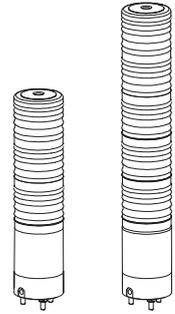


# Non Sparking Explosion Proof LED Tower Lights

## ST45ML-Ex



Thank you for purchasing Qlight's products. Please read this user manual carefully prior to installation and operation to ensure safe and correct use.

### ⚠ Safety Precautions for Explosion Proof Products

Please follow the instruction below to ensure safe and correct use of explosion proof products.

1. Explosion proof products should be managed according to explosion-proof regulations. Do not disassemble, assemble, alter or repair the product arbitrarily.
2. The temperature rating of the product is the temperature the product will experience at the applied rated voltage and ambient temperature indicated.
3. Use cable glands that satisfy the product's explosion proof grade and temperature grade.
4. Unused cable entries must be filled with material that meets the explosion proof grade and temperature rating.
5. Before installing the product, please make sure all cautions indicated on the labels, packaging, and operation manual of the product are fully understood.
6. Installation, maintenance and repair of the product must be performed by experts in the explosion proof field, or persons who have received relevant training.
7. For safety, the product should be installed and operated in environments that avoid high temperature and high pressure.
8. Please follow general safety precautions and avoid installing the product in locations that may generate excessive heat.
9. When installing the product in places where chemicals are located, please make sure that the environment does not have two or more incompatible chemicals mixed. For safety, please read the instruction manual carefully and be mindful of the chemical compositions where the product is used.
10. This product requires grounding.

### ⚠ Precaution for Safety

Failure to follow the instructions below may cause a loss of life or serious physical injury.

1. During wiring or maintenance, please completely turn off the Power of the product. (Failure to follow this may lead to an electric shock.)
2. Do not install the product in locations that subjects it to excessive dust or water other than the conditions designated by the IP protection ratings indicated for each product. (Failure to follow these instructions may cause a fire to the product, electric shock, physical injury, malfunction or damage to the product.)
3. Do not alter or repair this product. If maintenance or repair service is required, please contact your local Qlight contact point. (Failure to follow these instructions may lead to fire, electric shock, or product damage.)
4. Please apply the correct voltage to the product. (Failure to follow these instructions may lead to fire, electric shock, or product damage.)
5. When the product is applied to a condition that may impact lives or property, please make sure to have a double safety device. (Failure to follow this may cause damage to property, fire, electric shock and loss of life.)

Failure to follow the proper instructions may cause damage to property, the product, or malfunction of the product that would void the warranty.

1. Please remove any objects that can interrupt ventilation around the product.
2. Please turn off the Power of the product immediately if it fails to operate properly.
3. Carefully wire the product according to each product's specification.
4. Please be careful in preventing chemicals such as thinner, benzene, etc. in contact with the surface of the product.
5. Do not apply excessive force/impact to the product.
6. Static electricity may be generated by physical contact due to the surface characteristics of this product so please use a wet towel or anti-static cleaner to remove the foreign substances on the product.

### Ordering Specifications

| ST45ML3             | Ex                | 12         | RAG     | ST45ML         | 3           | 12         | RAG     |
|---------------------|-------------------|------------|---------|----------------|-------------|------------|---------|
| [Model number]      | [Explosion Proof] | [Voltage]  | [Color] | [Model number] | [Layer]     | [Voltage]  | [Color] |
| • ST45ML2(2 layers) |                   | • 12-DC12V | R-Red   | • ST45ML       | • 1-1Layer  | • 12-DC12V | R-Red   |
|                     |                   | • 24-DC24V | G-Green |                | • 2-2Layers | • 24-DC24V | G-Green |
| • ST45ML3(3 layers) |                   |            | R-Red   |                | • 3-3Layers |            | A-Amber |
|                     |                   |            | A-Amber |                | • 4-4Layers |            | B-Blue  |
|                     |                   |            | G-Green |                | • 5-5Layers |            | W-White |



Please scan the QR code for more detailed product information.

[www.qlight.com](http://www.qlight.com)

## Product Specifications

### Explosion Proof Specifications

|                               |   |
|-------------------------------|---|
| Model number                  | ST45ML-Ex   |
| Range for operating voltage   | DC 12V or 24V   |
| Ex mark                       | KCs- Ex nR II T6 IP54<br>(Layer2-3)<br>NEPSI, CCC -Ex nR IIC T6<br>Gc (Layer1-5)<br>KCs - Ex nR II T4 IP54<br>(Customization, Layer1-5) |
| Ambient operating temperature | -20°C ≤ Tamb ≤ +40°C  |
| Explosion proof Zone          | Zone2   |
| Protection rating             | IP54  |

|   |            |   |
|---|------------|---|
| Zone definitions(Gas)                               | Zone 1     | High risk gas/vapour                        |
|   | Zone 2     | Medium risk gas/vapour                      |
| Group definitions(Gas)                              | GROUP II A | Acetone, Petrol, Methanol, Propane, Toluene |
|   | GROUP II B | Ethylene, City gas                          |
|   | GROUP II C | Hydrogen, Acetylene, Carbon sulphide        |
| Maximum surface temperature of electrical equipment | T1         | 450°C                                       |
|   | T2         | 300°C                                       |
|   | T3         | 200°C                                       |
|   | T4         | 135°C                                       |
|   | T5         | 100°C                                       |
|   | T6         | 85°C  |
| Zone definitions(Dust)                              | Zone 21    | High risk powder/dust                       |
|   | Zone 22    | Medium risk powder/dust                     |
| Group definitions(Dust)                             | GROUP II A | Ignitable fibers/flyings(more than 0.5mm)   |
|   | GROUP II B | Non-conductive dusts                        |
|   | GROUP II C | Conductive dusts                            |

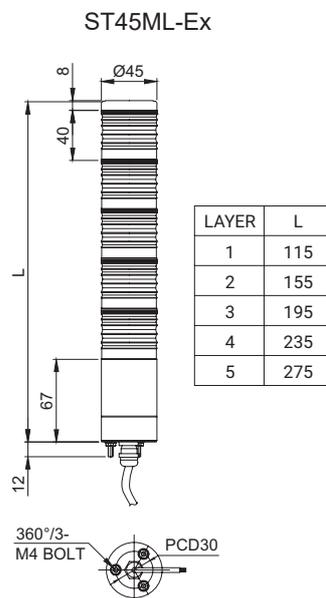
### General Product Specification

| Model number | Layer | Voltage | Certificates | Weight | Color  |
|--------------|-------|---------|--------------|--------|--|
| ST45ML-Ex    | 1     | DC12V   |              | 0.19kg | R-Red  |
|              |       | DC24V   |              | 0.19kg |  |
|              | 2     | DC12V   |              | 0.24kg | R-Red<br>G-Green                                 |
|              |       | DC24V   |              | 0.24kg |  |
|              | 3     | DC12V   |              | 0.29kg | R-Red<br>A-Amber<br>G-Green                      |
|              |       | DC24V   |              | 0.29kg |  |
|              | 4     | DC12V   |              | 0.32kg | R-Red<br>A-Amber<br>G-Green<br>B-Blue            |
|              |       | DC24V   |              | 0.32kg |  |
|              | 5     | DC12V   |              | 0.36kg | R-Red<br>A-Amber<br>G-Green<br>B-Blue<br>W-White |
|              |       | DC24V   |              | 0.36kg |  |

| Light source current(1 layer)  |       |       |
|--------------------------------|-------|-------|
| Voltage condition              | DC12V | DC24V |
| Light source current (1 layer) | 24mA  | 12mA  |

## Dimensions

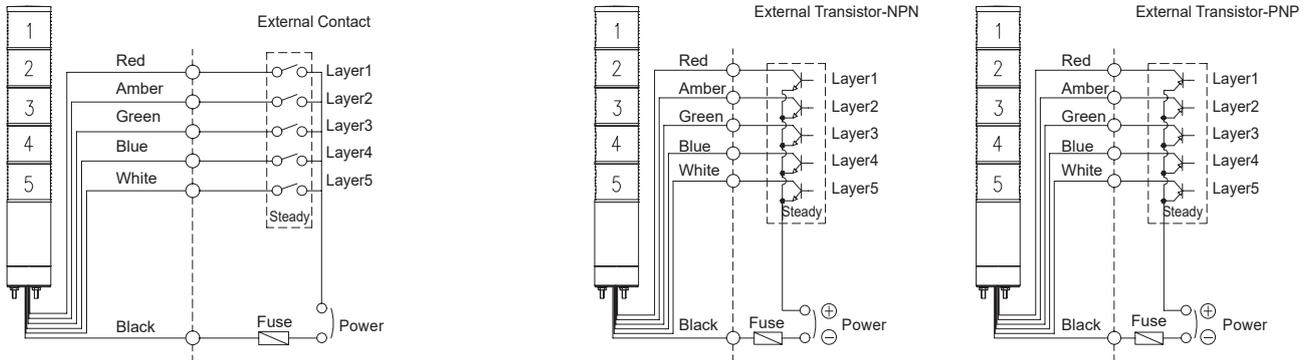
(Units : mm)



## Wiring Instructions

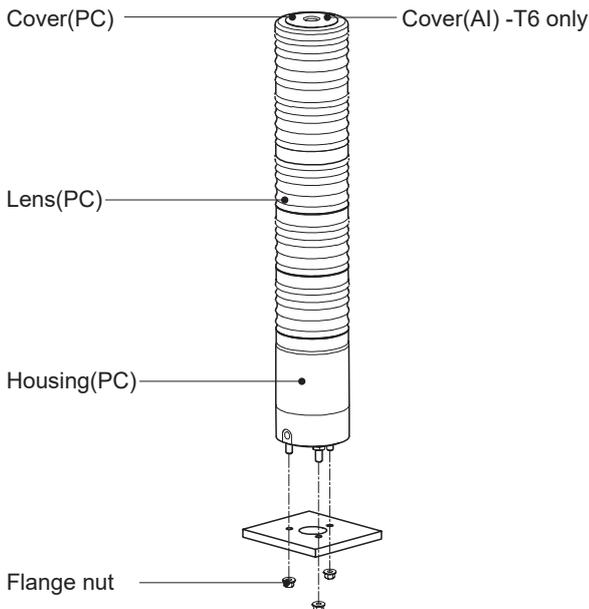
- ST45ML-Ex can be wired by using both External Contact and transistor.
- In case of wiring by transistor, please make sure if it is NPN type or PNP type. Please carefully follow wiring instruction below.

### ST45ML-Ex-DC



- External Power line/ external signal line - UL2464 AWG22(0.3sq) 400mm
- This product can be wired regardless of polarity.

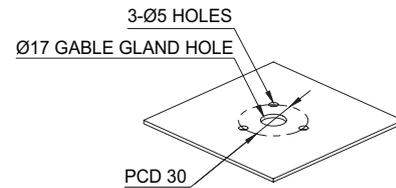
## Parts Definition/ Installation



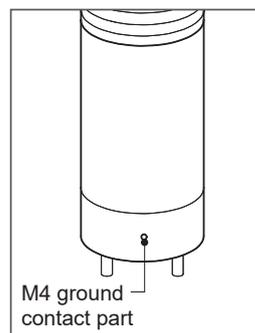
- First, remove the flange nuts from bolts and place the product through the mounting surface holes.
- Fasten the flange nuts on the opposite side of the mounting surface until the product is tightened securely.

## Mounting Hole Specifications

- Machine holes on the mounting surface referring to the diagram below.



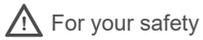
## Grounding Instructions



- Please use an M4 bolt at the location marked in the diagram above to ground the product.
- When connecting the grounding cable, please use a ring terminal.
- Please use a ring terminal made of C5212 material as it has the same electrical properties of the conductor.
- Please use a grounding cable with a diameter greater than 4mm.

## Installation Environment and Protection Rating

- This product is designed to be explosion proof.
- Please make sure to use the product in an environment that meets the specified explosion proof rating and regulations.
- For further information, please visit our website ([www.qlight.com](http://www.qlight.com)).



For your safety

Specification and dimensions listed in this catalogue subject to change without notice for product quality improvement.  
The newest product information is available on our website.(www.qlight.com)  
Please read the instruction manual attached to the product carefully before installation and use.

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