P 18 WASH
Operating instructions
Version 1.02
Software >= 1.00
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1. Dimensions

![Diagram of P18 Wash dimensions]

- Width: 258.4 mm
- Height: 630 mm
- Depth: 435 mm
- Length: 541 mm
- Height of upper part: 307 mm
- Side length: 267 mm
- Height of lower part: 754 mm
- Side length: 435 mm

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Prisma
Fax: 07304 / 9617-99
Tel: 07304 / 9617-0

Name
Erstellt
Art.-Nr.
Datum

Allgemeintoleranzen
ISO 2768-m

Blechdicke:
Material:
Farbe:
Oberfläche:
Abmessung:
2. Product overview

Bottom cover
Top cover
Arm cover
Handles
LCD display
Function keys

Head
Fresnel front lens
Tilt lock
Arm
PowerCON TRUE1 Output
Pan lock
DMX/Ethernet/USB ports
Base
PowerCON TRUE1 Input
3. Introduction

ATTENTION: For your own safety, please read these operating instructions carefully before first use.

This spotlight has left our company in excellent condition. To maintain this condition and to ensure safe operation, it is absolutely essential to observe the following safety instructions and warnings which are described in this operating manual.

The manufacturer accepts no liability for damage caused to the device by disregard of these operating instructions or unauthorised modifications.

Please note that damage caused by manual modifications to this unit is not covered by the warranty.

ATTENTION: This device is only suitable for professional use! Protection class IP 20 - only for use in dry environments (indoors)!

ATTENTION: JB-Lighting Lichtanlagentechnik GmbH does not authorise the use of its devices in life support systems. Life-supporting systems are systems whose purpose is to maintain or stabilise life and whose defect or malfunction may result in death or injury to persons.
The product in this manual complies with the following EU directives:
- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU

3.1 Safety instructions

ATTENTION: Disconnect the device from the power supply before opening the device. You can suffer an electrical shock from touching live parts (high voltage).

Ensure that the mains voltage to be connected is not higher than that indicated on the type plate. This device should only be operated with the power source indicated on the type plate. If you are not sure what type of power supply you have, contact your dealer or power supplier.

Always disconnect the device from the power supply before carrying out cleaning work or before replacing fuses or parts.

The mains plug must always be accessible after the spotlight has been installed. Do not overload the sockets or extension cables as this could result in fire or electric shock. Do not place any objects on the power cable. Do not install the spotlight in such a way that people can trip over or step on the power cable. Make sure that the power cable can never be crushed or damaged by sharp edges. Check the unit and the power cable from time to time.

Leave maintenance work to a qualified technician!
Never connect this device to a dimmer pack.

During first use, some smoke and odour may occur. This is normal and does not necessarily mean that the device is defective.

The device becomes hot during operation. Never touch the device with bare hands during operation!

When replacing fuses, only use the same types with identical values! Only have fuse replacement carried out by a qualified technician.

If the device has been exposed to strong temperature fluctuations (e.g. after transport), the device must not be switched on immediately. The resulting condensation can damage your device. Leave the device switched off until it has reached room temperature.

Do not shake or knock the device. Avoid brute force during installation or operation.

This light was designed for indoor use only. Do not expose this device to rain or moisture.

When choosing a mounting location, make sure that the device is not exposed to extreme heat, moisture or dust.

Ventilation openings and slots in the head and foot of the spotlight are used for ventilation to ensure reliable operation of the device and to protect it from overheating, these openings must not be covered.

Never cover the front lens when the spotlight is in use.

The openings should never be covered with substances or other objects so that the airways are blocked.

This device must not be operated in an environment without adequate ventilation.

The device may only be operated when the housing is closed and all screws/Camlocs are firmly tightened.

The device must always be secured with an additional safety device.

Ensure that the area below the spotlight is clear during installation, alteration and removal.
3.2 Unpacking the device

Contents of the packaging: This spotlight, two Omega brackets with original Camloc fasteners, powerCON-TRUE1 cable and a safety note. These instructions are included in the shipment. Open the packaging at the top and remove the powerCON TRUE1 cable, the inlay and the safety instructions. The Omega brackets are located under the spotlight. Check the P18 Wash for possible transport damage. This should be communicated immediately to the transport company.

4. Installation

4.1 Fitting the plug to the connection cable

ATTENTION: Only have plugs installed by a specialist!

The P18 Wash spotlight is supplied with a partially assembled power cable with the powerCON-TRUE1 plug (only the powerCON-TRUE1 plug is included in the US version). The installation of the safety plug or the connection of the P18 Wash to the power supply (100-240 Volt, 50 - 60 Hertz) must be carried out by an authorised specialist.

Connection in Germany/Europe:

<table>
<thead>
<tr>
<th>Wire colour</th>
<th>Function</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>Phase</td>
<td>“L”</td>
</tr>
<tr>
<td>Blue</td>
<td>Neutral wire</td>
<td>“N”</td>
</tr>
<tr>
<td>Green/Yellow</td>
<td>Protective earth</td>
<td>“PE”</td>
</tr>
</tbody>
</table>
Connection outside Europe:
The P18 Wash may only be operated on the following power supply systems:

<table>
<thead>
<tr>
<th>Mains</th>
<th>P18 Wash</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 wires, 1 phase</td>
<td><img src="image.png" alt="Diagram" /></td>
</tr>
<tr>
<td>3 wires, 1 phase</td>
<td><img src="image.png" alt="Diagram" /></td>
</tr>
<tr>
<td>4 wires, 3 phases</td>
<td><img src="image.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

4.2 Mains connection
Connected loads: Voltage 100-240 V, frequency 50 - 60 Hz, power max. 1200 VA

The electrical safety and function of the device can only be guaranteed if it is connected to a properly installed protective conductor system. It is very important that this basic safety requirement is met. If in doubt, have the electrical installation checked by a specialist. The manufacturer cannot be held responsible for damage caused by a missing or interrupted protective conductor (e.g. electric shock) if only use the device when it is completely assembled so that no electrical components can be touched. (Danger 100-240 V)

If you have observed the listed points, you can plug in the devices or have them connected to the mains by a specialist.

ATTENTION: The P18 Wash can light up immediately if standalone operation is activated or a DMX signal is present!

4.3 Wiring the power feed-through

ATTENTION: Only have it carried out by a specialist!

The P18 Wash has a powerCON-TRUE1 out power output. Depending on the local conditions several devices can be linked by powerCON-TRUE1 in and powerCON-TRUE1 out. Connect a maximum of two (when using 230V/16A) P18 Washs in a row. Use an approved three-core cable with a cross-section of at least 1.5 mm². Cabling must be done with the original Neutrik coded plugs. The installation instructions of the manufacturer (www.neutrik.com) and the colour coding of the cable must be observed.

<table>
<thead>
<tr>
<th>Wire colour</th>
<th>Function</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
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<td>Neutral wire</td>
<td>“N”</td>
</tr>
<tr>
<td>Green/Yellow</td>
<td>Protective earth</td>
<td>“PE” ( )</td>
</tr>
</tbody>
</table>
4.4 Signal connections

4.4.1 DMX cabling

The DMX cabling (signal lines) should be done with a 4-pin cable with shielding. We recommend a DMX cable (110 Ohm, 4x0.22mm²), alternatively a 2-pole micro cable can be used. The plugs and sockets are 5-pin XLR connectors, which can be purchased in specialist shops.

**Pin assignment:**
- Pin1 = Ground/Shielding
- Pin2 = DMX -
- Pin3 = DMX +
- Pin4 = Data out -
- Pin5 = Data out +

The P18 Wash has a DMX-in and DMX-out connector. Now connect the DMX output of your controller to the 1st P18 Wash (Controller DMX-Out -> P18 Wash DMX-In). Then the 1st P18 Wash with the 2nd P18 Wash (P18 Wash DMX-Out -> P18 Wash DMX-In) and so on. In some cases it is advisable to insert a so-called end connector (XLR connector with a 120 Ohm resistor between pin 2 and pin 3). Whether an end connector is required depends on various factors, including the cable lengths used and the number of devices. However, as long as no problems occur in the DMX line, this is not necessary.

4.4.2 Ethernet cabling

Ethernet cabling can be done with standard network lines. The sockets on the device are Neutrik etherCON sockets. Special cables with etherCON connectors are recommended by Neutrik. The two sockets on the P18 Wash are connected to each other via a switch. Up to 10 devices can be connected in series without any delay. Of course, the spotlights can also be supplied in a star configuration via an external switch.

4.4.3 Wireless reception

The P18 Wash is equipped as standard with a LumenRadio CRMX receiver for wireless DMX. The receiver can process both DMX and RDM. If a cable and wireless connection are connected to the P18 Wash, the cable connection has priority! The received signal can be output via DMX and Ethernet as of software version 1.5 (see page 16).
4.5 Mounting the devices

**WARNING:** Allow a distance of at least 0.5 metres from easily flammable material.

The P18 Wash can be placed on the floor or hang on a trussing system. Also a mounting horizontally to a truss system like in the picture is allowed.

When placing the unit on the floor make sure that it stands on rigid ground, because the air inlets in the base must not be covered with anything!

To mount the unit on a trussing system use two of the original JB-Lighting omega brackets with original Camloc-connectors. You have following four possibilities to mount the omega brackets.

The Camlocs must snap in to be locked properly. Ensure that the structure (truss) to which you are attaching the fixture is secure. If you install the fixture to a truss always attach a safety cable, that can hold at least 10 times the weight of the fixture.
5. Control panel

The P18 Wash has a graphic colour touch display that can be rotated 180° when installed in a suspended position. The display can be rotated via the touch screen from software version 1.5.

All parameters of the P18 Wash can be set on the control panel (see menu overview page 14).

Function and operation of the display
The main menu provides information regarding the set DMX mode and, when the wireless mode is switched on, the field strength of the associated transmitter module. "ENTER" calls up a sub-menu or confirms an input. "ESC" is used to exit a function or a menu item. "UP" and "DOWN" are used to navigate within the menu and to enter values.

Special areas can only be called up using a specific key combination. To do this, press and hold the "ENTER" key and then use the opposite "ESC" key to access the menu. To exit the function, proceed in reverse order.

This applies in the SERVICE area for the FINE ADJUST function and in the STANDALONE area for the MODIFY, RUN and REMOTE functions.

The main menu can also be locked to prevent unintentional access. It is also locked by pressing the "ENTER" key (keep it pressed) and then additionally locking it with the opposite "ESC" key.

From software 1.5 onwards, all functions can also be operated via the touch display. Starting with software 1.5, the display is enhanced to show the cooling mode and the set camera mode.
**Display illumination as function display**
The display illumination remains switched off during the reset. Slowly flashing display illumination when "JB-Lighting" is displayed means no DMX signal is present.

A very rapidly flashing display illumination when "JB-Lighting" is displayed means that a new error has been stored in the "ERROR LIST", also an error message in the display (e.g. *PAN TIMEOUT*) indicates this current error. This error occurs during this reset or in the operation before. This error is now automatically set to "read", but remains in the "ERROR LIST".

A rapidly flashing display illumination shows an error in the "ERROR LIST" is still in it but has already been confirmed or was automatically confirmed. Only when the error has been deleted from the ERROR LIST does the P18 Wash start again without error signalling.

If errors occur again and again contact the dealer / distributor or our service department.

If the P18 Wash receives a DMX signal, the display illumination goes out after 30 seconds.

**DMX addressing**
In the main menu, the DMX address can be set directly by pressing the up/down keys.

**Display operation via battery backup**
By pressing the left button below the display, the configuration battery operation of the headlamp is activated, so the headlamp can be configured without power. It is possible to configure all the settings displayed by the menu, for example the DMX address can be set.
5.1 Menu overview

- FACTORY DEF.
- USER DEFAULTS
- LOAD DEFAULTS
- SURE?
- SAVE DEFAULTS
- SURE?
- ADDRESS +/
- DMX / NET ADDR
- DMX ADDRESS
- DMX / NET ADDR
- ARTNET ADDRESS
- SURE?
- PERSONALITY
- DMX INPUT CONFIG
- WIRELESS
- ON/OFF
- UNLINK
- SURE?
- NETWORK
- ARTNET
- DEFAULT IP
- NETWORK
- USER IP
- ADDR +/
- ADDR +/
- ADDR +/
- ADDR +/
- SERVICE
- RESET FIXTURE
- SURE?
- ERROR LIST
- LIST
- CLEAR
- PAN TIMEOUT
- COUNT: 1
- CLEAR?
- FUNCTION TEST
- START TEST
- TEST RUNNING
- DMX TEST
- DMX CHANNEL
- CH 001: --- +/
- INIT PAN/TILT
- SURE?
- DISPLAY CONTR.
- D. CONTR. +00 +/
- FINE ADJUST
- OFS FOCUS
- OFS BL1A
- OFS BL1B
- OFS BL2A
- OFS BL2B
- OFS BL3A
- OFS BL3B
- OFS BL4A
- OFS BL4B
- RECEIVED SWIT.
- SURE?
5.2 FACTORY DEFAULTS - Factory settings
To reset P18 Wash to the factory settings, go to the menu item FACTORY DEFAULTS, LOAD
DEFAULTS. After confirming the security prompt SURE? with “ENTER”, all parameters are reset
to the factory settings.

5.3 USER DEFAULTS - User settings
If the user has set the P18 Wash in the PERSONALITY menu to their personal settings, these can
be saved and loaded in the USER DEFAULTS menu. In order to prevent unintentional alteration
of the data, you must enter the following password during the saving process: “JB-LIGHTING”.

5.4 DMX / NET ADDRESS - DMX addressing / Artnet addressing
The DMX addressing can be done either directly in the display. Press the "UP" or "DOWN"
button to set the desired DMX address. The value is confirmed with the "ENTER" key. However,
the DMX addressing can also be done within the menu item DMX / NET ADDR, and there under
DMX ADDRESS.
To set the Artnet address, the menu item ARTNET ADDRESS must be selected in the DMX
/ NET ADDR menu. The Artnet address can now be set using the UP / DOWN buttons. The
Artnet address is displayed in the form 000.00.00. This display corresponds to: Netz.Subnetz.
Universum.

5.5 PERSONALITY - Personal settings
DMX INPUT MODE
In this menu item the options WIRELESS and NETWORK are available.

Under WIRELESS -> ON / OFF the factory-installed radio DMX receiver module of Lumen-Radio
can be activated or deactivated and via WIRELESS -> UNLINK the connection to the connected
transmitter can be deleted. In order to connect the fixture to a transmitter, wireless must be
set to ON on the fixture and the connection button must be pressed briefly on the transmitter.
The transmitter is now looking for all fixtures where wireless is enabled and fixtures that are not
connected to a transmitter. If the P18 Wash has successfully connected to the transmitter, the
display shows a level indication of the current reception quality. If the P18 Wash is additionally
connected via the DMX / etherCON connection sockets, these signals have priority over the
radio link. Using the key shortcut ESC and DOWN, pressed in the main menu, the headlamp can
be booked out of the booked transmitter (see page 19).

Under NETWORK -> ARTNET, the IP address of the fixture must be selected or set for Artnet
operation. Each fixture has a unique standard IP address. Under ARTNET -> DEFAULT-IP this
can only be changed from the network 10.xxx.xxx.xxx to a network 2.xxx.xxx.xxx. You can set
your own customer-specific IP address under ARTNET -> USER-IP. This address is divided into
BYTE1 to BYTE 4 and can be set one after the other.

DMX MODE
The P18 Wash has 2 operating modes (see channel assignment page 20). All parameters of
P18 Wash can be operated via mode 1. However, all channels (except pan/tilt) are controlled with
8 bits. By selecting Mode 2 - 16 Bit the gobo, prism rotation, CMY/CTO, dimmer, focus, zoom,
the complete shutter slide unit as well as pan/tilt are controlled via 16 Bit.

PAN/ TILT
The motion resolution can be changed from 16 bits to 8 bits under RESOLUTION. In the factory
setting, this is set to 16 bits. In 8-bit resolution, the P18 Wash can be positioned less precisely,
but can be operated more rapidly depending on the lighting console. The menu items PAN
INVERSE and TILT INVERSE allow you to invert the direction of movement. Under PAN/TILT
SWAP, the “Pan” and “Tilt” channels can be interchanged.
**CURVES**
The dimmer curve can be changed from exponential (square) to linear. The “exponential” dimmer curve (factory setting) causes the dimmer to fade in and out more smoothly.

**SHORTEST DISTANCE**
This menu item addresses both the colour wheel channel and the gobo wheel channels. In the factory setting (ON), the colours/gobos change with each other over the shortest distance. Switching to OFF causes the colour/gobo to change only in the order specified by the wheels.

**CAMERA MODE**
To avoid flickering during TV recordings, the P18 Wash can be adjusted from 50 Hertz (PAL, Secam) to 60 Hertz (NTSC) for different camera systems. Flex mode is set when using different camera systems or when shooting with mobile phone cameras or similar non-professional cameras. A HighFlex mode is also available. In this mode, the repetition frequencies are set to 3 kHz, which is necessary to ensure smooth movements in dimmed lighting scenes. The factory setting of the P18 Wash is 60 Hertz. The changeover is also possible with the light mixing console via the control channel.

**COOLING MODE**
In the COOLING MODE menu item you can set the fan control, the speed of the effects and the brightness of the P18 Wash. The following settings are available.

**THEATRE WHISPER:** Brightness 27000lm, all effect/pan/tilt speeds are minimal and therefore run very quietly (volume 29dB(a)). In this mode, the spotlight runs at the same brightness up to an ambient temperature of 60°C. It is not necessary to run the fans in this mode.

**THEATRE SILENT:** Brightness 29000lm, all effect/pan/tilt speeds are somewhat minimised compared to the standard mode, from 40°C ambient temperature the spotlight regulates the LED power slightly downwards and thus remains at the same volume up to 60°C.

**STANDARD:** Brightness 32000lm, all effect/pan/tilt speeds run at full speed. From an ambient temperature of approx. 36°C the fans run to cool the LED accordingly. The brightness remains constant up to 60° ambient temperature.

**BOOST:** Brightness 34000lm, all effect/pan/tilt speeds run at full speed. The fans run a little stronger in this mode, from approx. 40° ambient temperature the fans run again accordingly.

**LONGLIFE:** Brightness 32000lm, all effect/pan/tilt speeds run at full speed. The fans run a little stronger in this mode, from approx. 40° ambient temperature the fans run again accordingly. We would recommend this mode for permanent installations, as the LED module runs cooler and thus more “stress-free”.

There is no danger to the life of the device in any mode, as the P18 Wash has a temperature safety shutdown. In addition, the LED module is switched off from an ambient temperature of 60°C!
5.6 STANDALONE operation

In standalone operation, up to 20 program steps can be stored in the P18 Wash, which can then run in an endless loop. The images can be saved in two ways. Either you program the desired DMX values directly on P18 Wash and save them, or you set the DMX values via a connected DMX console and then store them in the P18 Wash.

The menu items MODIFY, RUN and REMOTE can only be called up using a specific key combination. To do this, press and hold “ENTER”, and also press “ESC”. Before activating these menu items, remove all other devices in the DMX line that send DMX, e.g. consoles or other spotlights that are not configured as slave devices, as otherwise damage to the DMX drivers may occur.

**Programming the standalone programme on the spotlight display:**

Call up the STANDALONE, EDIT menu item. In the STEP NR+/- menu item, select the desired step and you can change it and its channel parameters in the following menu items: In the MODIFY menu item, set the desired lighting scene and position and determine the individual sequence times of the steps with FADE TIME and NEXT TIME (time for the complete step).

Use INSERT to insert an additional programming step. The DMX values of the previous step are copied to the new step.

Use DELETE to delete a step. The display shows STEP NR: 1/X. Use the selection keys to move to the desired step.

With RESET STEP you reset one step to its default values (DMX 000). The display shows STEP NR: 1/X. Use the selection keys to select your step. CLEAR ALL resets the complete standalone programming steps. Under MODIFY you will find STEP1/1 again. In the STANDALONE, TIMEBASE menu item you have the possibility to change the Fade Time and Next Time from 1 second to 1/10 second.

**Launch the standalone program:**

Call up the STANDALONE menu and navigate to the RUN submenu. Confirm the selection by pressing the key combination “ENTER” (press and hold) and simultaneously “ESC”. The display then shows: S-ALONE: 01/XX and the program runs in an endless loop.

Deactivation: Press and hold the “ESC” key and then also press "ENTER". The menu jumps back one level and RUN appears in the display.

**Operation via master-slave function:**

Connect the P18 Wash via DMX lines and activate the REMOTE menu item for all slave devices. To do this, navigate in the STANDALONE menu to the REMOTE sub-menu. Activate the REMOTE function by pressing and holding “ENTER”, and also pressing “ESC”. The spotlight is in slave mode when the display shows the status REMOTE INACTIVE or REMOTE ACTIVE.

REMOTE INACTIVE: The P18 Wash is in slave mode but does not receive a DMX signal.

REMOTE ACTIVE: The P18 Wash is in slave mode and receives a DMX signal.

The master device is programmed via the MODIFY menu item and started via RUN (press and hold “ENTER” and also press “ESC”).

From Spotlight Software 1.5 the standalone operation can also be programmed via the App we offer.
5.7 INFO
The Info menu informs you about the respective software and firmware status, about the total operating time and the different temperatures of the spotlight. The first two menu items in the Info area are the software version and the firmware version, whereby the software version is an important source of information for our service requests, the firmware version is less important source of internal information. Under the menu item TOT OPERATE TIME the total operating time of the spotlight is displayed. This cannot be deleted!

The following temperatures are also displayed:

TEMP BASE LCD, the temperature on the display board
TEMP BASE PS, the temperature of the power supply unit
TEMP HEAD MAIN, the temperature of the head board
TEMP HEAD DRV, the temperature of the LED driver board
TEMP HEAD LED, the temperature of the LED module
TEMP HEAD AMBIENT, the temperature in the head next to the air inlet (ambient temperature)

Both the current temperature and the maximum temperature are displayed. The maximum temperatures can be individually deleted.

5.8 Shortcuts - quick access
Pressing the ESC and DOWN buttons in the main menu will log the fixture off the programmed Lumen Radio Wireless transmitter. The fixture is now ready to be logged in another transmitter.
6. Channel assignment

6.1 Operating modes

The P18 Wash has 2 different DMX modes. The respective mode can be set in the PERSONALITY-DMX MODE menu item. The set mode is displayed in the main menu.

<table>
<thead>
<tr>
<th>Mode 1 (M1)</th>
<th>Mode 2 (M2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel 1</td>
<td>Pan</td>
</tr>
<tr>
<td>Channel 2</td>
<td>Pan fine</td>
</tr>
<tr>
<td>Channel 3</td>
<td>Tilt</td>
</tr>
<tr>
<td>Channel 4</td>
<td>Tilt fine</td>
</tr>
<tr>
<td>Channel 5</td>
<td>Control channel</td>
</tr>
<tr>
<td>Channel 6</td>
<td>Shutter</td>
</tr>
<tr>
<td>Channel 7</td>
<td>Dimmer</td>
</tr>
<tr>
<td>Channel 8</td>
<td>Focus</td>
</tr>
<tr>
<td>Channel 9</td>
<td>Zoom</td>
</tr>
<tr>
<td>Channel 10</td>
<td>Focus distance</td>
</tr>
<tr>
<td>Channel 11</td>
<td>Focus adjust</td>
</tr>
<tr>
<td>Channel 12</td>
<td>Iris</td>
</tr>
<tr>
<td>Channel 13</td>
<td>Aperture 1a</td>
</tr>
<tr>
<td>Channel 14</td>
<td>Aperture 1b</td>
</tr>
<tr>
<td>Channel 15</td>
<td>Aperture 2a</td>
</tr>
<tr>
<td>Channel 16</td>
<td>Aperture 2b</td>
</tr>
<tr>
<td>Channel 17</td>
<td>Aperture 3a</td>
</tr>
<tr>
<td>Channel 18</td>
<td>Aperture 3b</td>
</tr>
<tr>
<td>Channel 19</td>
<td>Aperture 4a</td>
</tr>
<tr>
<td>Channel 20</td>
<td>Aperture 4b</td>
</tr>
<tr>
<td>Channel 21</td>
<td>Aperture rotation</td>
</tr>
<tr>
<td>Channel 22</td>
<td>Colour wheel 1</td>
</tr>
<tr>
<td>Channel 23</td>
<td>Colour wheel 2</td>
</tr>
<tr>
<td>Channel 24</td>
<td>Cyan</td>
</tr>
<tr>
<td>Channel 25</td>
<td>Magenta</td>
</tr>
<tr>
<td>Channel 26</td>
<td>Yellow</td>
</tr>
<tr>
<td>Channel 27</td>
<td>CTO</td>
</tr>
<tr>
<td>Channel 28</td>
<td>Sparkle</td>
</tr>
<tr>
<td>Channel 29</td>
<td>Sparkle speed</td>
</tr>
<tr>
<td>Channel 30</td>
<td>Frost 1</td>
</tr>
<tr>
<td>Channel 31</td>
<td>Frost 2</td>
</tr>
<tr>
<td>Channel 32</td>
<td>Pan/tilt speed</td>
</tr>
<tr>
<td>Channel 33</td>
<td>Effect speed</td>
</tr>
<tr>
<td>Channel 34</td>
<td>Blackout Move</td>
</tr>
<tr>
<td>Channel 35</td>
<td>Colour wheel</td>
</tr>
<tr>
<td>Channel 36</td>
<td>Colour wheel</td>
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<tr>
<td>Channel 37</td>
<td>Cyan</td>
</tr>
<tr>
<td>Channel 38</td>
<td>Fine cyan</td>
</tr>
<tr>
<td>Channel 39</td>
<td>Magenta</td>
</tr>
<tr>
<td>Channel 40</td>
<td>Fine magenta</td>
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<td>Channel 41</td>
<td>Yellow</td>
</tr>
<tr>
<td>Channel 42</td>
<td>Fine yellow</td>
</tr>
<tr>
<td>Channel 43</td>
<td>CTO</td>
</tr>
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<td>Channel</td>
<td>Description</td>
</tr>
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<td>---------</td>
<td>---------------------</td>
</tr>
<tr>
<td>44</td>
<td>CTO fine</td>
</tr>
<tr>
<td>45</td>
<td>Sparkle</td>
</tr>
<tr>
<td>46</td>
<td>Sparkle speed</td>
</tr>
<tr>
<td>47</td>
<td>Frost 1</td>
</tr>
<tr>
<td>48</td>
<td>Frost 2</td>
</tr>
<tr>
<td>49</td>
<td>Pan/tilt speed</td>
</tr>
<tr>
<td>50</td>
<td>Effect speed</td>
</tr>
<tr>
<td>51</td>
<td>Blackout Move</td>
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</table>
### 6.2 DMX channel assignment Mode 1 and Mode 2

<table>
<thead>
<tr>
<th>M1</th>
<th>M2</th>
<th>Function</th>
<th>DMX</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td><strong>Pan (X) movement 561°</strong></td>
<td>000-255</td>
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<tr>
<td>2</td>
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<td><strong>Pan (X) fine (16 Bit)</strong></td>
<td>000-255</td>
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<tr>
<td>3</td>
<td>3</td>
<td><strong>Tilt (Y) movement 281.0°</strong></td>
<td>000-255</td>
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<td>4</td>
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<td><strong>Tilt (Y) fine (16 Bit)</strong></td>
<td>000-255</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td><strong>Control channel</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dimmer fade out via fader - rapid -&gt; slow (rapid mixer response time)</td>
<td>000-007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dimmer fade out via fader - rapid -&gt; slow</td>
<td>032-039</td>
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<tr>
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<td>Dimmer fade out via fader - rapid -&gt; slow</td>
<td>064-071</td>
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<td>Dimmer fade out via fader - rapid -&gt; slow</td>
<td>096-103</td>
</tr>
<tr>
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<td>Dimmer fade out via fader - rapid -&gt; slow (rapid mixer response time)</td>
<td>128-135</td>
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<tr>
<td></td>
<td></td>
<td>THEATRE WHISPER cooling mode (dimmer/shutter closed, then after 2 sec.)</td>
<td>160-160</td>
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<tr>
<td></td>
<td></td>
<td>THEATRE SILENT cooling mode (dimmer/shutter closed, then after 2 sec.)</td>
<td>161-161</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STANDARD cooling mode (dimmer/shutter closed, then after 2 sec.)</td>
<td>162-162</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BOOST cooling mode (dimmer/shutter closed, then after 2 sec.)</td>
<td>163-163</td>
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<td></td>
<td></td>
<td>LONGLIFE cooling mode (dimmer/shutter closed, then after 2 sec.)</td>
<td>164-164</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Camera Mode, 50Hz (after 2 sec.)</td>
<td>208-215</td>
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<td></td>
<td></td>
<td>Camera Mode, 60Hz (after 2 sec.)</td>
<td>216-223</td>
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<tr>
<td></td>
<td></td>
<td>Camera Mode, FLEX (after 2 sec.)</td>
<td>224-227</td>
</tr>
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<td></td>
<td>Camera Mode, High FLEX (after 2 sec.)</td>
<td>228-231</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Safety</td>
<td>232-239</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reset (after 2 sec.)</td>
<td>240-247</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Safety</td>
<td>248-255</td>
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<td>6</td>
<td>6</td>
<td><strong>Shutter</strong></td>
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<tr>
<td></td>
<td></td>
<td>Shutter closed</td>
<td>000-015</td>
</tr>
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<td>Shutter open</td>
<td>016-095</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Open pulsing shutter &gt;20Hz (rapid - slow)</td>
<td>096-110</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shutter open</td>
<td>111-111</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fade effect with dimmer (slow - rapid)</td>
<td>112-125</td>
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<td></td>
<td></td>
<td>Shutter open</td>
<td>126-126</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shutter closed</td>
<td>127-126</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Open pulsing shutter &lt;20Hz (rapid - slow)</td>
<td>128-142</td>
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<td>Shutter open</td>
<td>143-143</td>
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<tr>
<td></td>
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<td>Close pulsing shutter &gt;20Hz (rapid - slow)</td>
<td>144-158</td>
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<td></td>
<td>Shutter closed</td>
<td>159-159</td>
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<tr>
<td></td>
<td></td>
<td>Shutter fade, 0% (rapid - slow)</td>
<td>160-174</td>
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<td></td>
<td></td>
<td>Shutter open</td>
<td>175-175</td>
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<td></td>
<td></td>
<td>Shutter fade, 100% (rapid - slow)</td>
<td>176-190</td>
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<td>Shutter closed</td>
<td>191-191</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Random shutter 100% (rapid - slow)</td>
<td>192-206</td>
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<tr>
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<td></td>
<td>Shutter open</td>
<td>207-207</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Random shutter 0% (rapid - slow)</td>
<td>208-222</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shutter closed</td>
<td>223-223</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Random shutter fade, 0% (rapid- slow)</td>
<td>224-238</td>
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<td></td>
<td>Shutter open</td>
<td>239-239</td>
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<tr>
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<td></td>
<td>Random shutter fade, 100% (rapid- slow)</td>
<td>240-254</td>
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<td>Shutter open</td>
<td>255-255</td>
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<tr>
<td>7</td>
<td>7</td>
<td><strong>Dimmer 0 - 100%</strong></td>
<td>000-255</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td><strong>Fine dimmer (16Bit)</strong></td>
<td>000-255</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description</td>
<td>Range</td>
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<td>--------------</td>
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<td>9</td>
<td>Focus 0-100%</td>
<td>000-255</td>
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<tr>
<td>10</td>
<td></td>
<td>Fine focus (16 Bit)</td>
<td>000-255</td>
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<tr>
<td>9</td>
<td>11</td>
<td>Zoom 0-100% (near 13° - far 65°)</td>
<td>000-255</td>
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<td>Fine zoom (16 Bit)</td>
<td>000-255</td>
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<td>10</td>
<td>13</td>
<td>Auto focus distance</td>
<td>000-001, 002-255</td>
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<td>11</td>
<td>14</td>
<td>Auto focus adjust</td>
<td>000-255</td>
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<tr>
<td>12</td>
<td>15</td>
<td>Iris 0-100% (open -&gt; closed)</td>
<td>000-255</td>
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<td>Fine iris (16Bit)</td>
<td>000-255</td>
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<tr>
<td>13</td>
<td>17</td>
<td>Aperture 1a 0-100%</td>
<td>000-255</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Aperture 1a fine (16 Bit)</td>
<td>000-255</td>
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<tr>
<td>14</td>
<td>19</td>
<td>Aperture 1b 0-100%</td>
<td>000-255</td>
</tr>
<tr>
<td>20</td>
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<td>Aperture 1b fine (16 Bit)</td>
<td>000-255</td>
</tr>
<tr>
<td>15</td>
<td>21</td>
<td>Aperture 2a 0-100%</td>
<td>000-255</td>
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<td>22</td>
<td></td>
<td>Aperture 2a fine (16 Bit)</td>
<td>000-255</td>
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<tr>
<td>16</td>
<td>23</td>
<td>Aperture 2b 0-100%</td>
<td>000-255</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Aperture 2b fine (16 Bit)</td>
<td>000-255</td>
</tr>
<tr>
<td>17</td>
<td>25</td>
<td>Aperture 3a 0-100%</td>
<td>000-255</td>
</tr>
<tr>
<td>26</td>
<td></td>
<td>Aperture 3a fine (16 Bit)</td>
<td>000-255</td>
</tr>
<tr>
<td>18</td>
<td>27</td>
<td>Aperture 3b 0-100%</td>
<td>000-255</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Aperture 3b fine (16 Bit)</td>
<td>000-255</td>
</tr>
<tr>
<td>19</td>
<td>29</td>
<td>Aperture 4a 0-100%</td>
<td>000-255</td>
</tr>
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<td>30</td>
<td></td>
<td>Aperture 4a fine (16 Bit)</td>
<td>000-255</td>
</tr>
<tr>
<td>20</td>
<td>31</td>
<td>Aperture 4b 0-100%</td>
<td>000-255</td>
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<tr>
<td>32</td>
<td></td>
<td>Aperture 4b fine (16 Bit)</td>
<td>000-255</td>
</tr>
<tr>
<td>21</td>
<td>33</td>
<td>Aperture slider rotation -45° / +45°</td>
<td>000-255</td>
</tr>
<tr>
<td>34</td>
<td></td>
<td>Fine aperture slider rotation (16 Bit)</td>
<td>000-255</td>
</tr>
<tr>
<td>Page</td>
<td>Line</td>
<td>Description</td>
<td>Values</td>
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<tr>
<td>------</td>
<td>------</td>
<td>-------------</td>
<td>--------</td>
</tr>
</tbody>
</table>
| 22   | 35   | **Colour wheel 1**  
White  
White/Red  
Red  
Red/Yellow  
Yellow  
Yellow/Magenta  
Magenta  
Magenta/Green  
Green  
Green/Orange  
Orange  
Orange/Dark Blue  
Dark Blue  
Dark Blue/HCRI  
HCRI  
HCRI/White  
Linear colours: White - Red - Yellow - Magenta - Green - Orange - Dark Blue - HCRI - White  | 000-001  
002-003  
004-005  
006-007  
008-009  
010-011  
012-013  
014-015  
016-017  
018-019  
020-021  
022-023  
024-025  
026-027  
028-029  
030-031  
064-191  
192-223  
224-255  |
| 23   | 36   | **Color wheel 2**  
Open  
2700K  
3200K  
4200K  
7000K  
9000K  
12000K  
Dark blue  | 000-001  
002-003  
004-005  
006-007  
008-009  
010-011  
012-013  
014-255  |
| 24   | 37   | **Cyan** (8 Bit) 0-100%  | 000-255  |
| 25   | 39   | **Magenta** (8 Bit) 0-100%  | 000-255  |
| 26   | 41   | **Yellow** (8 Bit) 0-100%  | 000-255  |
| 27   | 43   | **CTO** (8 Bit) 0-100%  | 000-255  |
| 28   | 45   | **Sparkle - Glitter effect**  
Sparkle effect inactive  
Sparkle effect intensity (minimum - maximum)  | 000-000  
001-255  |
| 29   | 46   | **Sparkle speed**  
Faded sparkle effect (slow -> rapid)  
Switched sparkle effect (slow -> rapid)  
Repetition of the fading and switching blocks  | 000-031  
032-063  
064-255  |
6.3 Control channel

Various spotlight functions can be permanently switched via the control channel. The response behaviour via DMX, the cooling and volume, the repetition frequency of the LED module can be switched and a spotlight reset can be triggered.

This channel can be used to adjust the response behaviour of the P18 Wash when dimming out via faders to lighting controls from various manufacturers. Set DMX 000 for rapid dimming out and DMX 007 for slow dimming out. This range is repeated five times and thus the P18 Wash is adapted to the reaction time/speed of the light controllers (DMX 000-007 for “rapid” light controllers and DMX 128-135 for “slow” light controllers).

In the range from DMX 160 to DMX 164 the “Cooling” and “Volume” operating modes can be set. To do this, the dimmer and shutter of the spotlight must be closed and the corresponding DMX value must then be transmitted for 2 seconds.

<table>
<thead>
<tr>
<th>DMX Code</th>
<th>Mode Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMX 160 (62.8%)</td>
<td>THEATRE WHISPER cooling mode</td>
</tr>
<tr>
<td>DMX 161 (63.2%)</td>
<td>THEATRE SILENT cooling mode</td>
</tr>
<tr>
<td>DMX 162 (63.6%)</td>
<td>STANDARD cooling mode</td>
</tr>
<tr>
<td>DMX 163 (64.0%)</td>
<td>BOOST cooling mode</td>
</tr>
<tr>
<td>DMX 164 (64.4%)</td>
<td>LONGLIFE cooling mode</td>
</tr>
</tbody>
</table>

The repetition frequency (50/60/600Hz/3kHz) of the LED engine can also be set via this channel.

<table>
<thead>
<tr>
<th>DMX Code</th>
<th>Mode Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMX 208-215</td>
<td>Camera Mode, 50Hz (after 2 sec.)</td>
</tr>
<tr>
<td>DMX 216-223</td>
<td>Camera Mode, 60Hz (after 2 sec.)</td>
</tr>
<tr>
<td>DMX 224-231</td>
<td>Camera Mode, FLEX 600Hz (after 2 sec.)</td>
</tr>
<tr>
<td>DMX 224-231</td>
<td>Camera Mode, FLEX 3000Hz (after 2 sec.)</td>
</tr>
</tbody>
</table>

A spotlight reset can also be triggered.

<table>
<thead>
<tr>
<th>DMX Code</th>
<th>Mode Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMX 240-247</td>
<td>Reset (after 2 sec.)</td>
</tr>
</tbody>
</table>

After the Cooling Mode, Camera Mode and Reset commands, this channel must be reset to its original value. See channel assignment on page 22.
6.4 Zoom, auto focus distance, autofocus adjust
Using the two channels autofocus distance and autofocus adjustment can be from Software Ver. 1.5 the focus over the entire zoom range automatically be readjusted.

6.5 Sparkle effect, sparkle speed
Animation effects can be created via this channel in connection with the focus. Depending on the intensity, the projection can be made to shake more or less. This effect can be dimmed or switched.

7. Service
7.1 Service menu
RESET FIXTURE
Upon the “Reset” command, P18 Wash will initialise to its initial values. It is the same procedure as after switching on the P18 Wash. If an error message appears in the display, this could be the first step to correct it.

ERROR LIST
The P18 Wash stores all occurring errors internally. An error message can have a harmless cause. If you experience frequent error messages, please contact your dealer or the JB-Lighting service department. All error messages are displayed with the respective frequency and can be deleted.

FUNCTION TEST
This function allows you to test all functions of the P18 Wash without using a light mixer. The pan/tilt reset is deactivated in the process.

DMX TEST
This menu item is used to test the DMX input. Use the function keys to select the DMX channel to be tested. The display shows the incoming value, at the same time the P18 Wash reacts accordingly.

INIT PAN TILT
The P18 Wash is calibrated in the pan/tilt position at the factory. If it loses this calibration, i.e. it strikes against the stop or no longer finds its position, it can be re-initialised using this function. This process takes about 3-4 minutes and ends with a reset of the spotlight.

DISPLAY CONTRAST
The contrast of the LCD display may change when the temperature is too high. In this menu item the contrast can be adjusted.

FINE ADJUST
To access the “Fine Adjust” menu area, press and hold the “ENTER” key and then confirm by pressing the “ESC” key opposite.

Focus:
The focus is calibrated at the factory to ensure that all spotlights are focused at the same distance with the same zoom. If a spotlight loses this calibration or if parts have to be changed for repair, the focus can be readjusted after repair. For further details please contact your dealer or JB-Lighting service department.

Apertures 1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b:
The individual apertures are calibrated ex works to ensure that the opposite apertures of all delivered P18 Washs are just about closed at values of DMX 127.5. For further details please contact your dealer or JB-Lighting service department.

RECEIVESOFT
This area can be used to import the software of the P18 Wash (see page 27).
7.4 Cleaning the device
You should check the function of the fans in the head and foot at regular intervals. Above all, make sure that the air intakes and the interior of the P18 Wash are free of fluff and dust.
To do this, open the head cover (4x camlocks (4) with half a turn) and the base plate on the foot. You can clean the P18 Wash with a brush and a vacuum cleaner. In addition, you can remove the color insert (1) and the shutter slide insert (2) by loosening the knurled screws (3) and sliding the focus carriage towards the lens. Then you can clean the colour filters and CMY panes with a soft cloth and a little window cleaner. To clean the frost flaps and zoom/ focus unit, remove the three Phillips screws (Fig. 4) and then the cover (see Fig. 5). Ensure that you do not bend or damage any parts during cleaning. When cleaning is complete, reconnect the flap, replace the Phillips screws (4) and return the inserts to the unit.

(4)  (5)

7.5 Software update
The P18 Wash can be updated via a USB stick with micro-USB connection. To do this, copy the file directly into the root directory of the USB stick. Then press and hold the right key below the display. Now insert the P18 Wash as soon as the message “Insert USB stick” appears on the display and release the key. Now plug in the USB stick on the back of the device below the signal connections and follow the instructions on the display. The P18 Wash completes the software update with a reset. You will find the latest software on our homepage.

7.6 Testing of electrical equipment
According to the German Social Accident Insurance (DGUV) Regulation 3 / Regulation 4, electrical systems and equipment must be subjected to regular inspections. The fixing screw of the DMX 5-pin socket can be used as measuring point for insulation and residual current measurement. The screw is connected to all sheet metal parts via a contact washer.
8. Specifications

Dimensions and weight
- Length: 307 mm
- Width: 435 mm
- Height: 754 mm
- Net weight: 31 kg

Electronic system
- Mains connection: 100-240 V AC, 50-60 Hz
- Maximum power consumption: 1200 VA
- Power consumption in standby: 200 VA

Temperature
- Maximum ambient temperature: 45 °C
- Minimum ambient temperature: 5 °C

Optics, Photometric Data
- Light source: White light LED module 1000W
- Luminous intensity: 34000 Lumen @ 20°C
- Luminous intensity HCRI: 27000 Lumen @ 20°C

Effects
- Pan: 561.0°
- Tilt: 281.0°
- Zoom: 13° - 65°

Construction
- Colour: black
- Housing: PC ABS
- Protection class: IP 20
- Plug-in technology: yes

Installation
- Installation site: indoors
- Holder: 2x Omega brackets
- Position: any
- Minimum distance to flammable objects: 0.5 m

Connections
- Power input: Neutrik powerCON TRUE1
- Power feed-through: Neutrik powerCON TRUE1
- DMX/RDM in/out USITT DMX512: 5-pin, in/out XLR
- Ethernet in/out: Neutrik etherCON
- Micro-USB: Software update
9. Declaration of Conformity

Declaration of Conformity

the laws of the Member States relating to electrical equipment designed
for use within certain voltage limits)

in the sense of the Directive: 2014/30/EU Electromagnetic compatibility
(Directive 2014/30/EU of the European Parliament and of the Council of 26/02/2014 to approximate the
laws of the Member States relating to electromagnetic compatibility)

The manufacturer,
JB-Lighting Lichtanlagentechnik GmbH
Sallersteigweg 15
89134 Blaustein-Wippingen

declares that the product: Varyscan P18 Wash

complies with the essential protection requirements of the directives. The following standards were used for conformity
assessment:

**Emissions requirements**

**Information technology equipment, radio interference characteristics** -
Limit values and measuring methods - Limit value class A

**Conducted interference emission**

per EN 55022:2010

requirements for information technology equipment, radio interference
characteristics -
Limit values and measuring methods - Limit value class A

**Radiation**

Information technology equipment, radio interference characteristics -
Limit values and measuring methods - Limit value class A

**Harmonic currents**

Electromagnetic compatibility

EN 61000-3-2:2015 Part 3-2: Limits, testing of harmonic currents
(for devices with an input current < 16A per phase)

**Flicker**

Electromagnetic compatibility (EMC)

EN 61000-3-3:2013 Part 3-3: Limits, limitation of voltage changes,
Voltage fluctuations and flicker in low-voltage networks
(for devices with an input current < 16A per phase)

**Immunity - requirements**

**Electromagnetic compatibility (EMC) - Part 6-2:**
Generic standard - Immunity in industrial areas

**per EN 61000-6-2:2005**

EN 61000-4-2:2009 Part 4-2: Immunity to static electricity discharge
EN 61000-4-4:2012 Part 4-4: Immunity against fast transient electrical
disturbances (burst)
EN 61000-4-5:2005 Part 4-5: Interference voltages against surge voltages
EN 61000-4-6:2014 Part 4-6: Immunity to conducted disturbances,
induced by HF
EN 61000-4-8:2010 Part 4-8: Immunity to magnetic fields with power technology
frequencies
EN 61000-4-11:2004 Part 4-11: Immunity against voltage dips, short-term
interruptions and voltage fluctuations

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