Ultra thin LED lamp for Pool & Spa
OWNER’S MANUAL

Adagio

Your ADAGIO+ color Pool-light is an advanced underwater luminaire with high quality LEDs

- Color
- Cool white
- Warm white
- Blue
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Technical specifications

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
<th>Voltage</th>
<th>Power</th>
<th>Nominal CCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLA100-RGB</td>
<td>RGB color 100mm</td>
<td>9-13 V AC</td>
<td>50 W</td>
<td>n.a.</td>
</tr>
<tr>
<td>PLA170-RGB</td>
<td>RGB color 170mm</td>
<td>9-13 V AC</td>
<td>60 W</td>
<td>n.a.</td>
</tr>
<tr>
<td>PLA100-WH (-KAD)</td>
<td>Sun White 100mm</td>
<td>9-13 V AC</td>
<td>23 W</td>
<td>5650K</td>
</tr>
<tr>
<td>PLA170-WH (-LC)</td>
<td>Sun White 170mm</td>
<td>9-13 V AC</td>
<td>48 W</td>
<td>5650K</td>
</tr>
<tr>
<td>PLA100-WW</td>
<td>Warm white 100mm</td>
<td>9-13 V AC</td>
<td>25 W</td>
<td>3200K</td>
</tr>
<tr>
<td>PLA170-WW (-LC)</td>
<td>Warm white 170mm</td>
<td>9-13 V AC</td>
<td>50 W</td>
<td>3200K</td>
</tr>
<tr>
<td>PLA100-BL</td>
<td>Blue fixed 100mm</td>
<td>9-13 V AC</td>
<td>20 W</td>
<td>n.a.</td>
</tr>
<tr>
<td>PLA170-BL</td>
<td>Blue fixed 170mm</td>
<td>9-13 V AC</td>
<td>44 W</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Electrical specifications

- For operation only with a safety isolation transformer
- Minimum input voltage: 9 VAC 50/60 Hz (at lamp terminals)
- Nominal input voltage: 12 VAC 50/60 Hz (at lamp terminals)
- Maximum input voltage: 13 VAC 50/60 Hz (at lamp terminals)
- Power factor: > 0.96

Environmental specifications

- Maximum water temperature: +35°C
- Lamps have to be kept out of ice zones
- Ingress protection rate: IP68 (measured at 1m)
- Adagio+ Pool lamps must be completely submerged into water during operation. Not doing so, will void warranty.
Box contents

1 (100mm models)
2
3
4 (only for 170mm models)
5

(170mm models)
Installation instructions

**STEP 1**

**STEP 2**

**STEP 3**

**PLEASE NOTE**
- The face plate is sold separately
- The conduits/niches are sold separately
- The electrical connection to the lamp is not polarized. Any of the two wires in the supplied cable can be connected to any terminal of the lamp.

**Warning:** The back side of the lamp and the driver tube have to be exposed to free flowing water during operation. Fixing the lamps with adhesives or silicone kit into a niche is not allowed and will void the warranty.

PZA-WTM
PZA-WC
PZA100-XX-XX
PZA170-XX-XX
Wiring instructions Setup 1
Each lamp is connected to the transformer by a separate cable (Preferred for new installations)

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* Toroïdal transformer is preferred because of better efficiency

---

4m cable included in lamp package
Separate cable (not included)

Max cable length

230VAC
Transformer

12VAC

---

- Transformer
- 12VAC
- 230VAC
- Max cable length

---

* Toroïdal transformer is preferred because of better efficiency
<table>
<thead>
<tr>
<th>LAMP TYPE</th>
<th>MAX CABLE LENGTH BY CABLE SECTION</th>
<th>VA TRANSFORMER (12VAC) *</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLA100-WH (-KAD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLA100-WW</td>
<td>25m  45m  75m  110m</td>
<td>53</td>
</tr>
<tr>
<td>PLA100-BL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLA170-WH (-LC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLA170-WW (-LC)</td>
<td>15m  25m  40m  60m</td>
<td>98</td>
</tr>
<tr>
<td>PLA170-BL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLA100-RGB</td>
<td>15m  25m  40m  60m</td>
<td>87</td>
</tr>
<tr>
<td>PLA170-RGB</td>
<td>7m  12m  20m  30m</td>
<td>120</td>
</tr>
</tbody>
</table>

* The transformer VA rating must be greater or equal to the sum of VA ratings of all connected lamps. These cable lengths are calculated with worst case voltage drops in the electrical wiring.
Wiring instructions Setup 2

All lamps are connected to the transformer via 1 cable

Max cable length

--- 4m cable included in lamp package
--- Separate cable (not included)

* Toroïdal transformer is preferred because of better efficiency
<table>
<thead>
<tr>
<th>LAMP TYPE</th>
<th>QTY LAMPS</th>
<th>MAX CABLE LENGTH BY CABLE SECTION</th>
<th>VA TRANSFORMER (12VAC) *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,5 mm²</td>
<td>4,0 mm²</td>
<td>6,0 mm²</td>
</tr>
<tr>
<td>PLA100-WH (-KAD)</td>
<td>1</td>
<td>45m</td>
<td>75m</td>
</tr>
<tr>
<td>PLA100-WW</td>
<td>2</td>
<td>20m</td>
<td>35m</td>
</tr>
<tr>
<td>PLA100-BL</td>
<td>3</td>
<td>15m</td>
<td>25m</td>
</tr>
<tr>
<td>PLA100-BL</td>
<td>4</td>
<td>10m</td>
<td>15m</td>
</tr>
<tr>
<td>PLA170-WH (-LC)</td>
<td>1</td>
<td>25m</td>
<td>40m</td>
</tr>
<tr>
<td>PLA170-WW (-LC)</td>
<td>2</td>
<td>10m</td>
<td>20m</td>
</tr>
<tr>
<td>PLA170-BL</td>
<td>3</td>
<td>5m</td>
<td>10m</td>
</tr>
<tr>
<td>PLA170-BL</td>
<td>4</td>
<td>5m</td>
<td>10m</td>
</tr>
<tr>
<td>PLA100-RGB</td>
<td>1</td>
<td>25m</td>
<td>40m</td>
</tr>
<tr>
<td>PLA100-RGB</td>
<td>2</td>
<td>12m</td>
<td>20m</td>
</tr>
<tr>
<td>PLA100-RGB</td>
<td>3</td>
<td>7,5m</td>
<td>15m</td>
</tr>
<tr>
<td>PLA100-RGB</td>
<td>4</td>
<td>5m</td>
<td>10m</td>
</tr>
<tr>
<td>PLA170-RGB</td>
<td>1</td>
<td>12m</td>
<td>20m</td>
</tr>
<tr>
<td>PLA170-RGB</td>
<td>2</td>
<td>7,5m</td>
<td>12,5m</td>
</tr>
<tr>
<td>PLA170-RGB</td>
<td>3</td>
<td>5m</td>
<td>10m</td>
</tr>
<tr>
<td>PLA170-RGB</td>
<td>4</td>
<td>/</td>
<td>7,5m</td>
</tr>
</tbody>
</table>

* The transformer VA rating must be greater or equal to the sum of VA ratings of all connected lamps. These cable lengths are calculated with worst case voltage drops in the electrical wiring.
Retrofit with PAR56 niche (only PLA170)

1

2

3

If old cable is re-used

If new (thinner) cable is used

Silicone tube
# 14 Color programs (only for RGB lamps)

## PROGRAM 1 to 7

<table>
<thead>
<tr>
<th>Program</th>
<th>Color Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DEEP BLUE SEA (1)</td>
</tr>
<tr>
<td>2</td>
<td>DAYLIGHT BLUE (2)</td>
</tr>
<tr>
<td>3</td>
<td>SUNSET (3)</td>
</tr>
<tr>
<td>4</td>
<td>LOVE IS IN THE AIR (4)</td>
</tr>
<tr>
<td>5</td>
<td>FOREST SPRING (5)</td>
</tr>
<tr>
<td>6</td>
<td>THINK PINK (6)</td>
</tr>
<tr>
<td>7</td>
<td>SUNSHINE (7)</td>
</tr>
</tbody>
</table>

- DEEP BLUE SEA: Saturated blue
- DAYLIGHT BLUE: Light blue
- SUNSET: Orange red
- LOVE IS IN THE AIR: Red
- FOREST SPRING: Green
- THINK PINK: Pink
- SUNSHINE: Yellow

## PROGRAM 8 to 11

<table>
<thead>
<tr>
<th>Program</th>
<th>Color Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>JUNGLE, BEACH (8)</td>
</tr>
<tr>
<td>9</td>
<td>VOODOO (9)</td>
</tr>
<tr>
<td>10</td>
<td>DISCO (10)</td>
</tr>
<tr>
<td>11</td>
<td>PARTY (11)</td>
</tr>
</tbody>
</table>

- JUNGLE, BEACH: Saturated blue, Light blue, Azur blue, Mid blue, Light blue (slowly changing)
- VOODOO: Red, Wine red, Purple, Bordeaux (slowly changing)
- DISCO: Lila, pink, peach, light yellow, light green, light blue (slowly changing)
- PARTY: Blue, azure blue, green, green/red, red, red/blue, lila, light pink, peach, yellow, light green, light blue, lila (quickly changing)

## PROGRAM 12 to 14

<table>
<thead>
<tr>
<th>Program</th>
<th>Color Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>WARM WHITE (12)</td>
</tr>
<tr>
<td>13</td>
<td>NEUTRAL WHITE (13)</td>
</tr>
<tr>
<td>14</td>
<td>SUN WHITE (14)</td>
</tr>
</tbody>
</table>

- WARM WHITE: Warm white
- NEUTRAL WHITE: Neutral white
- SUN WHITE: Cool white

Dimmable: only with intelligently controlled RGB lamps (see p. 13)
Only in combination with the following devices: PL-REM(-P), PL-REM-60, PL-REM-200

1. Switch ON the 12 VAC line voltage and make sure that all lamps light up. Each lamp can be in a different program now.
2. Switch OFF the 12 VAC line voltage and wait for at least 20 sec.
3. Switch ON the 12 VAC line voltage and switch OFF
4. Switch ON the 12 VAC line voltage and switch OFF
5. Switch ON the 12 VAC line voltage and switch OFF
6. Switch ON the 12 VAC line voltage
7. The lamps should all be on the “Deep Blue Sea”, program 1 showing fixed blue light.

Manual synchronization procedure

After synchronization all lamps will run the same color program of choice. To make synchronization possible, all lamps should be connected to the same power line. (12 VAC)

Changing colors
- PL-REM(-P), PL-REM-60, PL-REM-200: Push the color button on the remote
- Simple ON/OFF wall switch: Turn switch OFF/ON a specific number of times
Only in combination with the following devices: PLA-REM and PLA-REM-300

- When the intelligent PLA-REM or PLA-REM-300 are used, the RGB lamps are automatically synchronized.
- All the color programs and white tones are dimmable.
- When the PLA-REM or PLA-REM-300 are connected to an external interface (e.g. DMX controller), each lamp can be controlled individually!

For more detailed information about changing colors, or individual pool light control, see manual PLA-REM(-300)
## Troubleshooting

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pool light is flickering</td>
<td>1. Switch the lamps ON&lt;br&gt;For RGB lamps: select the Sun White color program&lt;br&gt;2. Measure the voltage at the lamp terminals&lt;br&gt;3. The voltage at the lamp should be at least 9VAC 50/60hz.&lt;br&gt;   If the measured line voltage is below 9VAC:&lt;br&gt;   A. Check the output voltage at the transformator terminals.&lt;br&gt;     This voltage should be between 12VAC and 13VAC.&lt;br&gt;     Verify that the used transformator VA rating is sufficient for powering all connected lamps&lt;br&gt;   B. If the transformator output voltage is ok, then install a thicker cable between the transformator and the lamp.</td>
</tr>
<tr>
<td>Several pool lights in the pool show different color programs</td>
<td>Make sure that all lamps are connected to the same 12VAC power line. Execute the synchronization as explained on p.12 (only for classic ON/OFF control)</td>
</tr>
</tbody>
</table>
EC Declarations of Conformity

We, the undersigned,

Manufacturer: Propulsion Systems bvba
Address, City: Dooren 72, Merchtem BE-1785
Country: Belgium

Declaration of the following apparatus:

<table>
<thead>
<tr>
<th>Product name:</th>
<th>LED underwater Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model name:</td>
<td>ADAGIO+</td>
</tr>
<tr>
<td>Used as:</td>
<td>PLA100-WH(KAD), PLA170-WH, PLA100-RGB, PLA170-RGB PLA100-WW, PLA170-WW(LC), PLA100-BL &amp; PLA170-BL types</td>
</tr>
</tbody>
</table>

Product description: White and color LED lightings for swimming pools and similar applications.

Conform with the essential requirements of the follow standards & directives:

**CE directives**

- EU 1194/2012 ECO Design
- EC 1907/2006 REACH
- 2011/65/EU RoHS
- 2004/108/EC Electromagnetic Compatibility (EMC)
- 2012/19/EU WEEE waste electronic equipment

**Conformity with the following harmonised norms:**

- EN60598-1 General requirements and tests
- EN60598-2-18 Luminaire Part 2: Luminaires for swimming pools & similar applications
- EN55015 Emission
- EN61457 Immunity
- EN61000-3-2/3 Harmonics
- EN50419 WEEE marking
- EN 50581:2012 RoHS2

I hereby declare that the equipment above named has been designed to comply with the relevant sections of above referenced specifications. The unit complies with all applicable Essential Requirements of the Directives.

Name: Marc Lamberts
Position: GM
Place: Merchtem, Belgium
Date: 10/10/2013
Contact details

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