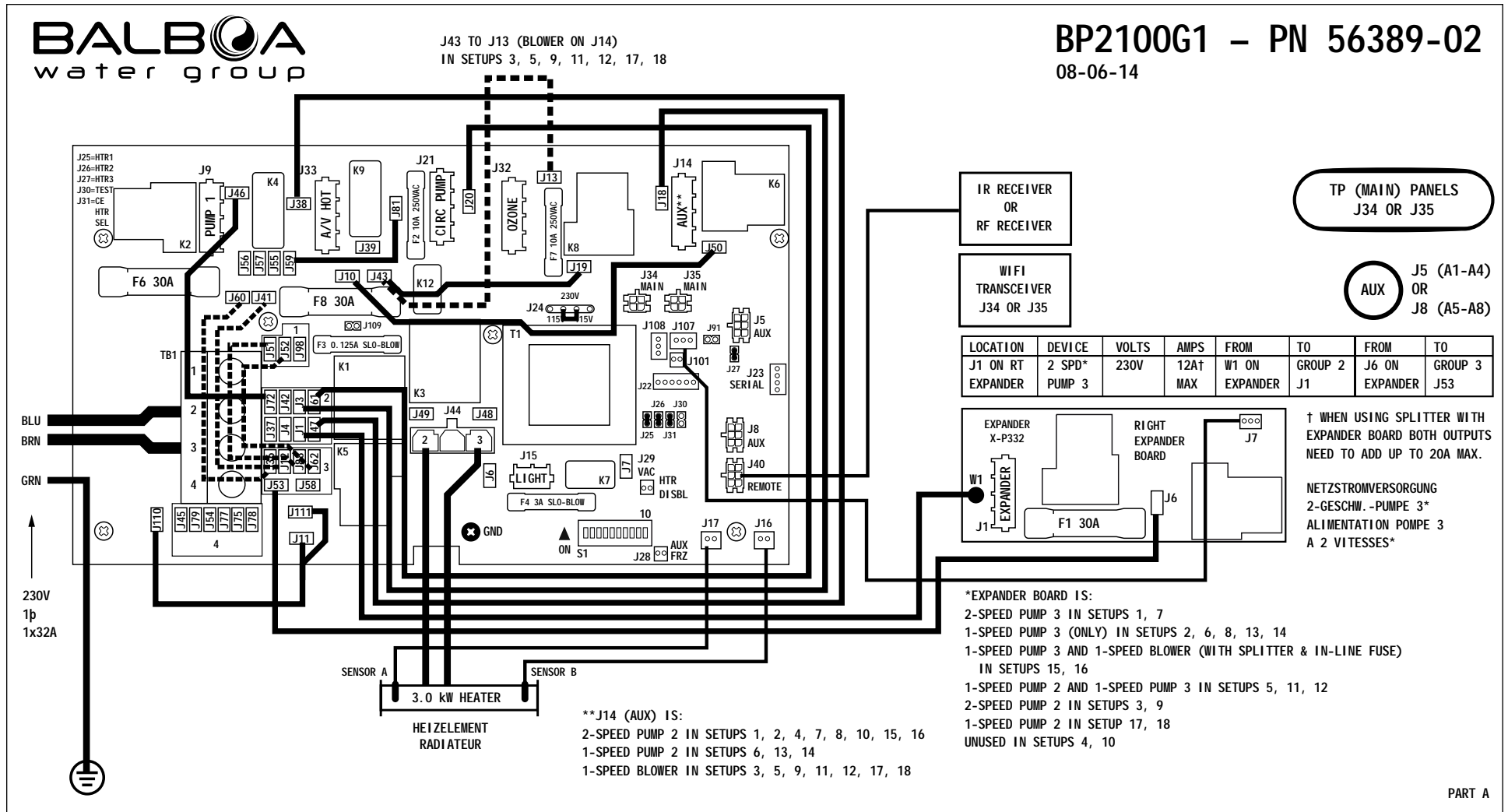
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## System Outputs:

Pump 1	230VAC	2-Speed 1-Speed in Setups 12, 14, 17	12A max	15-minute timer for High Speed, 15-Minute timer for Low Speed
		This is the heater pump in Setups 1-6, 15, 18 Must deliver 20 GPM through heater		
Pump 2	230VAC	2-Speed 1-Speed in Setups 5, 6, 11-14, 17, 18	12A max	15-minute timer
Pump 3	230VAC	2-Speed 2-Speed in Setups 1, 7 1-Speed in Setups 2, 5, 6, 8, 11-16 Unused in Setups 3, 4, 9, 10, 17, 18	12A max	15-minute timer
Blower	230VAC	1 Speed Unused in Setups 1, 2, 4, 6-8, 10, 13, 14	4A max	15-minute timer
Circ Pump	230VAC	1-Speed This is the heater pump in Setups 7-14, 16, 17 Must deliver 20 GPM through heater	2A max	Programmable Filtration Cycles + Polling
Ozone	230VAC		.5A max	Slaved to Circ Pump in Setups 7-14, 16, 17 Independent in Setups 1-6, 15, 18
Spa Light	10VAC	On/Off	1A max	240-minute timer.
A/V (Stereo)	230VAC	Hot	5A max	Always on
Heater	3.0kW @ 240VAC max			

# Hardware Setup

## Wiring Diagram



PART A

# Hardware Setup

## Settings

SINGLE SERVICE 230V 1p / 1x32A, THREE-SERVICE 230V 1p / 3x16A

LOCATION	DEVICE
J9	NETZSTROMVERSORGUNG 2-GESCHW.-PUMPE 1 ALIMENTATION POMPE 1 A 2 VITESSES 2-SPEED PUMP 1
J14	AUX**
	AUX LINE 1 CONNECTION J19 to J43
J15	10V BELEUCHTUNG ECLAIRAGE BAIN HYDRO SPA LIGHT
J21	KREISLAUF PUMPE POMPE DE CIRCULATION CIRC PUMP (SETUPS 7-14, 16)
J32	OZONGENERATOR GENERATOROZONE OZONE GENERATOR
	CIRC AND OZONE LINE 1 CONNECTION J81 to J59
J33	TV / AV
J40	IR RECEIVER
J5, J8	AUX PANEL(S) - AX10, AX20, AX30, AX40

SETUP #	CIRC PUMP	PUMP 1	PUMP 2	PUMP 3	BLOWER	TEMP SCALE
1	NONE	2-SPEED	2-SPEED	2-SPEED	NONE	°C
2	NONE	2-SPEED	2-SPEED	1-SPEED	NONE	°C
3	NONE	2-SPEED	2-SPEED	NONE	1-SPEED	°C
4	NONE	2-SPEED	2-SPEED	NONE	NONE	°C
5†	NONE	2-SPEED	1-SPEED	1-SPEED	1-SPEED	°C
6	NONE	2-SPEED	1-SPEED	1-SPEED	NONE	°C
7	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	2-SPEED	2-SPEED	NONE	°C
8	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	2-SPEED	1-SPEED	NONE	°C
9	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	2-SPEED	NONE	1-SPEED	°C
10	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	2-SPEED	NONE	NONE	°C
11‡	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	1-SPEED	1-SPEED	1-SPEED	°C
12‡	PROGRAMMABLE FILTRATION + POLLING	1-SPEED	1-SPEED	1-SPEED	1-SPEED	°C
13	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	1-SPEED	1-SPEED	NONE	°C
14	PROGRAMMABLE FILTRATION + POLLING	1-SPEED	1-SPEED	1-SPEED	NONE	°C
15‡***	NONE	2-SPEED	2-SPEED	1-SPEED	1-SPEED	°C
16‡***	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	2-SPEED	1-SPEED	1-SPEED	°C
17	PROGRAMMABLE FILTRATION + POLLING	1-SPEED	1-SPEED	NONE	1-SPEED	°C
18	NONE	2-SPEED	1-SPEED	NONE	1-SPEED	°C

PUMP 1 LOW TIMEOUT IS 15 MINUTES.

†SETUPS 5, 11, 12, 15 AND 16 REQUIRE BP2X-WIRE KIT PN30893

\*\*\*SETUPS 15 AND 16 REQUIRE ADDITIONAL FUSED ADAPTER FOR BLOWER OUTPUT

INSTEAD OF  
SETUP #1,  
THIS SYSTEM IS  
CONFIGURED IN  
SETUP #:

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

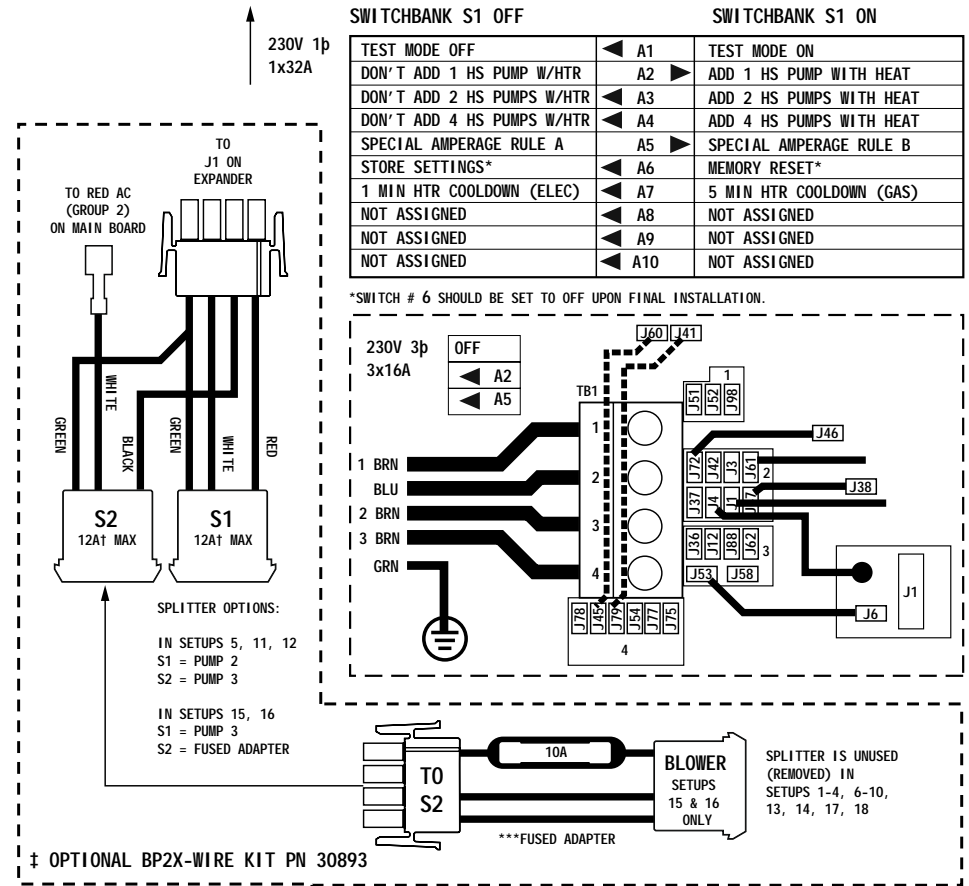
USE COPPER CONDUCTORS ONLY.  
EMPLOYER UNIQUEMENT  
DES CONDUCTEURS DE CUIVRE.

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

**BALBOA**  
water group

**BP2100G1 - PN 56389-02**  
08-06-14

PART B



# Setup Reference Table

Setup #	Circ Pump	Pump 1	Pump 2	Pump 3	Blower	Temp Scale
1	None	2-Speed	2-Speed	2-Speed	None	°C
2	None	2-Speed	2-Speed	1-Speed	None	°C
3	None	2-Speed	2-Speed	None	1-Speed	°C
4	None	2-Speed	2-Speed	None	None	°C
5	None	2-Speed	1-Speed	1-Speed	1-Speed	°C
6	None	2-Speed	1-Speed	1-Speed	None	°C
7	Programmable Filtration + Polling	2-Speed	2-Speed	2-Speed	None	°C
8	Programmable Filtration + Polling	2-Speed	2-Speed	1-Speed	None	°C
9	Programmable Filtration + Polling	2-Speed	2-Speed	None	1-Speed	°C
10	Programmable Filtration + Polling	2-Speed	2-Speed	None	None	°C
11	Programmable Filtration + Polling	2-Speed	1-Speed	1-Speed	1-Speed	°C
12	Programmable Filtration + Polling	1-Speed	1-Speed	1-Speed	1-Speed	°C
13	Programmable Filtration + Polling	2-Speed	1-Speed	1-Speed	None	°C
14	Programmable Filtration + Polling	1-Speed	1-Speed	1-Speed	None	°C
15	None	2-Speed	2-Speed	1-Speed	1-Speed	°C
16	Programmable Filtration + Polling	2-Speed	2-Speed	1-Speed	1-Speed	°C
17	Programmable Filtration + Polling	1-Speed	1-Speed	None	1-Speed	°C
18	None	2-Speed	1-Speed	None	1-Speed	°C

**System** (and any replacement board)  
is shipped in **Setup 1**

Color Key	Output
	XP332
	XP332 and Splitter
	XP332 and Splitter and in-line Blower fuse
	J14 (Aux) on Main Board