



乐清市裕林电子有限公司

Yueqing Yulin Electrical Co., Ltd

Address: #19 Ke'aisi Road, Xiangyang industrial area,  
Liushi Town, Yueqing City, Zhejiang Province, China

Tel: 0577-27878383-8029

Fax: 0577-27878383-8027

website: WWW.FILN.COM

## SPECIFICATION FOR APPROVAL

# 规格说明书

CUSTOMER'S CODE:

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DESCRIPTION : Toggle Switch (pins)

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SPECIFICATION:

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DATE : 2023-4-24

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PART NO: FL3-KN1-203

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REFERENCE No.:

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Approved By Customer 编制	Qualified By 审核	Form Designer 批准



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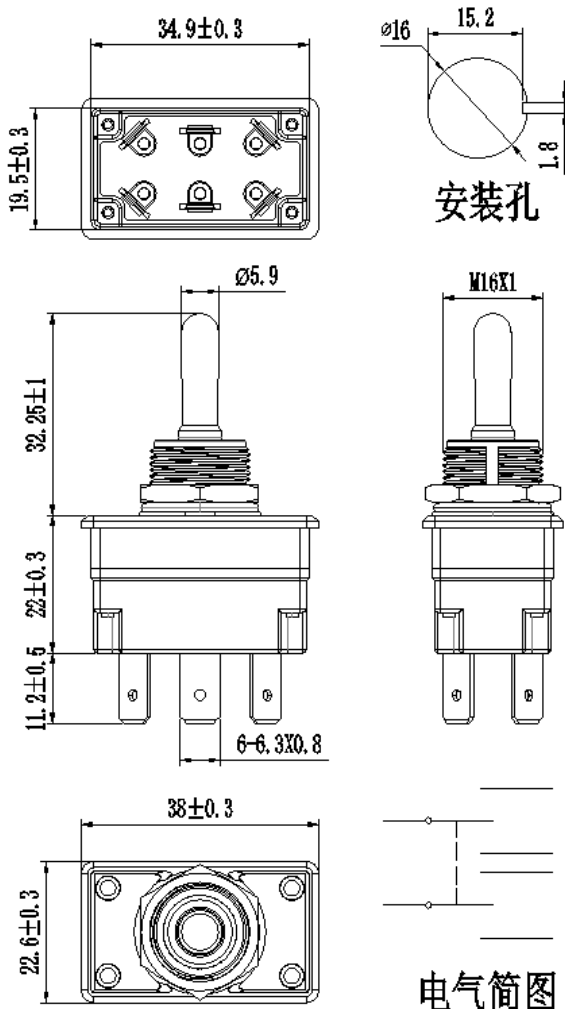
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## 1. Physical drawings:



## 2. dimension drawing:



## 3. Accessory Materials :

Name	Matter
handles	H59
nut	copper alloy
waterproof ring	silica
rivets	Silver Plated
resistive	
LED light	
circuit board	
housings	zinc alloy
foundation	PA66 Flame retardant enhanced %25
waterproof case	caoutchouc
Brackets/Jumpers	Silver Plated
silver contact	AgSnO <sub>2</sub> (8) In <sub>2</sub> O <sub>3</sub> (4)
Teflon Wire	
sprung	T9A
metal ferrule	08F
annulus	PC
locating sleeve	H59
rivets	aluminum



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## 4. Temperature range :

Operating ambient temperature: -25°C ~ +85°C.

## 5. Appearance and feel:

5.1 Signs are clear and firm;

Clean and beautiful appearance, no deformation, no damage, no cracking;

No corrosion, no poor plating;

The components are firmly connected, no loosening, no shedding;

5.2 Flexible switch operation, no jamming, no obvious friction.

## 6. Electrical Performance :

Enterprise		Test conditions	Technical Requirements
6.1	rated value	20A 250VAC	
6.2	contact resistance	Measured at a small current of 1KHz.	$\leq 200m\ \Omega$
6.3	Insulation resistance	Apply DC500V between the terminals and between the terminals and the housing and measure after one minute.	$\geq 100M\ \Omega$
6.4	pressure resistance	Apply AC1500V, 0.5mA, for 10 seconds between terminals; Apply AC3000V, 0.5mA, for 10 seconds between terminals and enclosure;	No breakdown or flashover.
6.5	Electrical durability	15 operations per minute at rated load for a total of 10,000 operations.	<ol style="list-style-type: none"> <li>1. 1. Qualified in appearance and feel;</li> <li>2. 2. contact resistance <math>\leq 2\ \Omega</math> ;</li> <li>3. 3. Terminal temperature rise <math>\leq 55K</math>;</li> <li>4. 4. Pass the pressure resistance test.</li> </ol>



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## 7. Mechanical properties :

7.1	maneuverability	The switch is placed perpendicular to the direction of operation, and the maximum force required to energize the switch is measured by gradually applying force on the button side.	Per customer request.
7.2	Terminal Strength	Apply a static load of 60N pushed inward to the top of the terminal for 60 seconds.	The terminals are not damaged or disconnected, and the switch function operates normally.
7.3	weldability	The terminals were immersed in a molten tin bath at a temperature of $235\pm 5^{\circ}\text{C}$ for $3\pm 0.5$ seconds.	More than 90% of the surface of the immersed part is covered with tin.
7.4	welding heat resistance	The soldered portion of the terminal is immersed in a molten tin furnace at a temperature of $260\pm 5^{\circ}\text{C}$ for $3\pm 1$ seconds.	1. 1. No obvious deformation of the body; 2. Mechanical and electrical performance tests are qualified.
		Manual soldering iron welding, welding temperature $350 \pm 5^{\circ}\text{C}$ , welding time $3 \pm 1$ second. No pressure shall be exerted on the terminals during welding.	



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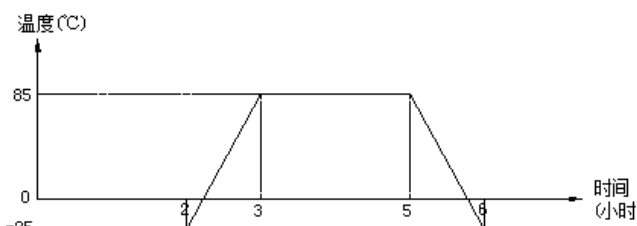
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## 8. Weatherability :

8.1	heat resistance	Tested after 72 hours at 85±2°C and then 1 hour in a natural environment.	1. 1. Qualified in appearance and feel; 2. 2. contact resistance $\leq 2 \Omega$ ; 3. 3. Pass the pressure resistance test; 4. 4. Qualified mechanical properties.
8.2	heat and humidity resistance	Tested after 96 hours at 40±2°C and 91%-95% RH humidity, followed by 1 hour in a natural environment.	
8.3	low temperature resistance	Tested after 12 hours in a -25±2°C environment and then 1 hour in a natural environment.	
8.4	temperature fluctuation	<p>Temperature alternations were performed at the temperatures and times shown for 5 consecutive cycles and then tested after 1 hour in a natural environment.</p>  <p>The graph shows a temperature fluctuation cycle. The y-axis is labeled '温度(°C)' (Temperature in °C) with values 85, 0, and -25. The x-axis is labeled '时间(小时)' (Time in hours) with values 2, 3, 5, and 6. The temperature starts at 85°C, remains constant until 2 hours, then drops to -25°C, rises back to 85°C at 3 hours, remains constant until 5 hours, drops to -25°C at 6 hours, and returns to 85°C at 7 hours.</p>	