



KAL GROUP (HK) INDUSTRY CO.,LIMITED

Manufacturer:Guangzhou Cal-Boz Electrical Science & Technology Co.,Limited

SPECIFICATION FOR APPROVAL

CUSTOMER

CUSTOMER
PART NO.

Cal-Boz
PART NO.

NEGQ05-XD-X-XX-B

DATE
(MM/DD/YY)

11/12/2017

CUSTOMER

PURCHASING DEPT	ENGINEERING DEPT	APPROVED BY

CAL-BOZ

QUALITY DEPT	ENGINEERING DEPT	APPROVAL
Frank.Qiu	Allen.Zheng	Niko.Zhang



Change Release Table

No	Version	Part No	Change Reason	Change Content	Draw	Approval
1	A1	NEGQ05-XD-X-XX-B	N/A	N/A	Allen Zheng	Niko Zhang
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Specifications

Human body electrostatic discharge button (indicator type)



Please connect and use this product correctly on the basis of carefully reading this manual.

Please take good care of it after reading, and read it if necessary.

Note

Do not open the front cover or back cover.

Note: In order to reduce the risk of electric shock, do not remove the front cover (or back cover) during use. There is no internal parts that users can repair. Maintenance work should be carried out by qualified maintenance staff.



Warnings:

- This product must be grounded reliably and checked regularly.
- This product is an intrinsically safe device. The connecting wire should be kept intact and securely connected.
- Please use according to the specified rated voltage, otherwise it may cause the product to burn out.
- Do not click or tap the panel with a metal object as it may cause damage.
- The ground wire of this product shall not be used with the power supply neutral wire and shall not be shared with the anti-direct lightning ground wire.
- Connections should comply with local electrical regulations.

Safety instruction

- 1、 Please read this product manual.
- 2、 Please take good care of this manual.
- 3、 Please note each warning.
- 4、 Please follow all instructions.
- 5、 Button panel can only be cleaned with a dry cloth.
- 6、 The grounding of the product should be checked regularly to reduce the hazard caused by static electricity in the product workplace.
- 7、 Ground wire $\geq 2.5\text{mm}^2$.
- 8、 Please remove the gloves before operating this product.

Product introduction

The human body electrostatic discharge button (indicator type) is a new generation of human body static elimination products designed for flammable, explosive and anti-static work areas. This product designed is firm and durable, simple to maintain, safe and reliable reasonable design, simple structure, beautiful appearance, convenient installation according to the standard GB14048.5-2008 (control circuit electrical equipment and switching components) and GB12158-2006 (general guidelines for preventing electrostatic accidents). The human body electrostatic discharge button produced by our company is isolated by special electrostatic sub-conductor material, and the surface of the touch panel is metal body (can be written or patterned according to customer requirements). The product overcomes the shortcomings of the current human body electrostatic discharge, can prolong the static discharge time, effectively limit the discharge current of the electrostatic conductor to the ground, and greatly reduce the instantaneous electrostatic discharge energy. During the static discharge of the human body, there will be no electric shock to the human body, and no sparks, so accidents causing fire and explosion will be avoided, which fully meets the requirements of the General Guidelines for Preventing Electrostatic Accidents GB12158-2006.

Function and feature

The product uses a light-touch self-reset switch internally, and the switch has a minimum working frequency of more than 1,200,000 times.

Good vibration resistance

The outer casing of the product is made of aluminum alloy casing, which is better used in vibration environment to prevent false triggering of the switch.

Easy to install

Built-in plate mounting.

Prevent instant discharge

Use electrostatic subconductor materials, and the current leakage resistance value is in line with national standards.

Electrical contact

The product comes with 1N01NC contacts for user flexibility.

Indicator

The indicator is made of SMD LED light-emitting tube technology, and the service life of the light board can reach more than 40,000 hours.

Plate

Metal plate can meet the needs of different user pattern engravings, and can be replaced at any time.

Terminals

The terminal block adopts the cage terminal conforming to the CE standard, which is beautiful and generous.

Tamper-resistant protection

The product is equipped with a tamper-proof cover to prevent human damage to the button.

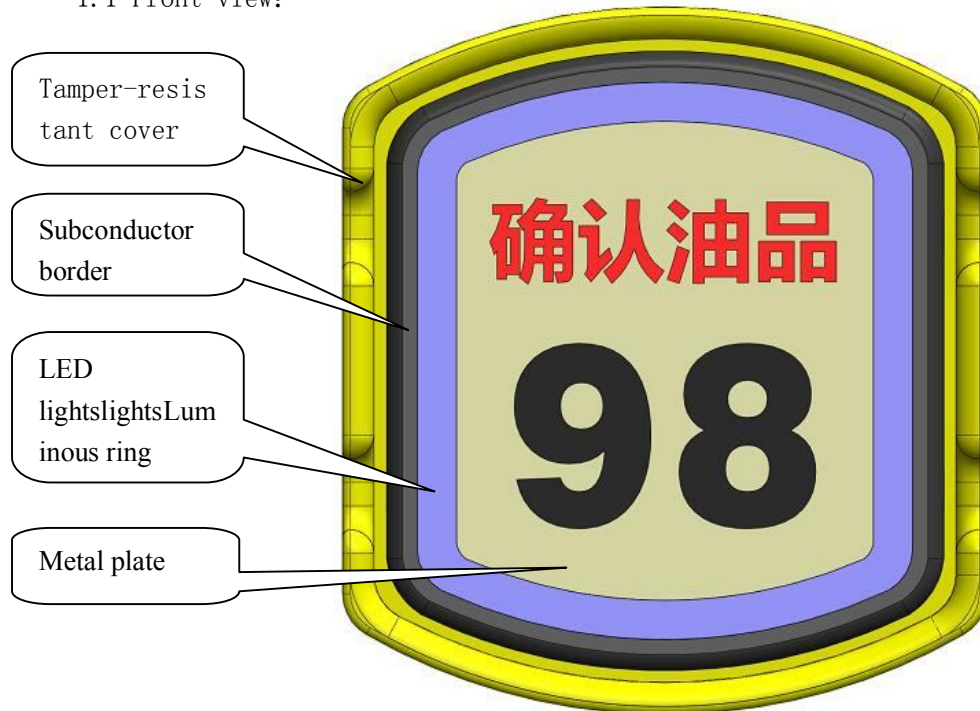


Contents

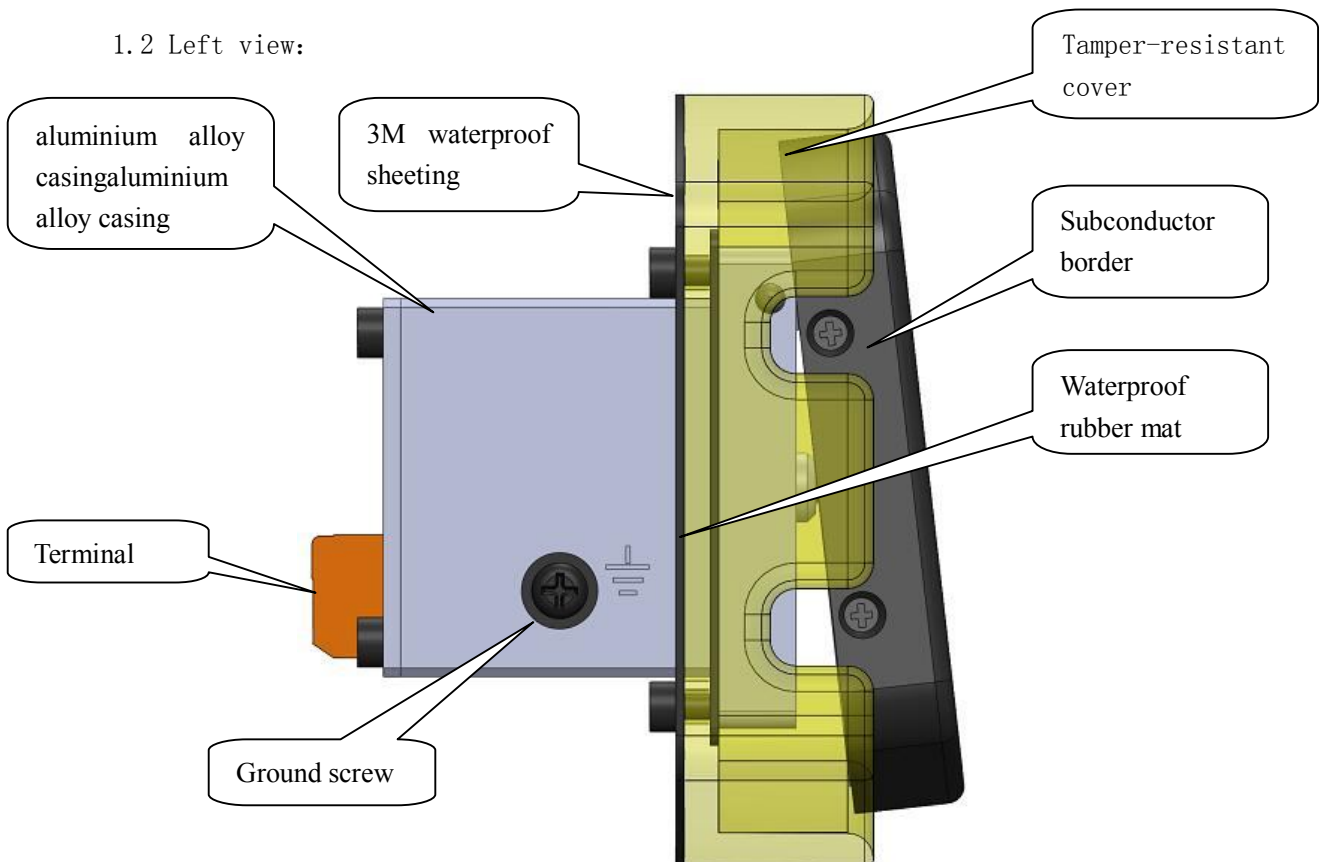
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1. Parts name

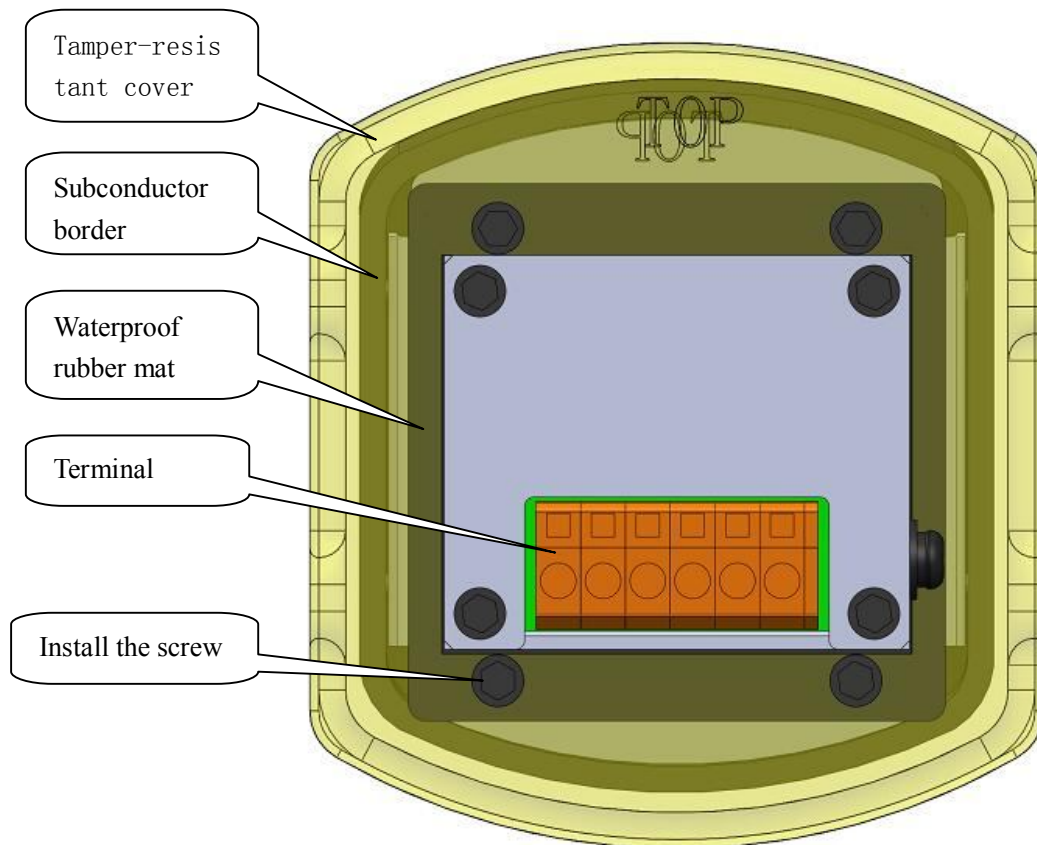
1.1 Front view:



1.2 Left view:




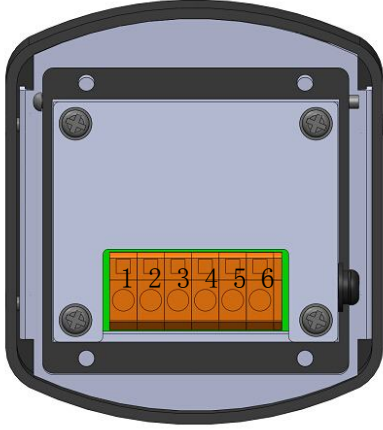
1.3 Rear view



2、Connecting wire

2.1 Rear terminal meaning

 When connecting the rear terminals, be sure to connect them as specified, otherwise the product may be damaged.




monocolor NEGQ05-□D-□

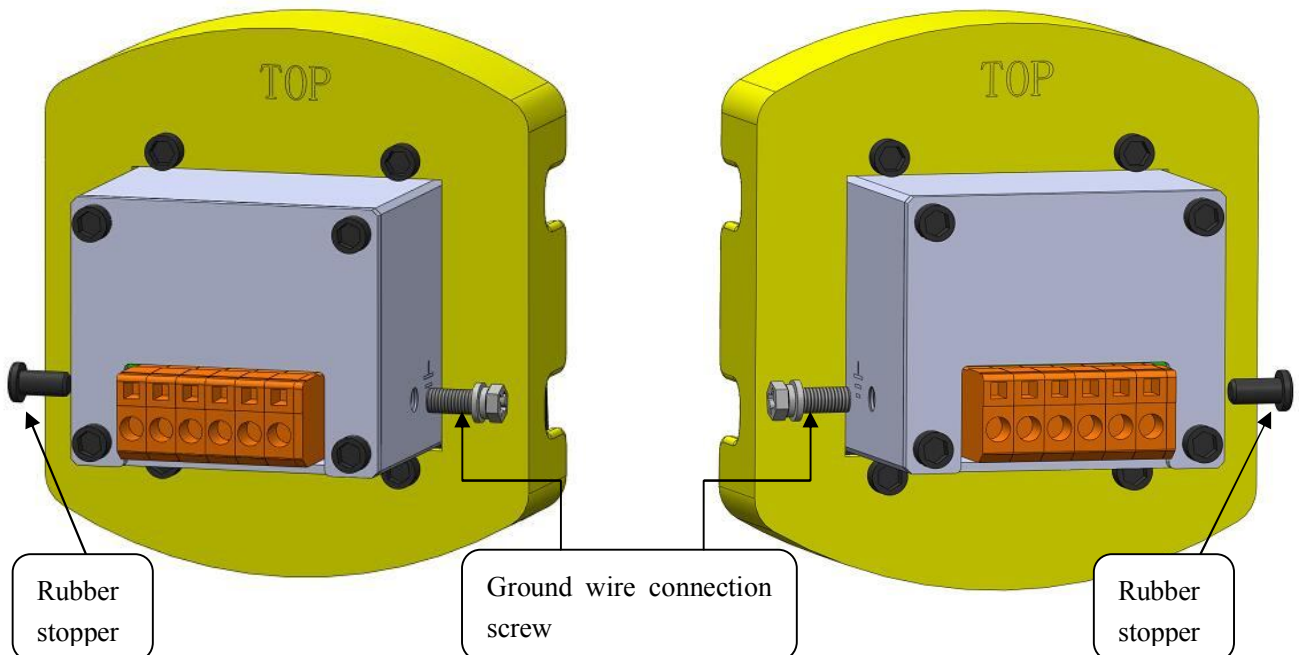
- 1、 blank
- 2、 NC close
- 3、 COM Public side
- 4、 NO open
- 5、 - LED lamp power supply negative
- 6、 + LED lamp power supply positive

bi-color NEGQ05-□D-□□

- 1、 + LED lamp power supply positive (light color 1)
- 2、 NC close
- 3、 COM public side
- 4、 NO open
- 5、 - LED lamp power supply negative
- 6、 + LED lamp power supply positive (light color 2)

2.2 Grounding

 When the product is grounded, the screws must be tightened firmly and reliably to avoid the effect of removing static electricity. Use the shock-proof gasket and cross-hex hex screws included with the product to connect the grounding screw hole with the grounding mark on either side (as shown below). After the ground wire is connected, plug the other screw hole with the included rubber plug. For the ground wire ear, please use the 0-shaped wire ear and the ground wire $\geq 2.5\text{mm}^2$.



3、Specification selection

Indicator : monicolor

Indicator : bi-color

NEGQ05-□D-□ () □

① ② ③ ④

NEGQ05-□D-□□ () □

① ② ③ ④

① LED indicator input voltage

05 : DC5V

12 : DC12V

24 : DC24V

② LED light color (single letter is monicolor, double letter is bicolor)

R : Red G : Green S : sapphire Y : Yellow

③ Plate font color

No logo: The first line of the font "black" second line font "black"

RB : The first line of the font "red" the second line of the font "black"

④ Plate lettering content

The first item No mark: Confirm the oil Others: User special requirements (please specify when ordering)

The second item Size : Chai 0# 35# -10# 5# 89 90 92 93 95 97 98 User specific requirements (please specify when ordering)

Figure



No logo



R B

Selection parameter description

Input voltage DC24V, indicator blue, font size 0#, font black + black Model: NEGQ05-24D-S 0#

Input voltage DC12V, indicator blue, font size 98, font red + black Model: NEGQ05-12D-S(RB)98

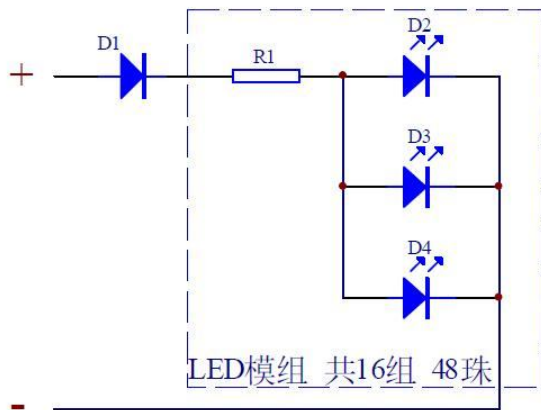
Input voltage DC24V, indicator red, blue, font size 92, font red + black Model: NEGQ05-24D-RS(RB)92

4、 Technical parameters

Model	NEGQ05-05D-□	NEGQ05-12D-□	NEGQ05-24D-□	NEGQ05-12D-□□	NEGQ05-24D-□□
LED lamp voltage	5VDC	12VDC	24VDC	12VDC	24VDC
LED lamp power consumption	≤0.6W	≤1W	≤1.5W	≤1W/1W	≤1.5W/1.5W
Lamp voltage range	5VDC±2%	12VDC±5%	24VDC±10%	12VDC±5%	24VDC±10%
Lamp rated current	120mA	55mA	55mA	55mA/55mA	55mA/55mA
Physical dimension	69*78*76 (mm)				
Operating temperature	-25~+55°C (No icing)				
Operating humidity	45~85% (No condensation)				
Storage temperature	-45~+80°C				
Storage humidity	lower than 90%RH				
Protection level	Front plate: IP65 Terminal: IP20				
Insulation resistance	over 100MΩ (500V DC megohmmeter) Terminal block circuit to housing				
Contact capacity	250VAC 3A 125VDC 1A				
Contact structure	1NO 1NC				
Effective release area	≤30cm ²				
Stroke angle	6.2°~6.9°				
Stroke	5.5~6mm				
Nominal operating force	A point = 8.0~9.5N B point= 11.0~13.2N C point = 14.0~18.5N				
Leakage resistance value	1×10 ⁶ Ω~1×10 ⁹ Ω				
Mechanical life	≥1.2million times				
LED indicator life	≥40000 hours				
Installation method	Plate embedded				
Weight (about)	310g				

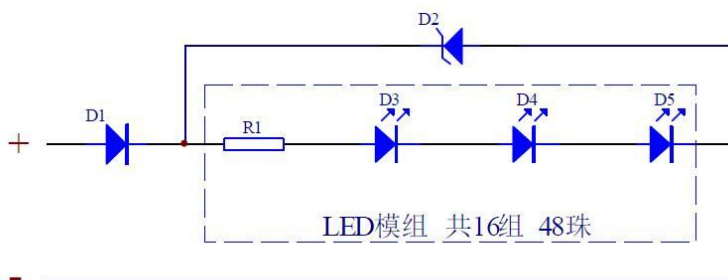
LED module internal circuit

-  — 电阻 Resistance
-  — LED LED lights
-  — 整流二极管 Rectifier diode
-  — 齐纳二极管 Zener diode



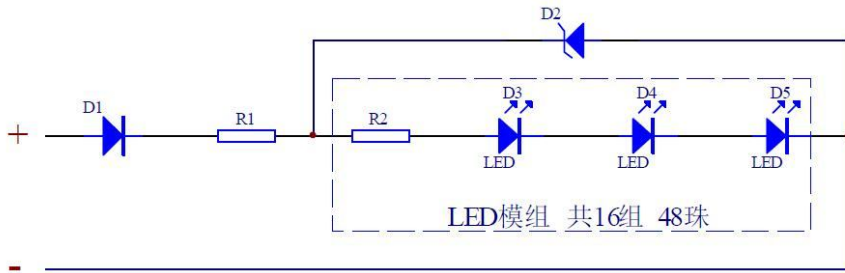
DC5V电路

The LED module, a total of 16 group 48 bead
DC5V circuit



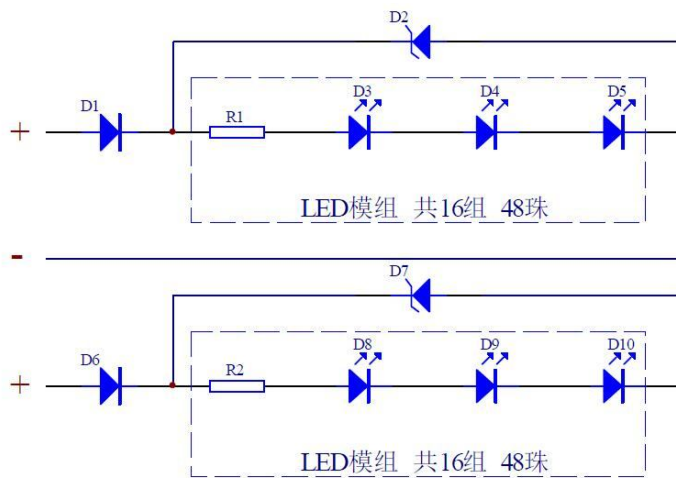
DC12V单色电路

The LED module, a total of 16 group 48 bead
DC12V Monochrome circuit



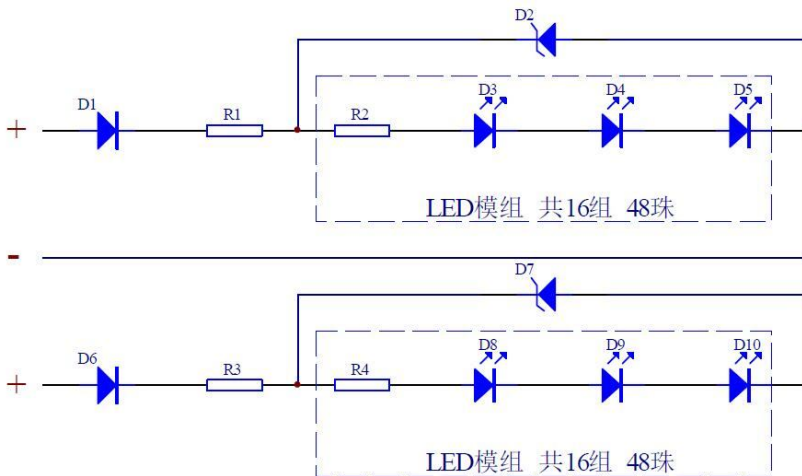
DC24V单色电路

The LED module, a total of 16 group 48 bead
DC24V Monochrome circuit



DC12V双色切换电路

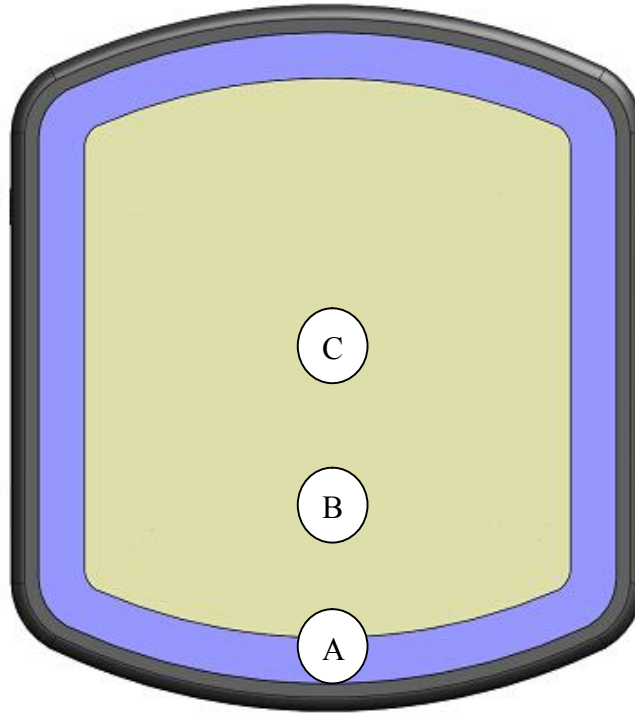
The LED module, a total of 32 group 96 bead
DC12V Double color circuit



DC24V双色切换电路

The LED module, a total of 32 group 96 bead
DC24V Double color circuit

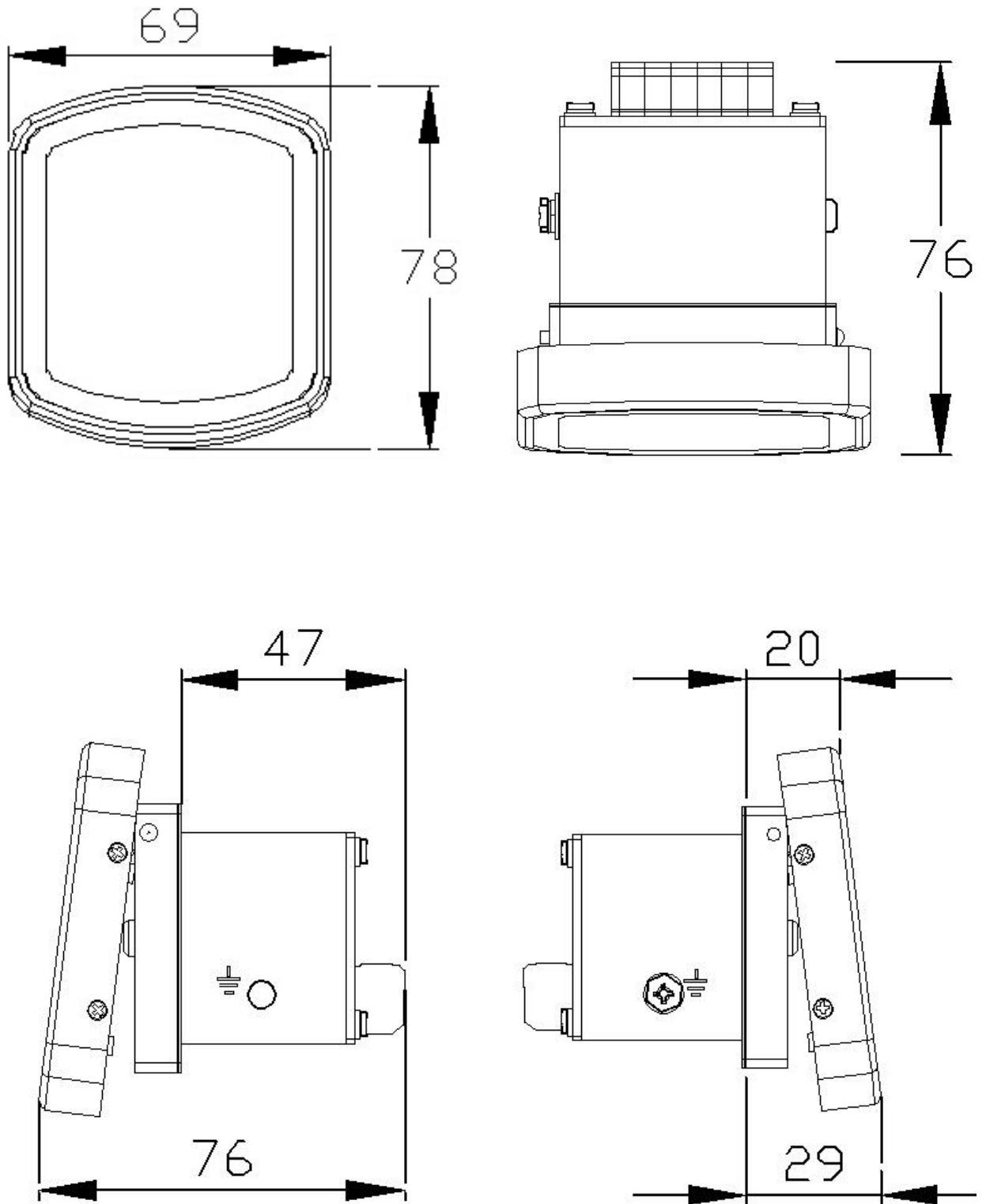
Nominal operating force diagram




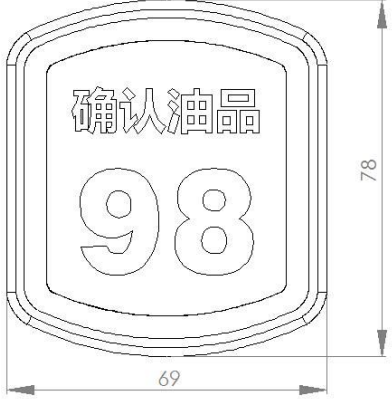

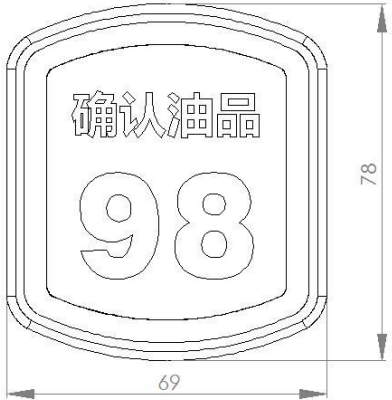
5、 Technical index

Human body electrostatic voltage	≤	20KV
Electrostatic discharge time	≤	150mS
Release current	≤	0.1mA
Ambient temperature	standard	25°C
Ambient humidity	40°C	80%

6、Physical dimension



7、 Common accessories

Name, appearance	Model	description (mm)	Unit
<p>Lamp Head Plate</p> 	<p>BB-□D-□ □ BB-□D-□□ □ ① ② ③</p> <p>① LED indicator input voltage 05 : DC5V 12 : DC12V 24 : DC24V</p> <p>② LED lamp luminescent Color (single letter is monicolor, double letters are bi-color) R: Red G: green S: sapphire Y: yellow</p> <p>③ Plate engraving Content Remarks:BB indicates First line of font is black Second line of font is black</p>	 <p>Figure: BB-12D-S 98</p>	<p>1</p>
<p>Lamp Head Plate</p> 	<p>RB-□D-□ □ RB-□D-□□ □ ① ② ③</p> <p>① LED indicator input voltage 05 : DC5V 12 : DC12V 24 : DC24V</p> <p>② LED lamp luminescent Color (single letter is monicolor, double letters are bi-color) R: red G: green S: sapphire Y: yellow</p> <p>③ Plate engraving Content Remarks:RB indicates First line of font is red Second line of font is black</p>	 <p>Figure: RB-12D-S 98</p>	<p>1</p>

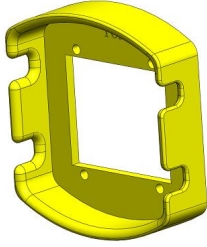
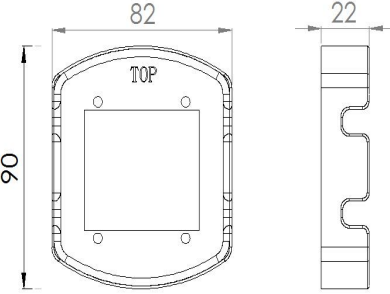
<p>Tamper-resistant protection cover</p> 	<p>HWGQ-BL1</p>	<p>Protection button to prevent human damage button, TOP is up when installation</p> 	<p>1</p>
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Figure:



8、Mounting hole size

