



# **LED Pipe Handrail**

## User Guide

# 1. Overview

Muzata LED pipe handrail is an innovative product that combines pipe handrail with LED lighting. This unique feature enhances safety by automatically illuminating stairs, allowing your family to walk securely at night.

# 2. Specifications



<b>Model</b>	<b>Material</b>	<b>Specifications</b>	<b>Finishing</b>	<b>Applications</b>
HW21 BBG Mains-powered	Galvanized steel	OD: 32mm Length: 2m	Black powder coated	Indoors
HW23 BBG Battery-powered	Galvanized steel	OD: 32mm Length: 2m	Black powder coated	Indoors



# 3. Items related

## (1) Package includes

For your convenience, we have provided a list of items included in the pipe handrail packaging below.

 <p><b>1</b> Handrail tube</p>	 <p><b>2</b> Tube end</p>		
 <p><b>3</b> Connector</p>	 <p><b>4</b> T-connector</p>	 <p><b>5</b> Flange</p>	
 <p><b>6</b> 4mm Set screw</p>	 <p><b>7</b> 2.5mm Allen wrench</p>	 <p><b>8</b> Anchors</p>	 <p><b>9</b> Rubber gasket</p>
 <p><b>10</b> 8mm 5/16" drill bit</p>	 <p><b>11</b> 40mm M5 lag screws</p>	 <p><b>12</b> DC pigtail connectors</p>	
 <p><b>13</b> 1w 12v LED lights</p>	 <p><b>14</b> 12V sensor</p>	 <p><b>15</b> Terminal Level Wire Nut Connector</p>	 <p><b>16</b> Battery holder</p>

## (2) Accessories related

Please note that accessories listed below may be required but are not included in the package. If needed, they can be purchased separately.

 <p><b>17</b> 12V Power supply adapter</p>	 <p><b>18</b> 1.5V AA battery</p>
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# 4. Installation



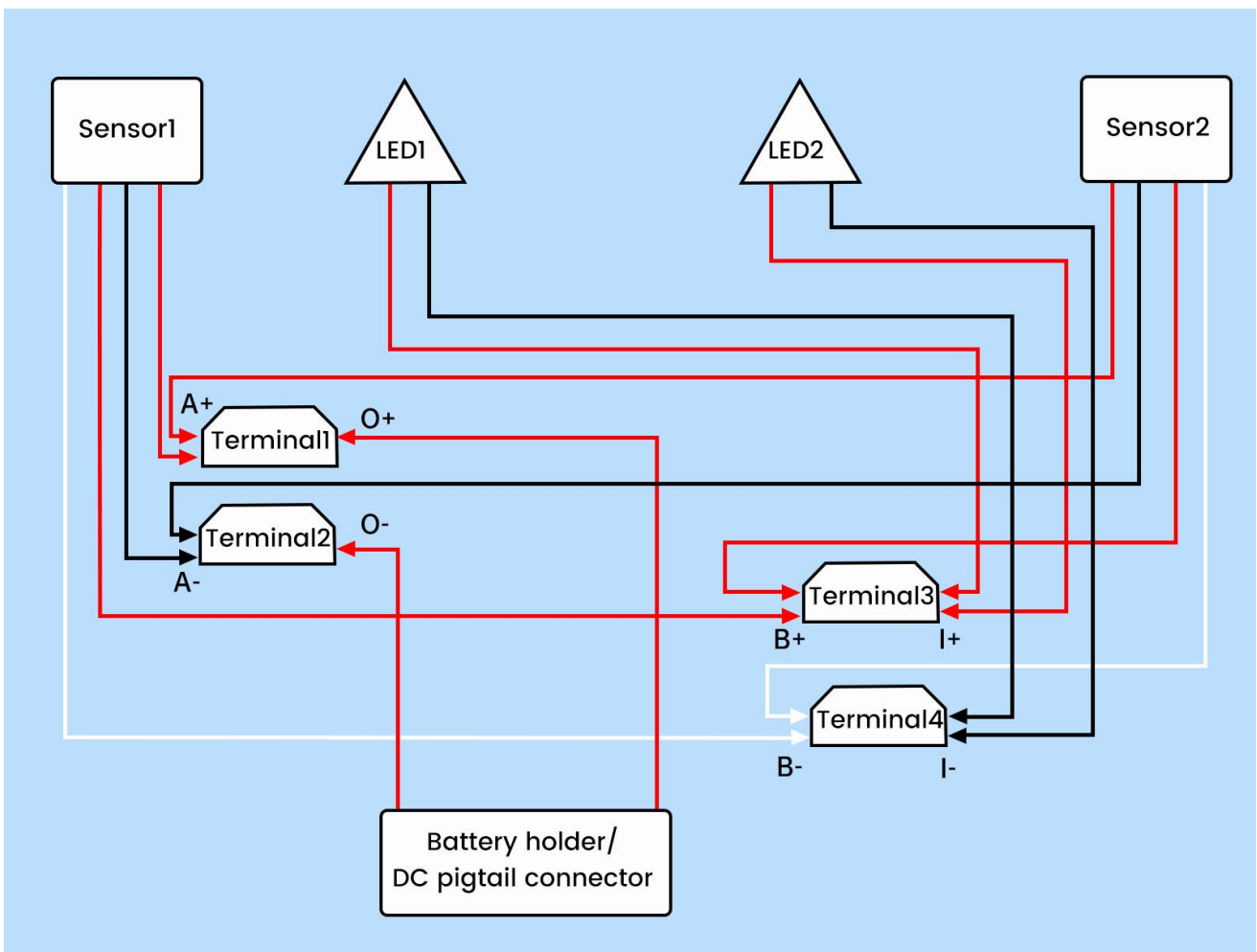
## Note before assembly

Make sure to connect the positive and negative wires of the power correctly, as incorrect connections can cause component burnout.

### 4.1 Connection diagram

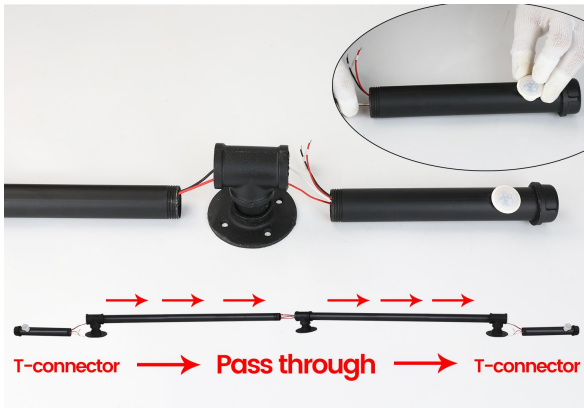
- 1) **A+** (Input positive wire of the sensor)
- 2) **A-** (Input negative wire of the sensor)
- 3) **B+** (Output positive wire of the sensor)
- 4) **B-** (Output negative wire of the sensor)
- 5) **I+** (Positive wire of the LED light)
- 6) **I-** (Negative wire of the LED light)
- 7) **O+** (Positive wire of the battery/DC Pigtail Connectors)
- 8) **O-** (Negative wire of the battery/DC Pigtail Connectors)

**Note:** The short lines of A+ and A- must be be on the same side as the long lines of I+ and I-.



## 4.2 Installation steps for pipe handrail of battery holder

### 1. Connect two sensors



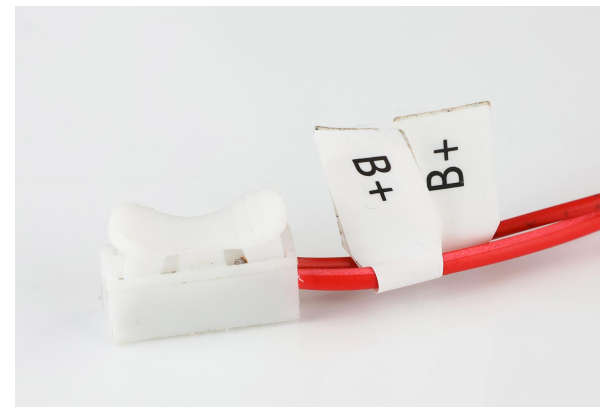
**Step 1** - Install two sensors into two end tubes **2** and pass the longer power wire from one T-connector **4** to another T-connector **4** in sequence.



**Step 2** - Install two A+ to one side of the 1st terminal **15**.



**Step 3** - Install two A- to one side of the 2nd terminal **15**.

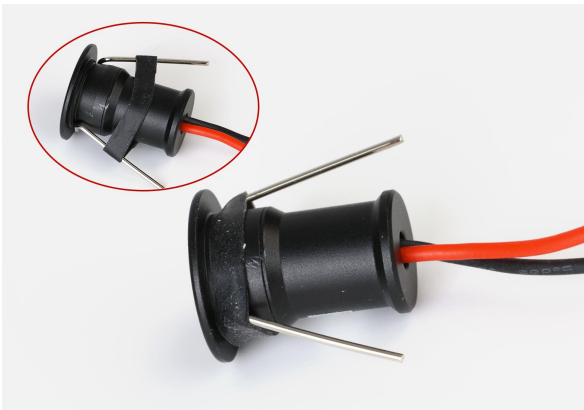


**Step 4** - Install two B+ to one side of the 3rd terminal **15**.



**Step 5** - Install two B- to one side of the 4th terminal **15**.

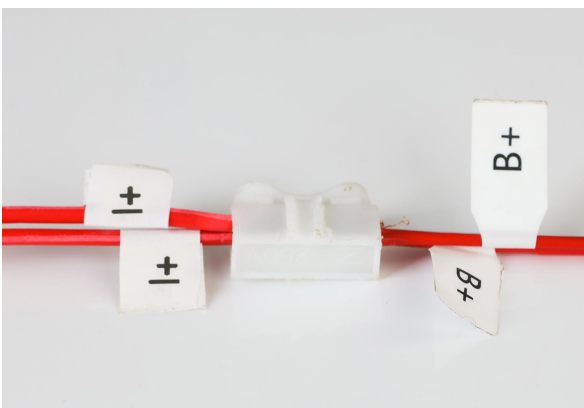
## 2. Connect the LED lights



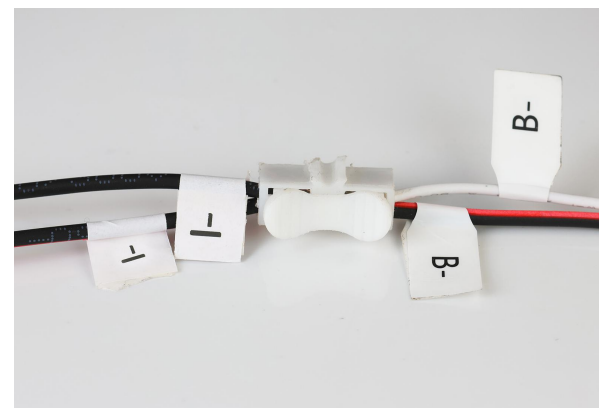
**Step 1** - Place the spring on the LED light and put the rubber gasket **9** into the spring.



**Step 2** - Install two LED lights **13** to the handrail tubes **1** and pull two I+ wires near the 3rd terminal **15**.

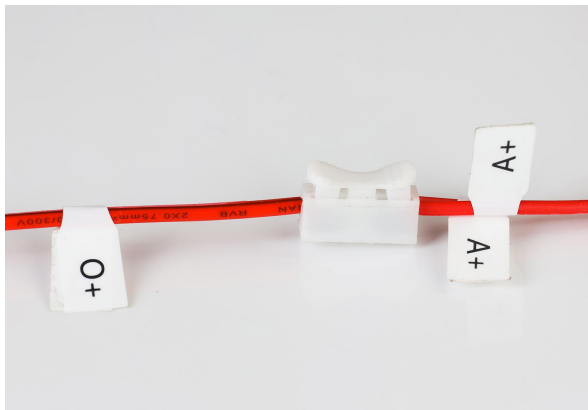


**Step 3** - Install two I+ to another side of the 3rd terminal **15**.

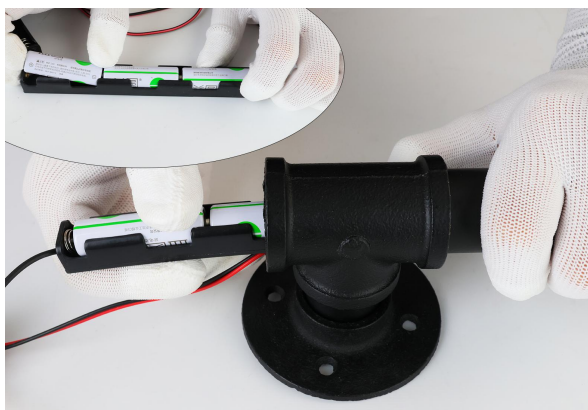


**Step 4** - Install two I- to another side of the 4th terminal **15**.

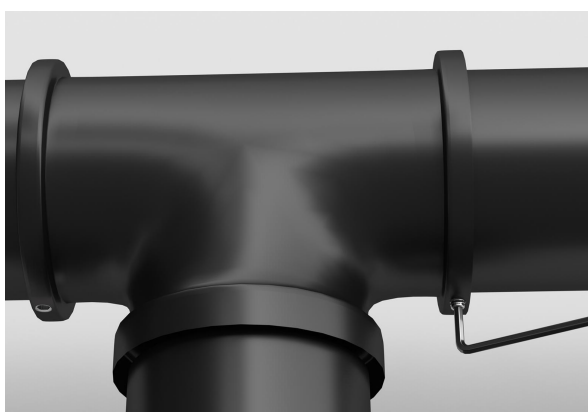
### 3. Connect the battery holder



**Step 1** - Install O+ to another side of the 1st terminal **15**.



**Step 3** - Install the battery **18** into the battery holder and insert it into the handrail tube **1**.



**Step 5** - Tighten the set screws **6** on the T-connector **4**.



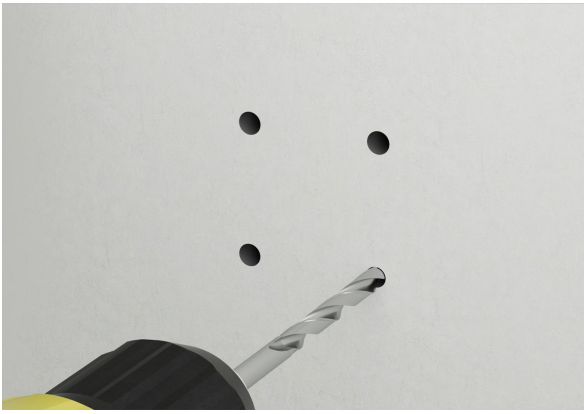
**Step 2** - Install O- to another side of the 2nd terminal **15**.



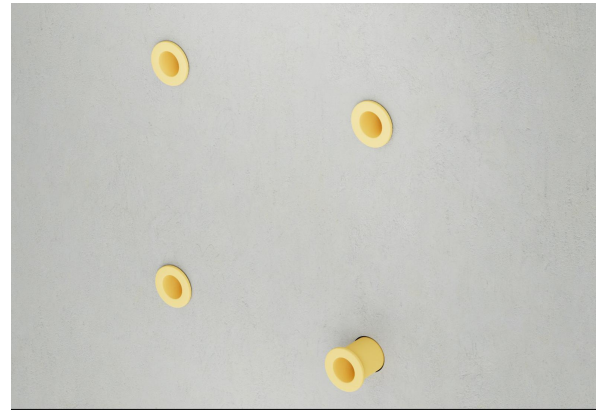
**Step 4** - Install the handrail tube **1** and please note that the direction of LED lights should be downward.



**Step 6** - Mark the position where the holes will be drilled.



**Step 7** - Drill the holes with 5/16" drill bit **10**.



**Step 8** - Clean up the holes and then plug the anchors **8**.



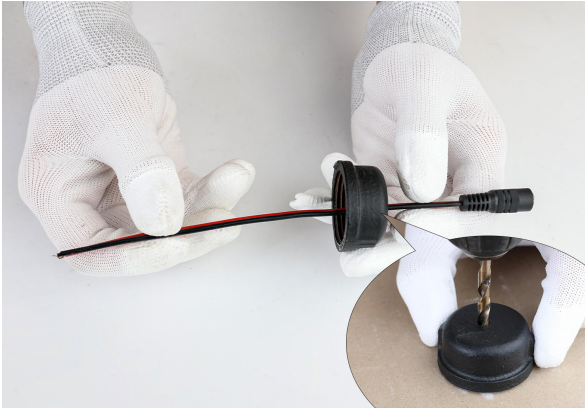
**Step 9** - Fix the pipe handrail on the wall with screws **11**.



## 4.3 Installation steps for pipe handrail of 12V power supply adapter

The installation steps for the sensors and LED lights are the same as those for the battery holder.

### 1. Connect the pigtail connector



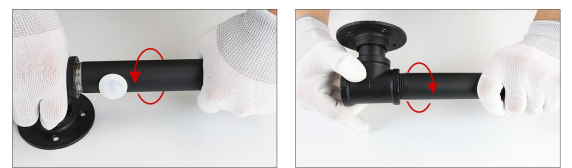
**Step 1** - Drill 7/32" holes on the cap of the tube end **2** which close to the socket and insert the pigtail connector to the tube end **2**.



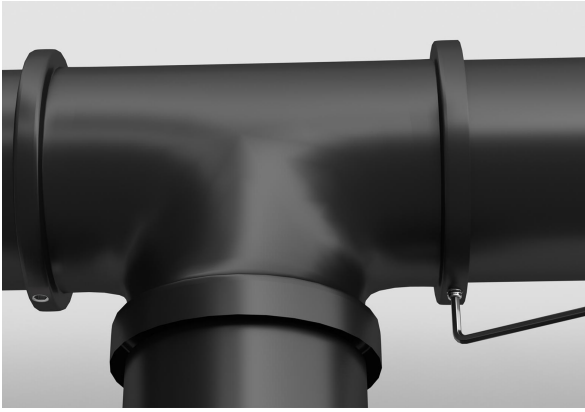
**Step 2** - Install O+ to another side of the 1st terminal **15**.



**Step 3** - Install O- to another side of the 2nd terminal **15**.



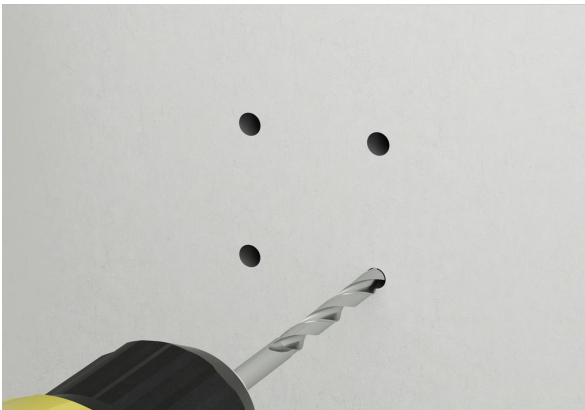
**Step 4** - Install the pipe handrail and please note that the direction of LED lights should be downward.



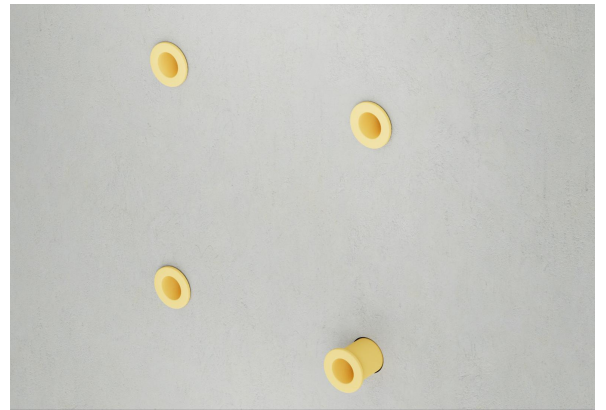
**Step 5** - Tighten the set screws **6** on the T-connector **4**.



**Step 6** - Mark the position where the holes will be drilled.



**Step 7** - Drill the holes with 5/16" drill bit **10**.



**Step 8** - Clean up the holes and then plug the anchors **8**.



**Step 9** - Fix the pipe handrail on the wall with screws **11**.

## **5. Tips**

- (1) The positive and negative direction of the battery must be installed correctly.
- (2) Please be aware that the power wires must be connected before installing the battery holder to prevent burnout.
- (3) How to replace the battery: Spin the tube end, take out the battery holder, replace the battery.

## **6. Free design service**

If you are a beginner or not sure about how to do it, please reach us. Our experts can do all the planning, designing and budget work for you without extra charging.

## **7. About Muzata**

MUZATA has helped millions of families with their cable railing projects during the past years. We believe that home renovation should be easy and affordable. So we work with every effort to provide quality products and professional service, to make Muzata a reliable brand.