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## Technical specifications

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Description</th>
<th>Voltage</th>
<th>Power</th>
<th>Color temp</th>
<th>Luminous flux*</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLW170B</td>
<td>Day white 170mm</td>
<td>10-14 VAC</td>
<td>18 W</td>
<td>5000K</td>
<td>1450 lm</td>
</tr>
<tr>
<td>PLS170B</td>
<td>RGB color 170mm</td>
<td>10-14 VAC</td>
<td>13.5W</td>
<td>n.a.</td>
<td>1050 lm</td>
</tr>
</tbody>
</table>

(*) Propulsion systems remains a tolerance of +/- 10% on luminous flux measurements @ 25°C ; 12VAC

- For operation only with a safety isolation transformer
  - Minimum input voltage: **10 VAC 50 Hz** (at lamp terminals)
  - Nominal input voltage: **12 VAC 50 Hz** (at lamp terminals)
  - Maximum input voltage: **14 VAC 50 Hz** (at lamp terminals)

- IEC Protection Class III
  - Operation on DC voltages is NOT allowed
  - Maximum water temperature: **+40°C**
    - Lamps have to be kept out of ice zones
  - Ingress protection rate: **IP68**
    - measured at 3m max depth = 3m
Remarks

Water conditions
Prevent damage to your pool lamps and wires due to unstable water conditions. Your local government may have enacted guidelines for your pool water conditions to apply by. If not we strongly advise the following parameter specifications to be applied:

- **pH level**: 6,8 - 7,6
- **Free Chlorine**: max. 3ppm
- **Combined chlorine**: max. 1 ppm
- **Water temperature**: max +40°C and lamps need to be kept out of ice zones

Always adhere to the instructions provided by your chemical brand/supplier for the correct use and application of pool chemicals.

Salt water pools, or pools fitted with a salt water chlorine generator contain salt in the pool water. Salt is a corrosive material. Overdosage and/or consistent levels of salt increase the possibility of deterioration of your pool lamps and cables. As a rule of thumb, a concentration of 35gr/l salt can be accepted when pH values are between 7,2-7,4.

In any case, we urge proper use, care and maintenance of your installation, in order to minimize the effect of corrosion and deterioration.

Please be aware that pool lamps and cables with defects caused due to abnormalities in the water condition are not covered by our factory warranty.
Installation/maintenance

The luminaire is maintenance free
If the luminaire needs to be replaced, it needs to be completely removed from the water

- If the external flexible cable or cord of this luminaire is damaged, it shall be exclusively replaced by the manufacturer or his service agent or a similar qualified person in order to avoid hazard

- *Vision Spectra Pool lamps must be completely submerged into water during operation. Fixing the lamps with adhesives or silicone kit into a niche is not allowed*

- *Not following these instructions, will void warranty.*
Box contents

2m Cable (2x1,5mm²)

Vision Moonlight lamp (170 mm)

Manual

Retrofit Kit
**Wiring instructions Setup 1**

For new installations

Each lamp is connected to the transformer by a separate cable

- 2m cable included in lamp package
- Separate cable (not included)

Always use a toroidal transformer
**SELECT CABLE SECTION & MAXIMUM LENGTH**

<table>
<thead>
<tr>
<th>LAMP TYPE</th>
<th>1,5mm²</th>
<th>2,5mm²</th>
<th>4,0mm²</th>
<th>6,0mm²</th>
<th>10mm²</th>
<th>VA TRANSFORMER (12VAC)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLW170B</strong></td>
<td>40m</td>
<td>70m</td>
<td>110m</td>
<td>170m</td>
<td>250m</td>
<td>24 VA</td>
</tr>
<tr>
<td><strong>PLS170B</strong></td>
<td>55m</td>
<td>95m</td>
<td>150m</td>
<td>220m</td>
<td>350m</td>
<td>18 VA</td>
</tr>
</tbody>
</table>

**STABLE OPERATION OF THE POOL LIGHTS IS ONLY GUARANTEED WHEN THE INSTALLED CABLE CROSS SECTION MATCHES OR EXCEEDS THE ADVISED VALUES IN THE ABOVE 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

For existing or other installations

All lamps are connected to the transformer via 1 cable

SELECT CABLE SECTION & MAXIMUM LENGTH

2m cable included in lamp package
Separate cable (not included)

Always use a toroidal transformer
### SELECT CABLE SECTION & MAXIMUM LENGTH

<table>
<thead>
<tr>
<th>LAMP TYPE</th>
<th>QTY</th>
<th>2,5mm²</th>
<th>4,0mm²</th>
<th>6,0mm²</th>
<th>10mm²</th>
<th>VA TRANSFORMER (12VAC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLW170B</td>
<td>1</td>
<td>70m</td>
<td>110m</td>
<td>170m</td>
<td>250m</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>35m</td>
<td>55m</td>
<td>85m</td>
<td>125m</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>23m</td>
<td>37m</td>
<td>57m</td>
<td>83m</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>18m</td>
<td>28m</td>
<td>43m</td>
<td>63m</td>
<td>96</td>
</tr>
<tr>
<td>PLS170B</td>
<td>1</td>
<td>95m</td>
<td>150m</td>
<td>220m</td>
<td>350m</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>48m</td>
<td>75m</td>
<td>110m</td>
<td>175m</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>32m</td>
<td>50m</td>
<td>73m</td>
<td>117m</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>24m</td>
<td>38m</td>
<td>55m</td>
<td>88m</td>
<td>72</td>
</tr>
</tbody>
</table>

Stable operation of the pool lights is only guaranteed when the installed cable cross section matches or exceeds the advised values in the above table.
Retrofit in PAR56 niche (only Vision Spectra 170mm)

1. 

2. 

3. If old cable is re-used

OR

If new (thinner) cable is used

Silicone tube
## Color programs

<table>
<thead>
<tr>
<th></th>
<th>Color Program</th>
<th>Color Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CANDLE LIGHT</td>
<td>&lt;2000K very warm white</td>
</tr>
<tr>
<td>2</td>
<td>WARM WHITE</td>
<td>3000K warm white</td>
</tr>
<tr>
<td>3</td>
<td>NEUTRAL WHITE</td>
<td>5000K neutral white</td>
</tr>
<tr>
<td>4</td>
<td>COLD WHITE</td>
<td>9500K cold white</td>
</tr>
<tr>
<td>5</td>
<td>CARIBBEAN BLUE</td>
<td>cyan</td>
</tr>
<tr>
<td>6</td>
<td>BLUE</td>
<td>blue</td>
</tr>
<tr>
<td>7</td>
<td>GREEN</td>
<td>green</td>
</tr>
<tr>
<td>8</td>
<td>RED</td>
<td>red</td>
</tr>
<tr>
<td>9</td>
<td>PURPLE</td>
<td>purple</td>
</tr>
<tr>
<td>10</td>
<td>YELLOW DYNAMIC</td>
<td>slow animation yellow</td>
</tr>
<tr>
<td>11</td>
<td>BLUE DYNAMIC</td>
<td>fast animation blue</td>
</tr>
</tbody>
</table>
Synchronizing & color changing (for RGB lamps only)

Manual synchronization
1. Switch ON the 12 VAC line voltage and make sure that all lamps light up.
2. Switch OFF the 12 VAC line voltage and wait for at least 20 sec (max 60 sec)
3. Switch ON and switch OFF (max 3 sec ON and max 3 sec OFF)
4. Switch ON and switch OFF (max 3 sec ON and max 3 sec OFF)
5. Switch ON
6. The lamps should now all be on color program 6: Blue

Changing colors
Quickly turn the lamps OFF and back ON
The lamp will jump to the next color program

Memorizing the actual color
Turn the lamp OFF for MINIMUM 20 seconds
The last chosen color has now been memorized
Troubleshooting

PROBLEM

- The pool light is flickering
- Several pool lights in the pool show different color programs

SOLUTION

- 1. Switch the lamps ON and select Cold white color program
- 2. Measure the voltage as close to the lamp as possible (while the lamp is still ON)
- 3. The voltage at the lamp should be at least 10VAC 50Hz.
   If the measured line voltage is below 10VAC:
   A. Check the output voltage at the transformator terminals.
      This voltage should be between 12VAC and 14VAC.
      Verify that the used transformator VA rating is sufficient for powering all connected lamps
   B. If the transformator output voltage is ok, then install a thicker cable between the transformator and the lamp.
      (wiring instructions p. 8-11)

- Make sure that all lamps are connected to the same 12VAC power line. Execute the synchronization as explained on p.13
EC Declarations of Conformity

We, the undersigned,

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

Declaration the following apparatus:

<table>
<thead>
<tr>
<th>Product name:</th>
<th>LED underwater Light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model name:</td>
<td>Moonlight</td>
</tr>
<tr>
<td>Used as:</td>
<td>PLS300(B), PLS400(B), PLS700(B), PLW300(B), PLW400(B), PLW700(B)</td>
</tr>
<tr>
<td></td>
<td>PLS600B, PLW600B, PLS170B, PLW170B</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**

<table>
<thead>
<tr>
<th>Directive</th>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU 1194/2012</td>
<td>EN60598-1</td>
<td>General requirements and tests</td>
</tr>
<tr>
<td>EC 1907/2006</td>
<td>EN60598-2-18</td>
<td>Luminaire Part 2: Luminaires for swimming pools &amp; similar applications</td>
</tr>
<tr>
<td>2011/65/EU</td>
<td>EN55015</td>
<td>Emission</td>
</tr>
<tr>
<td>2004/108/EC</td>
<td>EN61457</td>
<td>Immunity</td>
</tr>
<tr>
<td>2012/19/EU</td>
<td>EN61000-3-2/3</td>
<td>Harmonics</td>
</tr>
<tr>
<td></td>
<td>EN50419</td>
<td>WEEE marking</td>
</tr>
<tr>
<td></td>
<td>EN 50581:2012</td>
<td>RoHS2</td>
</tr>
</tbody>
</table>

Conformity with the following harmonised norms:

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: Brussegem, Belgium
Date: 10/02/2020
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Coordonnées de contact
Kontaktdaten
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