MODIFIED PRODUCT SPECIFICATIONS

Gecko MSPA-MP

MC-MP-P122-P212-P312-B2-O2-CP2-NE-LS-IR-SPW-JJM-CE-HY1

Product ID#: 3-74-7032, 3-60-6041 & 0201-300046
Software#: 9936-100442

FOR:

HAWKEYES SPAS & 50Hz 230v CE EXPORT PACKS

BY:

SPA BUILDERS SYSTEMS GROUP

DOCUMENT NO. SP6038 REV: A

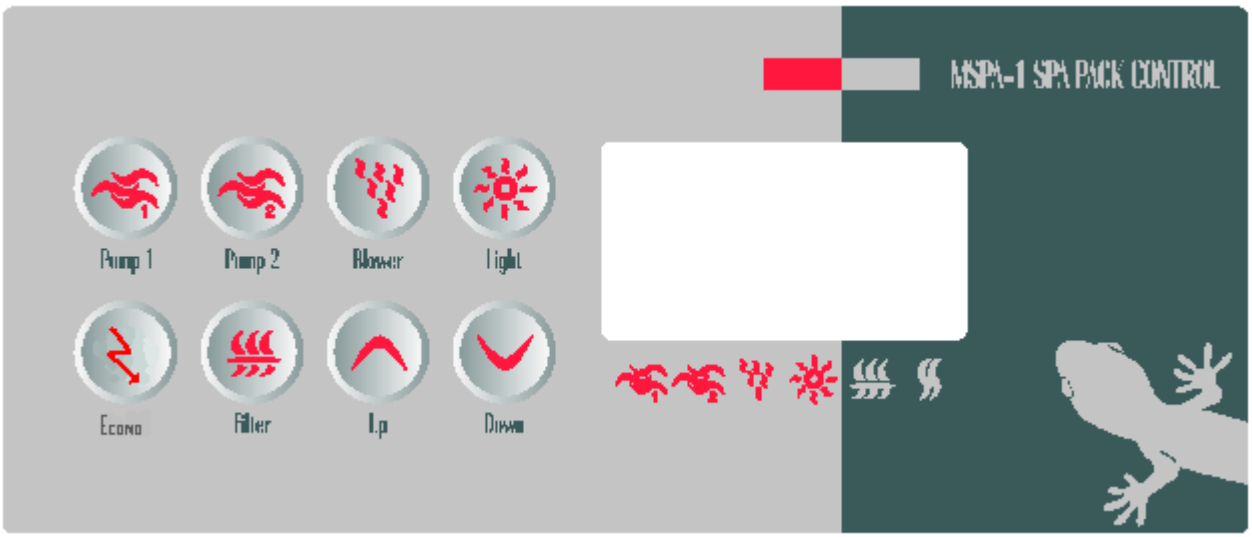
DATE: 26/11/2012

1 Revision

Rev	Description	Date	Written by
A	First draft of the MC-MP-CE-HY1 starting from the MSPA-MP-CE-GE1 (SP452)	15-Dec-03	Sonia Faucher
	Modified for generic export info	26-Nov-12	A. Lacy

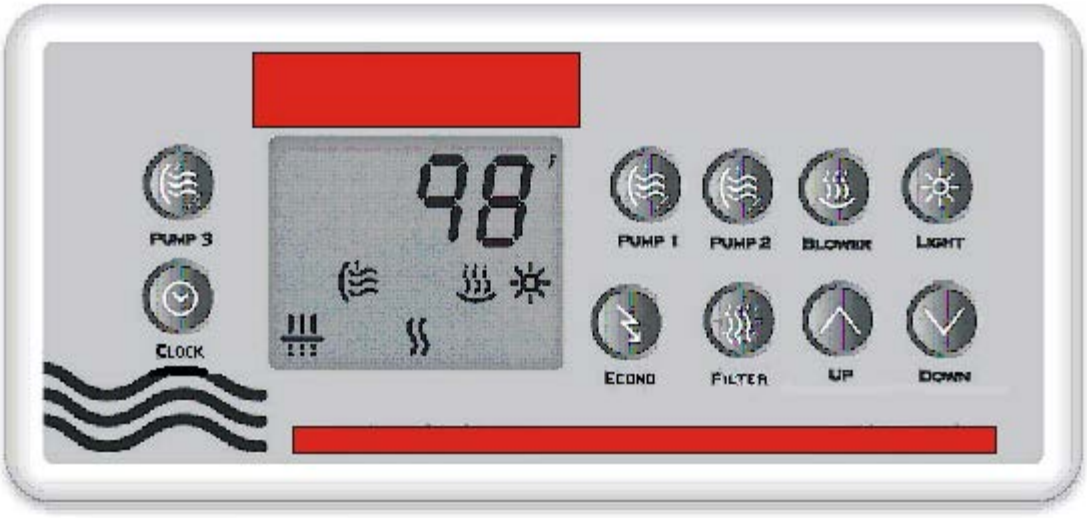
1.1 Keypads

1.1.1 Keypad (without real time clock) K-8



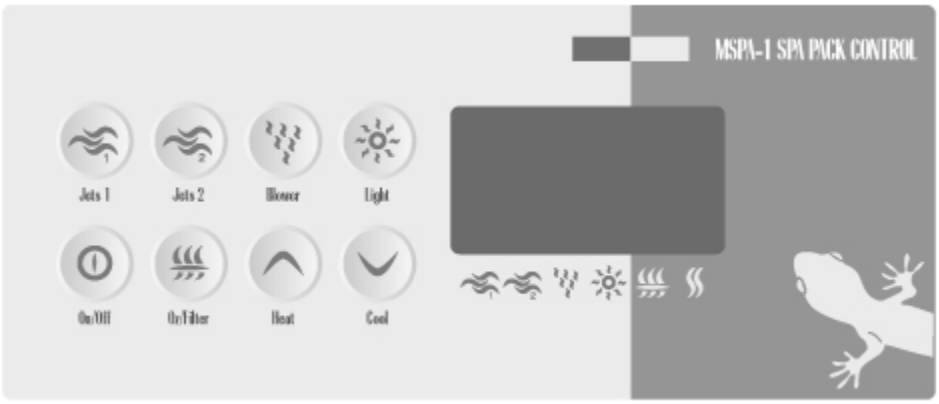
K-8-SL-NO-CE (0201-007033) + OVERLAY TSC-8-GE3 (9916-100444)

1.1.2 Keypad (with real time clock) K-4

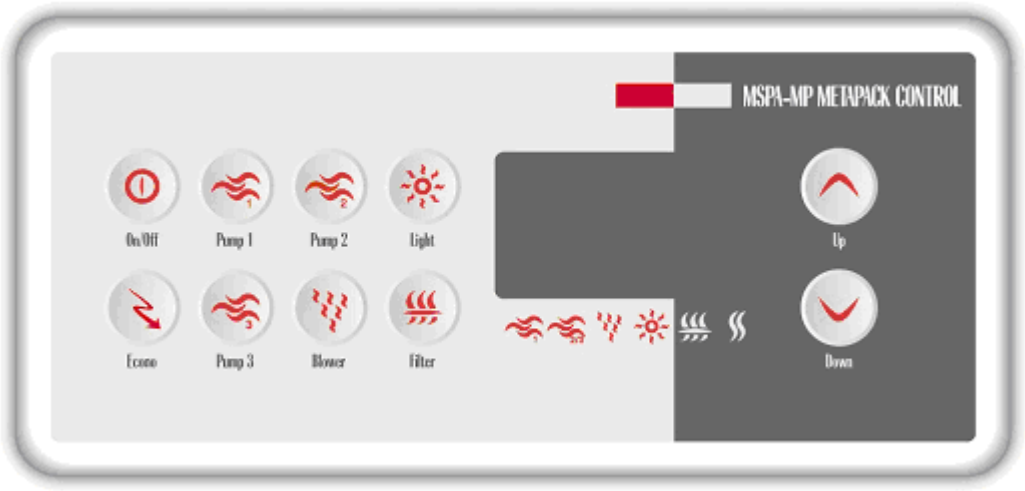


K-4-10K-SL-NO-CE (0201-007033) + OVERLAY TSC-4-10K-(9916-100761)

1.2



K-16-SL-AD-NO-CE (3-00-7191)



K-16-SL-10K-AD-NO-CE (3-00-7208)

4.3 Default Configuration

These are the low-level programmable **default** parameters:

Functionality	Hold *On/Off* key (K-8, K-16) or *Econo* Key (K-4) for 20s, 1st parameter will appear (Up/ Down keys modify values)
Duration	Press *On/Off* key to display next parameter, System will reset after last parameter
Display	As table below, **Default values in bold.**

Parameter	**Display**	**Value of x**			
Pump #1	P1 x	1 = Single Speed	**2 = Dual speed**		
Pump #2	P2 x	0 = Not install	**1 = One speed**	2 = Two speed	
Pump #3	P3 x	0 = Not install	**1 = One speed**		
Blower	bL x	**0= Not install**	1= One speed	2= Two speed	3= three speed
Light	LI x	0= Not install	**1=12 VAC (single-intensity)**	2=12 VAC (three-intensity)	3=120 VAC	4= INTERNAL Fibber box
Ozone	O3 x	0 = not installed	1 = on only during Filter cycle	2 = always on	**3= on with the circulation pump**
Circulation Pump	CP x	0 = not installed	1 = regulated (with spa temperature)	2 = always on	**3= Always on but off when 2 degree over set point**
Filtration cycle	FC x	**1 = filtration cycle enable**		2 = Filtration cycle replaced by a purge cycle	
Pressure switch	PS x	**0 = with pump one**		1 = with the circulation pump (CP can not be at O)	
Time out output	To x	**0=20 minutes**	1=30 minutes	2=40 minutes	
Current pump #1	C1 x	Select the current of the pump#1 (1-15)			
Current pump #2	C2 x	Select the current of the pump#2 (1-15)			
Current pump#3	C3 x	Select the current of the pump#3 (1-15)			
Current blower	Cb x	Select the current of the blower (1-8)			
Current heater	CH x	Select the current of the heater (12-23)			

There are the jumpers default configuration:

Jumper Number	Function	Position 1 (Left)	Position 2 (Right)
JMP-1	Input Current Mode	**1 x 32A, 1 phase**	3 x 16A, 3-phase
JMP-2	Keypad for TSC4 or 8	**Keypad with 10 keys**	Keypad with 8 keys
JMP-3	TSC	TSC-4	**TSC-8** or TSC-47 see JMP4
JMP-4	TSC	TSC-47	**TSC-8**

Note: - Keypad with 10 keys mandatory if Pump #3 or RTC required. Factory Default values in bold

* If CP not installed is chosen then software will automatically default to Pump 1.

K-8 Eight button Jumper settings
JMP-1 Either as required
JMP-2 Position 2
JMP-3 Position 2
JMP-4 Position 2

K-4 Ten button Jumper settings
JMP-1 Either as required
JMP-2 Position 1
JMP-3 Position 1
JMP-4 Position 1

By default the blower function is not activated and a circulation pump is activated along with a 2 spd pump 1.
You will need to enter low level programming to change parameters to suit the equipment connected to the MSPA-MP pack.

See below the required LL settings for 3 single speed pumps, and circulation pump (running heater/ozone), and a blower

Parameter	Display	Value of x				
Pump #1	P1 x	**1 = Single Speed**	2 = Dual speed			
Pump #2	P2 x	0 = Not install	**1 = One speed**		2 = Two speed	
Pump #3	P3 x	0 = Not install	**1 = One speed**			
Blower	bL x	0= Not install	1= One speed	**2= Two speed**	3= three speed	
Light	LI x	0= Not install	**1=12 VAC (single-intensity)**	2=12 VAC (three-intensity)	3=120 VAC	4= INTERNAL Fibber box
Ozone	O3 x	0 = not installed	1 = on only during Filter cycle	2 = always on	**3= on with the circulation pump**	

Circulation Pump	CP x	0 = not installed	1 = regulated (with spa temperature)	2 = always on	**3= Always on but off when 2 degree over set point**
Filtration cycle	FC x	1 = filtration cycle enable		**2 = Filtration cycle replaced by a purge cycle**	
Pressure switch	PS x	0 = with pump one		**1 = with the circulation pump (CP can not be at O)**	
Time out output	To x	**0=20 minutes**	1=30 minutes	2=40 minutes	
Current pump #1	C1 x	Select the current of the pump#1 (1-15)			
Current pump #2	C2 x	Select the current of the pump#2 (1-15)			
Current pump#3	C3 x	Select the current of the pump#3 (1-15)			
Current blower	Cb x	Select the current of the blower (1-8)			
Current heater	CH x	Select the current of the heater (12-23)			

See below the required LL settings for 1 x 2 speed pump 1 and 2 x single speed pumps and a blower

Parameter	**Display**	**Value of x**			
Pump #1	P1 x	1 = Single Speed	**2 = Dual speed**		
Pump #2	P2 x	0 = Not install	**1 = One speed**	2 = Two speed	
Pump #3	P3 x	0 = Not install	**1 = One speed**		
Blower	bL x	0= Not install	1= One speed	**2= Two speed**	3= three speed
Light	LI x	0= Not install	**1=12 VAC (single-intensity)**	2=12 VAC (three-intensity)	3=120 VAC	4= INTERNAL Fibber box
Ozone	O3 x	0 = not installed	**1 = on only during Filter cycle**	2 = always on	3= on with the circulation pump
Circulation Pump	CP x	**0 = not installed**	1 = regulated (with spa temperature)	2 = always on	3= Always on but off when 2 degree over set point
Filtration cycle	FC x	**1 = filtration cycle enable**		2 = Filtration cycle replaced by a purge cycle	
Pressure switch	PS x	**0 = with pump one**		1 = with the circulation pump (CP can not be at O)	
Time out output	To x	**0=20 minutes**	1=30 minutes	2=40 minutes	
Current pump #1	C1 x	Select the current of the pump#1 (1-15)			
Current pump #2	C2 x	Select the current of the pump#2 (1-15)			
Current pump#3	C3 x	Select the current of the pump#3 (1-15)			
Current blower	Cb x	Select the current of the blower (1-8)			
Current heater	CH x	Select the current of the heater (12-23)			

1.3 Key description

1.3.1 Pump #1 key

Sequence	Low *	High	Off
Logo or arrow	Blink	On solid	Off
Default	20-minute time-out.		

* Only if set for duel speed in jumper settings

1.3.2 Pump #2 key

Sequence	Low *	High	Off
Logo or arrow	Blink	On solid	Off
Default	20-minute time-out.		

* Only if set for duel speed in jumper settings.

1.3.3 Blower key

Sequence	High	Low	Off
Logo or arrow	On solid	Blink	Off
Default	20-minute time-out.		

1.3.4 Light key (2 intensities)

Sequence	High	Low *	Off
Logo or arrow	On solid	Blink	Off
Default	2 hours		

* Only if set as two intensities. Note: Enabled in low level programming.

1.3.5 Light key (internal fibre optic, uses Aux#1 & #2)

Sequence	Motor & Light	Light	Off
Logo or arrow	Blink	On solid	Off
Default	2 hours		

1.3.6 Economy key

Functionality	When economy mode is set, the pack regulates the water temperature 11ºC below the actual set point. Press Economy button and follow sequence.		
Sequence	**1st press**	**2nd press**	**3rd press**
Display	**Economy on**	**Economy off**	Save & Exit.
Default	OFF		
Logo or arrow	On when economy mode is on.		

1.3.7 Filter key (Select either Filter Cycle or Purge Cycle in low level programming)

1.3.7.1 Filter option

Filter cycle			
***Functionality**	When filter mode is set and flow switch is on pump1 (see jumper), the pack starts pump 2, pump 3 and blower in high speed for 1-minute. Then the pump 1 low speed starts for the remaining time of the filter cycle. When filter mode is set and flow switch is on CP (CP must be set) the pack starts pump1, pump 2, pump 3 and blower in high speed for 1-minute. Then CP continue to run because it always on.		
Sequence	**1st press**	**2nd press**	**3rd press**
Display & Settings	**FFxx** Use up & down keys to set filter frequency (1 to 4).	**Fdxx** Use up & down keys to set filter duration (0 to 12).	Save & Exit.
Default	2		
Logo or arrow	On when filter mode is on.		

1.3.7.2 Purge option

Purge cycle		
***Functionality**	When purge mode is set and flow switch is on pump1 (see jumper), the pack starts pump 2, pump 3 and blower in high speed for 1-minute. Then the pump 1 low speed starts for 1 min. When filter mode is set and flow switch is on CP (CP must be set) the pack starts pump1, pump 2, pump 3 and blower in high speed for 1-minute. Then CP continue to run because it always on.	
Sequence cycle	**1st press**	**2nd press**
Sequence	**Pxx** Use up & down keys to set # of desired purges per day (1,2,3,4,6,8,12,24).	Save & Exit.
Default	2 times a day.	
Logo or arrow	On when purge mode is on.	

- It is assumed that if programming is set w/o blower & / or Pump 3, they will not be activated. If Pump 1 or 2 is set to 1 speed, then high speed will activate, not low speed.

1.3.8 Up key

Functionality	Displays/Increases set point		
Sequence	**1st Press**	**Subsequent Presses**	**Holding Key**
Display	Spa Set Point	Increases Set Point by 0.5ºC	Increases Set Point automatically by 0.5ºC
Limit	N/A	40ºC	40ºC
Default	35ºC		
Logo or arrow	Set point icon. On when key is pressed & for 5-seconds after key has been released.		

1.3.9 Down key

Functionality	Displays/Decreases set point		
Sequence	**1st Press**	**Subsequent Presses**	**Holding Key**
Display	Spa Set Point	Decreases Set Point by 0.5ºC	Decreases Set Point automatically by 0.5ºC
Limit	N/A	15ºC	15ºC
Default	35ºC		
Logo or arrow	Set point icon. On when key is pressed & for 5-seconds after key has been released.		

1.3.10 Pump 3 key

Sequence	On/Off
Logo or arrow	None
Default	20-minute time-out.

Note: Set in LL settings

1.3.11 Clock key

Functionality	Allows user to display and modify the real time clock.			
Sequence	**Touch key**	**Hold key for 5 secs.**	**2nd press**	**3rd press**
Display & Settings	Displays time for 5-seconds.	The hours blink. Use up & down keys to set hours.	Minutes blink. Use up & down keys to set minutes.	Save & Exit.
Default	12:00 – Flashing on power reset.			

2 Other features

High-limit error

Functionality	Heater turned off when High Limit (HL) probe temperature reaches 48ºC.
Duration	Until the temperature at HL probe falls below 44ºC and power is reset.
Display	3 dots blink and illuminates LED on Circuit Board.

2.1 Overtemp during filter cycle error

Functionality	Suspends filter cycle if water temp. exceeds set point by more than 1ºC for 3 hours.
Duration	Until water cools to 1ºC over set point.
Logo or arrow	Filter arrow or logo blinks.

2.2 Filter cycle suspension

Functionality	Suspends filter cycle if a key is pressed.
Duration	Until 40 minutes after last pump, blower, times out or is turned off.
Logo or arrow	Filter arrow or logo blinks.

2.3 Overtemp error

Functionality	Turns the heater and all outputs off when water temperature reaches 44.4ºC. All keys that start accessories are disabled.
Duration	Until the water temperature cools to 43ºC.
Display	Temperature Flashes

2.4 Pressure switch error

Functionality	Turns the heater off when there is a flow problem.
Duration	Until flow problem is resolved
Display	3 dots blink.

2.5 Ozone output

Duration	On during filter or purge cycle or always on.

Note: See low level programming.

Circulation pump output

Duration	On 24 hours a day.

Note: Set in LL settings

2.6 Smart winter mode

Functionality	Turn pumps on when ambient temperature is below 6ºC *
Duration	Pumps activate for 1-minute (every 2 hours or less).
Logo or arrow	Filter arrow or logo blinks.

* All pumps and blower outputs activated for 1 minute at various intervals based on ambient temp. This protective mode lasts
for 24 hours from ambient reading of 6 C or lower.

2.7 Power-up detection

Display	Blinks after a power failure until a key is pressed

2.8 Temperature sensor failure error

Functionality	Turns the heater off when the temperature probe is out of range
Duration	Until unit reads a temperature between 0ºC and 50ºC.
Display	Displays erratic temperature value.

2.9 Minor panel lock

Functionality	Hold Pump 1 key 5-seconds to lock or unlock all keys except pumps, blower, light
Duration	Until a power up occurs, or Pump 1 key is held for 5-seconds.
Display	LocP when key is pressed
Logo or arrow	Lock icon appears

2.10 Major panel lock

Functionality	Hold Pump 1 key 10-seconds to lock all keys.
Duration	Until power is re-set or Pump 1 key is held for 5-seconds.
Display	LocF when key is pressed
Logo or arrow	Lock icon appears

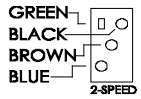
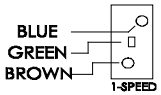
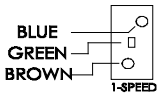
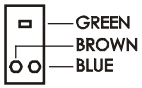
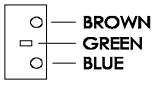
2.11 Inverted display

Functionality	Hold Filter key for 5 seconds and the display will invert.
Reset	At power up display defaults to the non-inverted mode

2.12 Ratings

2.12.1 Electrical

Input:	Ratings:	Connector:	SBSG's Part #	Wires	Functions
AC input	• 3∅ x 16A, 415/230V, (L1, L2 ,L3, N) • 1∅ x 32A, 230V, (L1, N)	WECO		P52:C P52:D P52:A P52:B	Line #1 Line #2 Line #3 Neutral

Outputs:	Ratings:	Connector:	SBSG's Part #	Wires	Functions
Pump #1:	230 Vac, 10 A	J&J 	5-50-7009	P65: Brown P37: Black P48: Blue P71:Green	High Speed Low Speed Neutral Ground
Pump #2:	230 Vac, 10 A	J&J 	5-50-7011	P35: Brown P45: Blue P93:Green	Line Neutral Ground
Pump #3	230 Vac, 10 A	J&J 	5-50-7011	P21: Brown P40: Blue P75:Green	Line Neutral Ground
Circulation Pump:	230Vac/ea, 5A total	J&J 	5-50-7057	P36: Brown P41: Blue P68: Green	Line Neutral Ground
Ozone:	230Vac/ea, 5A total	J&J 	5-50-7008	P30: Brown P46: Blue P87: Green	Line Neutral Ground

Heater 1 phase:	230 Vac, 16 A	None	None	P63: Brown P66: Blue GRD	Line Neutral Ground
Light #1	12Vac	MTA-156	5-60-7178	Only on P14	0 Vac 12 Vac
Blower	230 Vac, 8 A			P76: Brown P42: Blue P80: Green	Line Neutral Ground

Important note: In all cases, the total output amperage must not exceed the total input amperage.

2.12.2 Low voltage interconnection

ID	Description	Connector type	Use for	Mating cable	
				SBSG's Part #	Description
P1	Main top side control	8 pin male, series MTA-100	K-8	3-00-7191 3-00-7208	K-16-SL-AD-NO-CE K-16-SL-10K-AD-NO-CE
P3	Auxiliary top side control	8 pin male, series MTA-100	K-3	3-00-7151	K-3-NO-MP-CE
P4	Serial communication port	4 pin male, series MTA-100	Com. port	---	---
P10	Flow switch input	3 pin male, series MTA-100	Flow input	5-60-7231	Cable flow switch 72” CE
P5	Regulation temperature probe	4 pin male, series MTA-100	Regulation probe	5-60-7025	Cable + Probe temp Thermistor 10'
P20	High-limit temperature probe	2 pin male JST	High limit	5-60-7232	Cable+Probe temp Thermistor high limit 72” CE
P8	External I/O #2 connector	6 pin male, series MTA-100	IR remote control	3-50-7038	IRMR-2-6P- 6'-CE