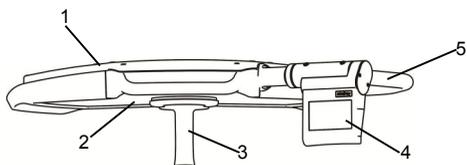


# Operator's Manual

HyLED 8600/HyLED 8600M Series

LED Surgical Lights



**Figure 1-6 HyLED 8600M lighthead**

1 Lamp housing hood

3 Sterilizable handle assembly

5 Gimbal joint

2 Glass

4 Control panel//Touch control panel (optional)

## 1.3 Intended Use

The HyLED 8600/HyLED 8600M series surgical lights are intended for operation, treatment and diagnosis within the operating room/ treatment room.

The double-lighthouse or triple-lighthouse configuration can be used in the operating room as a fail-safe surgical illumination system.

The single-lighthouse configuration can be used for illumination for the diagnosis/treatment procedure in the operating/treatment room. No harm will be done to the patient even if the procedure is interrupted by illumination failure.

The mobile configuration can be used as an additional light to supplement an existing surgical light in the operating room. It can be used for the diagnosis/treatment procedure in the operating/treatment room. No harm will be done to the patient even if the procedure is interrupted by illumination failure.

See the table below for all the available models and their configurations.

**Table 1-3 Available models and configurations**

Model	Configuration
HyLED 8600	Single lighthouse
HyLED 8600/8600	Double lighthouses
HyLED 8600/8600/8600	Triple lighthouses
HyLED 8600M	Mobile

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### **NOTE**

- **Contents of this manual are based on the full configuration of the surgical light. Some of them may not apply to your light. Use your light according to the actual configuration. If you have any questions, contact the customer service department authorized by Nanjing Mindray or your local distributor.**
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## 2.2.6 Using Touch Control Panel (optional)

### NOTE

- During the power-on process, do not press and hold the touch control panel. Otherwise, you may miscalibrate the touch control panel.
- For the lighthouse with the LCH spring arm, the touch control panel can be rotated when it is difficult to operate.

### 2.2.6.1 Light Control

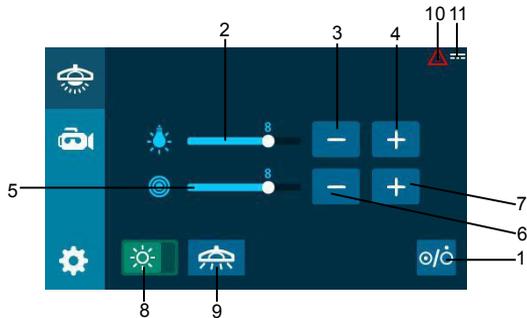
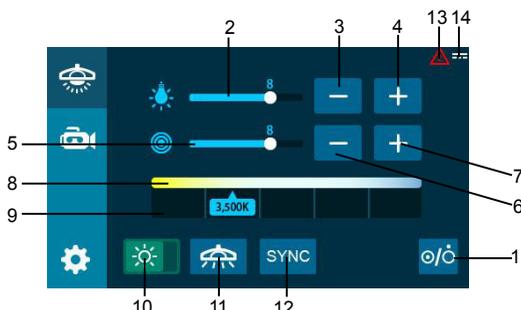


Figure 2-15 Common functions (with light field adjustment)

1 Power switch	2 Illuminance indicator
3 Illuminance down	4 Illuminance up
5 Light field size indicator	6 Light field size down
7 Light field size up	8 Normal lighting/Full illuminance
9 MIS lighting	10 Error indicator
11 DC indicator	



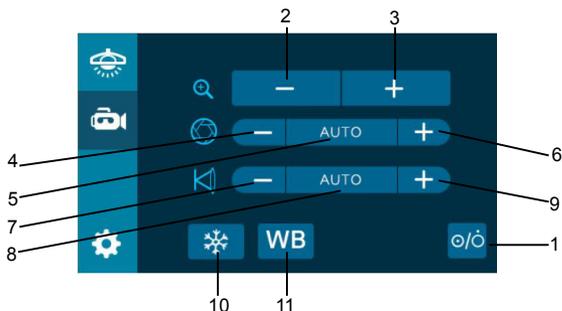
**Figure 2-16 Common functions (with color temperature adjustment and light field adjustment)**

1 Power switch	2 Illuminance indicator
3 Illuminance down	4 Illuminance up
5 Light field size indicator	6 Light field size down
7 Light field size up	8 Color temperature indicator
9 Color temperature adjustment	10 Normal lighting/Full illuminance
11 MIS lighting	12 SYNC (synchronizing color temperature of multiple lightheads)
13 Error indicator	14 DC indicator

Press the “Light Control” button () to access the “Common functions” screen for the light control. At the “Common functions” screen, you can:

1. Press the “Power switch” button to turn on/off the lighthouse.
2. This icon  means the lighthouse is under the normal lighting mode. Press the button , and the icon will change into , which means the lighthouse enters the full illuminance mode.
3. Press the “Illuminance up”/“Illuminance down” button to adjust the lighthouse’s illuminance. The illuminance is 10-level adjustable (see 2.2.4 Table 2-2 and Table 2-3 for illuminance levels).
4. Check the illuminance level by the illuminance indicator.
5. Press the “Light field size up”/“Light field size down” button to adjust the lighthouse’s light field size. The light field size is 10-level adjustable.
6. Check the light field level by the light field size indicator.

## 2.2.6.2 Camera Control



**Figure 2-17 Common functions of the camera**

1 Power switch	2 Zoom out
3 Zoom in	4 Iris down
5 Auto iris	6 Iris up
7 Focus near	8 Auto focus
9 Focus far	10 Freeze/Unfreeze
11 White balance (WB)	

If the surgical light system is configured with a camera, press the “Camera Control” button



() to access the “Common functions” screen for the camera. At the “Common functions” screen, you can:

1. Press the “Power switch” button to turn on/off the camera.
2. Press the “Zoom in”/“Zoom out” button to magnify/minify the image.
3. Press the “Iris up”/“Iris down” button to adjust the iris size.
4. Press the “Auto iris” button to automatically adjust the iris size.
5. Press the “Focus near”/“Focus far” button to adjust the camera focus.
6. Press the “Auto focus” button to automatically adjust the camera focus.
7. Press the “Freeze/Unfreeze” button to freeze/unfreeze the image.
8. Press the “WB” button to select different white-balance modes and obtain the proper color. Three modes are available: Indoor, Outdoor and Auto WB. Press the “WB” button to toggle among the modes.

## 2.4 Using Rotatable Integrated Camera (optional)

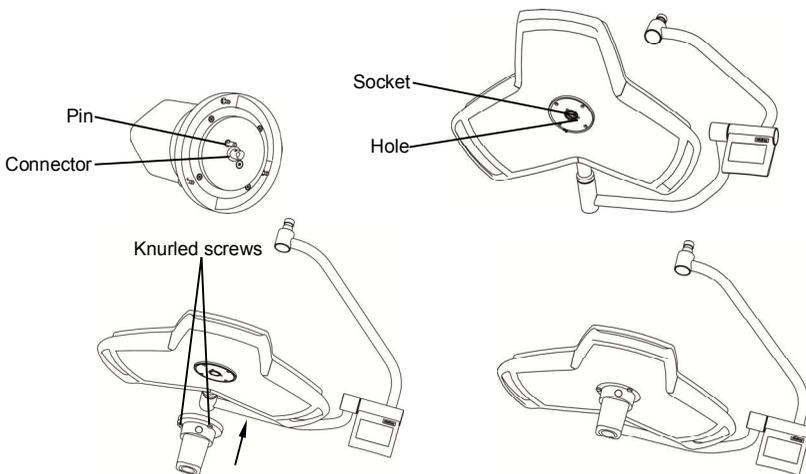
### 2.4.1 General

The HyLED 8600 lighthead can be configured with a rotatable integrated camera. You can:

1. Use the sterilizable handle to adjust the position of the lighthead configured with the rotatable integrated camera.
2. Turn the sterilizable handle to rotate the camera if you find the displayed image is upside-down.
3. Use the control panel/touch control panel/wall control panel/touch wall control panel/infrared remote control to operate the camera.

### 2.4.2 Installing Rotatable Integrated Camera

1. Align the pin on the camera with the hole on the lighthead.
2. Connect the connector on the camera to the socket on the lighthead to install the camera.
3. Tighten the knurled screws.



**Figure 2-25 How to install the rotatable integrated camera**

## A.4 Camera Specifications

Item	Camera (1080i)	Camera (FHD, digital)
Picture elements	2000K pixels	2000K pixels
Resolution	1080i (1920×1080)	1080p (1920×1080)
Lens	f=3.8-38mm, F1.8-3.4	f=3.8-38mm, F1.8-3.4
Digital zoom	12×(120× with optical zoom)	12×(120× with optical zoom)
Recommended illumination	100-100000 lx	100-100000lx
S/N ratio	>50 dB	>50dB
Electronic shutter speed	1/1-1/10000s	1/1-1/10000s
Video output	Component	SDI
Power Supply	6-12V DC	6-12V DC
Camera position	Integrated camera/Carrier-arm camera	Integrated camera/Carrier-arm camera
Operating temperature/humidity	-5 to 60°C 20 to 80%	-5 to 60°C 20 to 80%
Storage temperature/humidity	-20 to 60°C 20 to 95%	-20 to 60°C 20 to 95%