

# 18W Silo-daul bulkhead

## Data Sheet

For Series: OT-HPB96



OTC IND CO., LTD

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Dear partners,

\* Thanks for choosing OTC LED bulkheads for your projects.

OTC always pursue high quality, steady quality products, competitive price and one-stop customer service, and offer enjoyable installation experience.

\* All the OTC bulkheads with 5 years quality guarantee (Battery 3 years) . If any doubts/ questions, please contact OTC project support team directly by email support@otcind.net . You will get solutions in 7~24 hours rapidly.

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## 1 Security relate information

- Installation should be carried out in accordance with the latest edition of the I.E.E. Wiring regulations and taking into consideration the latest building regulations.
- Ensure that all electrical connections are tight with no loose strands, including factory made connections.
- Ensure there is adequate free air circulation of at least 100mm around the luminaire. It is the installer's responsibility to consider fire risk and take appropriate precautions.
- A seperate enclosure may be required if this unit is to be used in dusty and wet environments.

Q.C. date label, installation in an improper working environment or installation not according to the current edition of the I.E.E. Wiring Regulations . The guarantee is also invalidated if the luminaire has been I.R. tested. Should this product fail during the guarantee period it will be replaced free of charge, subject to correct installation and return of the faulty unit. We do not accept responsibility for any installation costs associated with the replacement of this product. Your statutory rights are not affected. We reserve the right to alter specifications without prior notice.

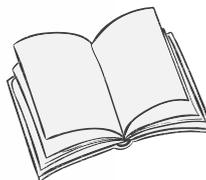
## 2 Packing list



The Lamp \*1



Installation pack \*1



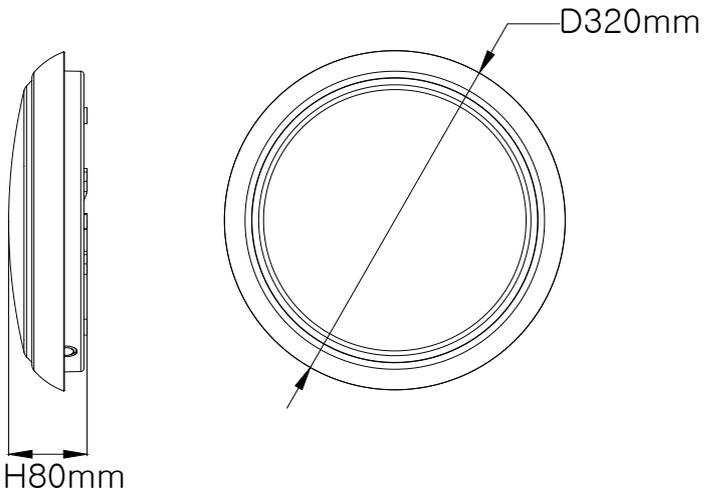
User manual \*1



Remote cotroller \*1  
(Only remote test version)

### 3 Basic Parameters

Model	Art Nr. OT-HPB-			
	96	96MC	96E-ST	96EMC-ST
Material	polycarbonate			
LED Chips	96 pcs 4000K 2835 chip			
Total LED Output	17W			
Luminous Flux	1700 LM			
Degree of protection	IP54			
Input Voltage	AC200-240V 50/60HZ			
Input power (Mains +EM)	18W	18W	18+2W	18+2W
Power factor	>0.9	>0.8	>0.8	>0.8
Warm up time	<1S			
LED lifespan	50,000 hrs			
Color Rendering Index	>80			
Beam angle	120°			
Sensor	NO	With	NO	With
Emergency Pack	NO		9.6V 1Ah, Ni-Cd Pack	
Self & remote test	NO		With	
Emergency time / LM	NO		3 hours / 150Lm	



## 4 Sensor information/ Setting (96MC &96EMC-RST only)

Technical Data	
Operating Voltage	20-60VDC
Input current	100mA (Min.)~1300mA (Max.)
Switched power	Max. 60W
Standby power	<0.5W
Detection Range	25/50/75/100% , optional by dial switch
Daylight threshold	10~50Lux, disabled, optional by dial switch
Hold time	10s/1min/6min/12min, optional by dial switch
Standby period	1min/30min/60min/24H, optional by dial switch
Standby Dimming level	10/20/30, disabled, optional by dial switch
Microwave frequency	5.8GHz $\pm$ 75MHz
Max detection Range	20Metres
Detection angle	360°
Mounting height	Max. 4m
Operating temperature	-35°C~70°C
Microwave power	<0.2mW (that is just one 5000th of the transmission power of a mobile phone )

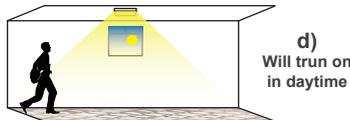
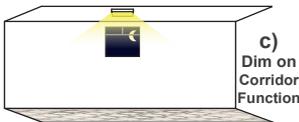


### This microwave sensor embed Smart ambient light analyze sensor

#### 1- Why ambient light analyze



The Lux control of Tradiation motion sensor only can control turn on.  
In a) if insufficient ambient light, it will sensor on if motion detected.  
However, if stream of people through the corridor constantly b),  
The Lux sensor can not cut off the lamp, despite of sufficient ambient light.

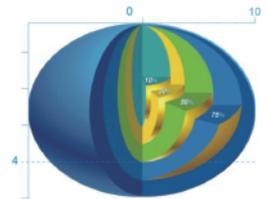
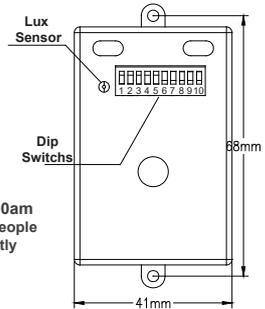


Once active the corridor function c). The lux sensor will useless,  
The light will on matter in Day or night if motion detected d) .

#### 2- What it will be if you chose smart ambient analyze sensor



If sufficient ambient light,  
The luminaire will be certain in OFF  
mode for energy saving.



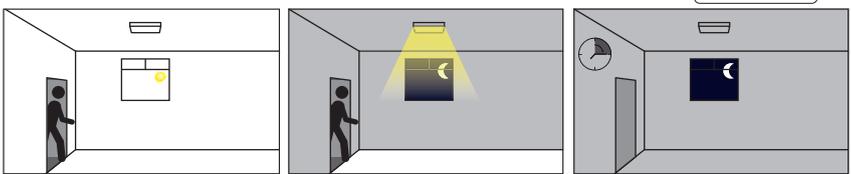
Detection Range

## 5 Typical sensor setting (40MC &40EMC-ST only)

### Microwave sensor setting

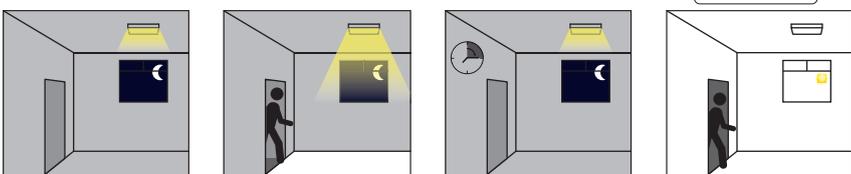
<p>Dial switch setting</p>	<p><b>1. Detection Range Setting</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>1</th><th>2</th><th>Distance</th><th>1</th><th>2</th><th>Distance</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>25%</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>50%</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>75%</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>100%</td> </tr> </tbody> </table>	1	2	Distance	1	2	Distance	<input type="checkbox"/>	<input type="checkbox"/>	25%	<input type="checkbox"/>	<input type="checkbox"/>	50%	<input type="checkbox"/>	<input type="checkbox"/>	75%	<input type="checkbox"/>	<input type="checkbox"/>	100%	<p><b>2. Hold Time setting</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>3</th><th>4</th><th>Time</th><th>3</th><th>4</th><th>Time</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>10S</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>1Min</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>5Min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>10Min</td> </tr> </tbody> </table>	3	4	Time	3	4	Time	<input type="checkbox"/>	<input type="checkbox"/>	10S	<input type="checkbox"/>	<input type="checkbox"/>	1Min	<input type="checkbox"/>	<input type="checkbox"/>	5Min	<input type="checkbox"/>	<input type="checkbox"/>	10Min																		
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<p><b>3. Daylight threshold setting</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>5</th><th>6</th><th>Light</th><th>5</th><th>6</th><th>Light</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>Day</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>10Lux</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>30Lux</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>50Lux</td> </tr> </tbody> </table>	5	6	Light	5	6	Light	<input type="checkbox"/>	<input type="checkbox"/>	Day	<input type="checkbox"/>	<input type="checkbox"/>	10Lux	<input type="checkbox"/>	<input type="checkbox"/>	30Lux	<input type="checkbox"/>	<input type="checkbox"/>	50Lux	<p><b>4. Standby dim level setting</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>7</th><th>8</th><th>CF</th><th>7</th><th>8</th><th>CF</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>0%</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>10%</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>20%</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>30%</td> </tr> </tbody> </table>	7	8	CF	7	8	CF	<input type="checkbox"/>	<input type="checkbox"/>	0%	<input type="checkbox"/>	<input type="checkbox"/>	10%	<input type="checkbox"/>	<input type="checkbox"/>	20%	<input type="checkbox"/>	<input type="checkbox"/>	30%	<p><b>5. Standby period setting</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>9</th><th>10</th><th>CF Holding</th><th>9</th><th>10</th><th>CF Holding</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>24H</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>1Min</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>30Min</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>60Min</td> </tr> </tbody> </table>	9	10	CF Holding	9	10	CF Holding	<input type="checkbox"/>	<input type="checkbox"/>	24H	<input type="checkbox"/>	<input type="checkbox"/>	1Min	<input type="checkbox"/>	<input type="checkbox"/>	30Min	<input type="checkbox"/>	<input type="checkbox"/>	60Min
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#### 1-ON-OFF function



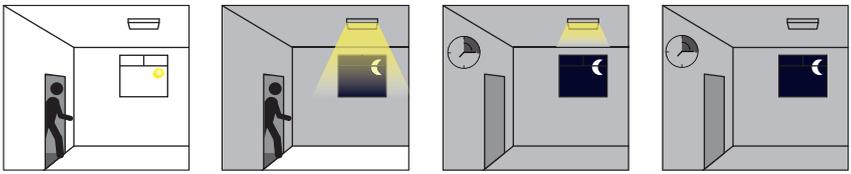
- 1 - With sufficient ambient light, the light will not switch on, even if the motion sensor is triggered
- 2 - with insufficient ambient light, the light is switched on when motion is detected
- 3 - when no motion is detected, the light switches off after the hold-time has passed. **The holding time is controlled by 3 & 4.**

#### 2- step dimming function (Corridor function)



- 1 - The low level will active automatically if insufficient ambient light, despite no motion is detected. **10/ 20%/ 30% available by dip switch 7 & 8. It is 20% in this case**
- 2- when motion is detected. The light brightness to 100%
- 3- when no motion is detected. The light dims to the set low level after the hold-time has passed. **Hold-time set by 3 & 4. 1 minutes in this case**
- 4- The Low level will cut off, if sufficient ambient light. No matter the motion detected or not. (Smart sun-light detection) **9 & 10 set to 24H**

#### 3- step dimming function



- 1 - With sufficient ambient light, the light will not switch on, even if the motion sensor is triggered
- 2 - with insufficient ambient light, the light is switched on when motion is detected
- 3 - when no motion is detected, the light dims to the set low light level after the hold-time has passed. **10/ 20%/ 30% available by dip switch 7 & 8. It is 20% in this case**
- 4 - when no motion is detected, the light turns off after the standby-period has passed. **The holding time controlled by 9 & 10. It is 30mins in this case.**

## 6 Emergency function (96E-ST & 96EMC-ST only)

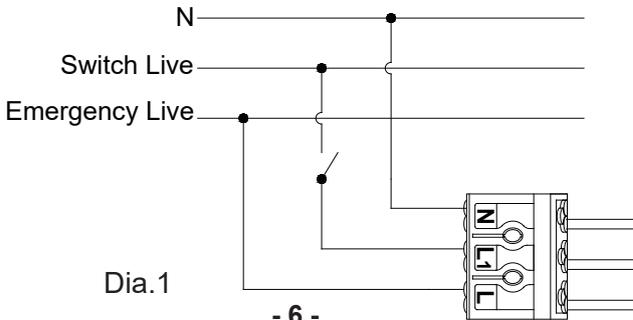
Emergency Technical Data	
Battery Type	Ni-CD 9,6V 1.0Ah
Battery Charging	60mA, Charging >90% in 24 hours
Discharging	200mA, >3hours autonomy time
Test Button	Included
Self-test	Included
Charging Indicator	Green LED
Faulty Indicator	RED LED
Remote test	Included
Standard	IEC60598-2-22:2014

### ADDITIONAL INFORMATION - COMPONENT REPLACEMENT

- The luminaire contains no user replaceable components other than the battery pack contained in emergency versions.
- The battery has a 4 year service life provided it is operated and maintained by regular testing, as detailed in this Usermanual. Failure to maintain or change the battery may result in reduced duration in emergency mode.

### Emergency function test before installation

1. Connect the AC cable according to the Dia 1. Keep the Switch Live off, and battery plugged on.  
(The green charging indicator on, Faulty indicator off)
2. Press the test button, The charging indicator off, and emergency function actived
3. Unplugged the battery, charging indicator OFF, the faulty indicator flash in 1HZ.



7 Self & remote test system(96E-ST &96EMC-ST only)

7.1 Testing (If no failure)

7.1.1. Manual function test.

Active the ④ test button.  
or press “TEST” switch on controller.

- a) The ② Charging indicator OFF.
- b) The Emergency function ON.
- c) The test will cut off the mains (18W)

7.1.2 Monthly test.

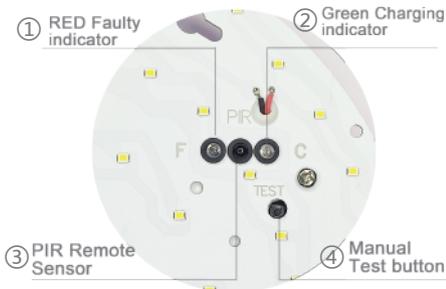
Active the ④ test button for 5 second;  
or press the “Monthly TEST” switch on controller;  
or the lamp installed every 30 days.

- a) The ② Charging indicator will flash in 1Hz for 128s;
- b) The Emergency function ON;
- c) The test finished and back to standby mode.

7.1.3 Annual test.

Active the test button ④ for 7 second;  
or press the “Annual TEST” switch on controller;  
or the lamp installed every 180 days.

- a) The ② Charging indicator will flash in 2Hz for 3hours;
- b) The charging will be cut off & emergency function ON 3hours;
- c) The lamp back to standby mode after test.



Remote test controller

## 7.2 Testing (If any failure)

- 7.2.1 Battery failure:   
 Monitored constantly. The faulty indicator will flash in 1 Hz if the battery failure any time.
- 7.2.2 LED load failure:   
 If press test button, or the luminary self-monthly test. The faulty indicator will flash in 2 Hz if LED load failure.
- 7.2.3 Duration failure:   
 Only in Annual self-test. The faulty indicator will turn on constantly if the Battery can not last 3 hours

## 8 Emergency control logic(96E-ST &96EMC-ST only)

### The emergency function control logic

Operation	Charging indicator		Faulty Indicator		Emergency LED	
	1 Second	1 Second	1 Second	1 Second	1 Second	1 Second
Normal charging	Constantly on		OFF		OFF	
Normal AC Failure	OFF		OFF		Constantly on	
Manual test	OFF		OFF		Constantly on	
Monthly self-test			OFF		Constantly on	
Annual self-test					OFF	
Battery circuit failure	OFF		OFF		OFF	
Light source failure	Constantly on		OFF		OFF	
Duration test failure	Constantly on		Constantly on		OFF	



**No Key switch, No Harry, No ladders  
 Just Safe / Easy / Convenient**

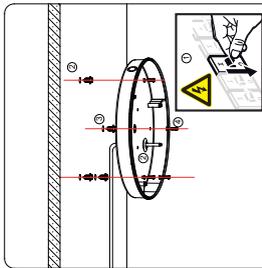
## 9 Installation guide

1. All OTC LED bulkheads are designed for projects. Only qualified electrician can install or maintain it.
2. The mains have to be off during the installation or maintenance.
3. Keep the product far from heat sources and in a well ventilated area.



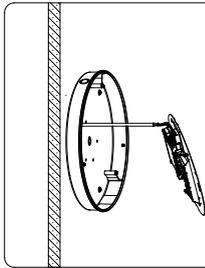
**Caution**

### Installation



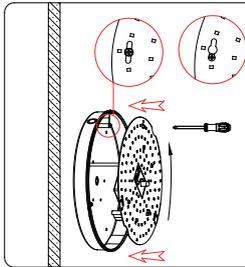
1. Make sure the Mains OFF
2. Drill the install hole on the wall.
3. Nail the Alligator into the hole.
4. Make the AC power cable through the waterproof rubber access cap.
5. Fix the Base to the wall by screws and Aluminium washer.

STEP 1



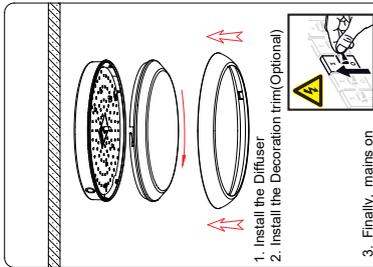
1. Connect the AC cable to the LED PCB (Make sure it already tested and preset well in step C).

STEP 2



1. Install the LED Gear Tray
2. Fix the LED Gear Tray by screw driver
3. Set the sensor according to the usermanual

STEP 3



1. Install the Diffuser
2. Install the Decoration trim(Optional)

3. Finally, mains on to test the bulkhead again

STEP 4

## Luminaire emergency inspection record

month	Test	First Year		Second Year		Third Year		Fourth Year		Fifth Year	
		Signed	Date	Signed	Date	Signed	Date	Signed	Date	Signed	Date
1	Functional										
2	Functional										
3	Functional										
4	Functional										
5	Functional										
6	1 hour										
7	Functional										
8	Functional										
9	Functional										
10	Functional										
11	Functional										
12	3 hours										

Installed By: ..... Luminaire NO.: .....

Installed Date: ..... Contact details: .....

Luminaire Locaton: ..... Contact details: .....

## 11 Cheap solution DIY



**WARNING**

1. All OTC emergency lights are designed according 60598-1 and 60598-2-22:2014 strictly. There is no trouble if you chose OTC products for bidding projects, including project acceptance, monthly, annual inspection.
2. If you only need sell it online/ install in your home & there is no professional project acceptance inspection, You can chose some cheaper solutions.

NO.	DIY Items	OTC default Solutions	Cheaper solutions	Dis-advantages
1	MOQ	No MOQ, 1pcs available	1000Pcs	
2	Material of Cover	PC Plastic	PS	IK09=>IK05 Not fire resist
3	Material of Base	PC Plastic	ABS	IK09=>IK07 Not fire resist
4	Battery pack	9.6V 1.0Ah Ni-Cd	3.7V Li-ion	Can not IEC60598-2-22:2014 AnnexA compliant
5	Lumen output	Constant brightness	Bright at beginning Waker in the end	Can not IEC60598-2-22:2014, 22.17.1 compliant
6	Duration time	180mins	90mins or others	According local fire department requests
7	The sensor	The sensor with corridor function	Input side sensor	According to your request No Disadvantage
8	EM driver	Isolated	CBB solution	Can not IEC61347-2-7 compliant
9	Input terminal	Easy Pull in terminal	Screw Terminal	Can not wiring conveniently
10	Installation pack	Installation pack in Page2	No installation pack	

OTC only guarantee the EM function of luminaire if DIY !

Please check the request / standard with local fire department before making decision.