

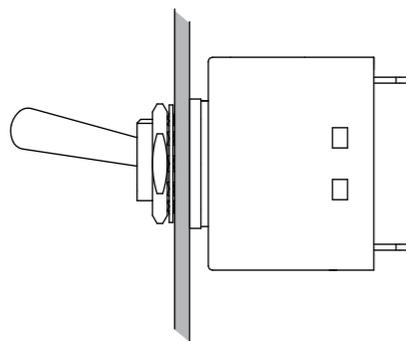
## 系列UT

## 环境密封摇头开关

## 1. 使用环境

## 1. Usage Environment

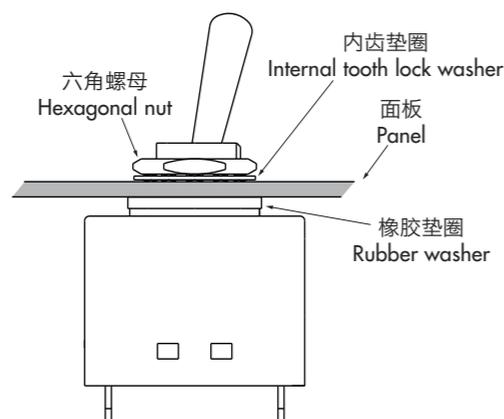
- ◆不可在水中或油中操作。
- ◆在摇杆可动部会堆积灰尘、油、水等物的环境中使用时，可能影响防水性及操作性，因此推荐按以下方法使用。
  - 同时使用防水盖（AT-401或AT-4181）。
  - 为避免摇杆可动部堆积灰尘、油、水等物，按下图所示的安装方向使用。
- ◆Cannot be operated under water or in oil.
- ◆When using the lever in an environment where oil, water etc. may accumulate around the movable parts of the lever, its water-protection and operability may be affected. To prevent this we recommend using it as outlined below.
  - Use with water-protecting caps (AT-401 or AT-4181).
  - Use the lever fitted in the orientation shown below in order to make it difficult for oil and water etc. to accumulate in the movable parts of the lever.



## 2. 面板安装

## 2. Fitting to the Panel

- ◆安装时，请内齿垫圈在面板上侧，橡胶垫圈在面板下侧。
- ◆请务必安装内齿垫圈与橡胶垫圈。
- ◆六角螺母请在紧固扭矩1.5N·m以下进行紧固。
- ◆Attach so that the internal tooth lock washer is above the panel and the rubber washer is below it.
- ◆Make sure that an internal tooth lock washer and rubber washer are fitted.
- ◆The hexagonal nut should be tightened with a torque of no greater than 1.5N/m.



# 环境密封摇头开关

## Environmentally Sealed Toggles

系列 UT  
Series UT



# 通用规格

## General Specifications

### 电气容量 (电阻性负载)

大功率: 10A在125V AC或6A在250V AC 或10A在30V DC

### 其他额定参数

触点电阻: 对于焊片焊接和螺丝端子型最大10毫欧;  
对于引线端子型最大30毫欧。

绝缘电阻: 200兆欧以上在500V DC

绝缘强度: 最低1,500V AC至少1分钟

机械寿命: 50,000次操作以上对于On-None-Off, On-None-On和On-Off-On型号  
对于其他型号30,000次操作以上

电气寿命: 15,000次操作以上

摆动角度: 24°±4°

### 材质和涂覆

摇杆: 黄铜镀镍

衬套和外部外壳: 玻璃纤维增强聚酰胺(UL94V-0)

内部外壳: 三聚氰胺

内部密封环: 丁腈橡胶用于On-None-Off, On-None-On和On-Off-On型号; 硅橡胶用于所有其它型号

外部密封环: 丁腈橡胶

活动接触器: 铜镀银

活动触点: 银和铜

固定触点: 银和铜

端子: 铜镀锡用于焊片焊接和引线; 黄铜镀银用于螺丝

### 环境数据

工作温度范围: -30°C到+70°C (-22°F到+158°F)

湿度: 96小时在40°C (104°F)时, 湿度90~95%

振动: 用1.5mm峰-峰振幅遍历10~55Hz频率范围、并在1分钟内返回; 3个直角方向2小时

冲击: 50G (490m/s<sup>2</sup>) 加速度 (在6个直角方向上测试, 每个方向上5次冲击)

前面板密封: IEC60529的IP67, 适用于所有型号防尘和暂时浸入时防水;  
可选的摇头开关密封AT401用于附加的保护(详情请参阅WVT章节的最后部分)

后面板密封: IEC60529的IP40, 适用于焊片焊接和螺丝端子型号防尘但不防水

### 安装

焊接时间和温度: 烙铁头温度: 390°C 端子上的时间: 4秒 周期: 2

安装扭矩: 最大1.5N·m (13 lb·in)

### 标准和认证

易燃性标准: UL94V-0外部外壳

# 主要特点

## Distinctive Characteristics

焊片或螺丝型前面板的密封符合IP67要求, 而后面板的密封符合IP40要求。

衬套和外壳均为整体结构。这样, 可避免各种环境因素的影响, 对开关起到额外保护的作用。

对于电路11、12、21和22, 特别设计的触点机构用于剥离光触点焊接。

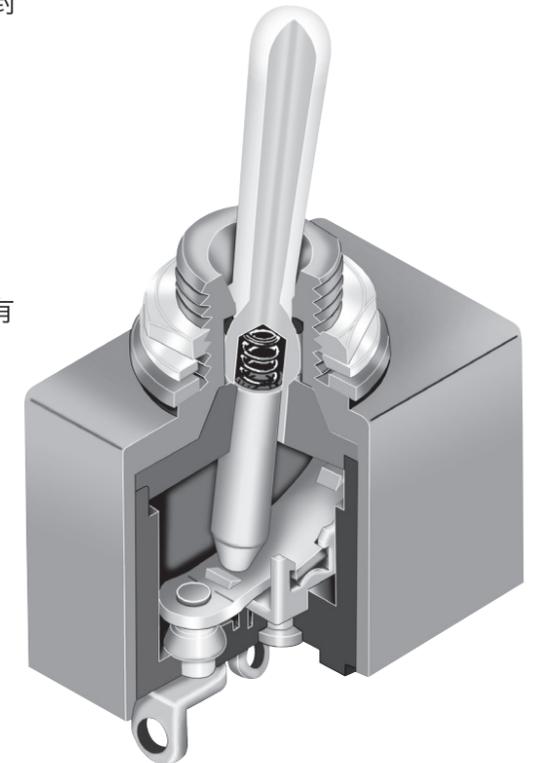
用于外部外壳的隔热树脂符合UL94V-0易燃性标准并且具有较高的抗电弧性及爬电电阻。

Sealing for solder lug or screw lug models meets IP67 at front panel and IP40 at back panel.

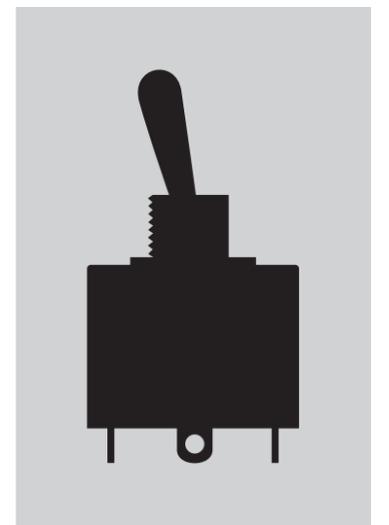
Single unit construction of bushing and case gives added protection from environmental elements.

Specially designed contact mechanism that breaks light contact welds for circuits 11, 12, 21 and 22.

Heat resistant resin used for outer housing meets UL94V-0 flammability standard and provides high arc and tracking resistance.



实际尺寸  
Actual Size



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## 环境密封摇头开关

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### 典型开关订购举例 TYPICAL SWITCH ORDERING EXAMPLE

UT                      2                      2                      S

电极 Poles		电路 Circuits				端子 Terminals	
1	SPST SPDT	1	ON	NONE	OFF	S	焊片焊接 Solder Lug
2	DPST DPDT	2	ON	NONE	ON		
		3	ON	OFF	ON	T	螺丝 Screw Lug
		5	ON	NONE	(ON)		
		8	(ON)	OFF	(ON)		
		9	ON	OFF	(ON)		

( ) = 瞬间式  
Momentary

### 典型订购举例 DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

UT22S



### 电极和电路 POLES & CIRCUITS

电极 Pole	型号 Model	摇杆位置 Toggle Position ( ) = 瞬间式 Momentary			连接的端子 Connected Terminals			投掷及其示意图 Throw & Schematics
		下 Down 扁平 Flat	中 Center	上 Up	下 Down 扁平 Flat	中 Center	上 Up	
SP	UT11	ON	NONE	OFF	1a-1b	OPEN	OPEN	注: 端子编号并未实际印制在开关上。 Note: Terminal numbers are not actually on wire lead models.
SP	UT12 UT13 UT15 UT18 UT19	ON ON ON (ON) ON	NONE OFF NONE OFF OFF	ON ON (ON) (ON) (ON)	1-1b	OPEN	1-1a	
DP	UT21	ON	NONE	OFF	1a-1b 2a-2b	OPEN	OPEN	
DP	UT22 UT23 UT25 UT28 UT29	ON ON ON (ON) ON	NONE OFF NONE OFF OFF	ON ON (ON) (ON) (ON)	1-1b 2-2b	OPEN	1-1a 2-2a	

### 典型开关尺寸 TYPICAL SWITCH DIMENSIONS

单极  
Single Pole

双极  
Double Pole

单掷·焊片  
Single Throw • Solder Lug

UT11S

单极  
Single Pole

双极  
Double Pole

双掷·焊片  
Double Throw • Solder Lug

UT22S

单极  
Single Pole

双极  
Double Pole

单掷·螺丝  
Single Throw • Screw Lug

UT21



# 系列UT

## 环境密封摇头开关

## Environmentally Sealed Toggles

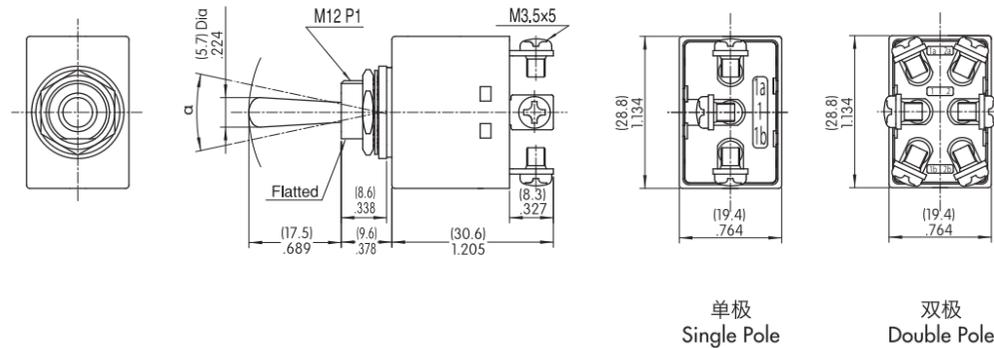
# Series UT

### 典型开关尺寸 TYPICAL SWITCH DIMENSIONS

双掷·螺丝  
Double Throw · Screw Lug

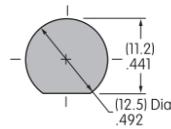


UT22T



单极 Single Pole  
双极 Double Pole

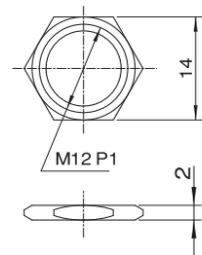
### 面板裁切和厚度 PANEL CUTOUT & THICKNESS



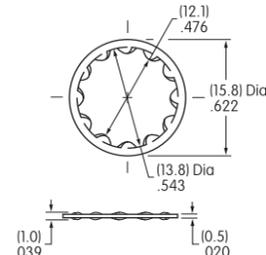
**Maximum Effective Panel Thickness**  
 最大有效面板厚度  
 对于标准配件: .157" (4.0mm)  
 With Standard Hardware  
 对于可选的保护罩组件AT401A/H/S: .063" (1.6mm)  
 With optional Boot Assembly  
 对于可选的保护罩组件AT4181: .083" (2.1mm)  
 With optional Boot Assembly

### 标准配件 STANDARD HARDWARE

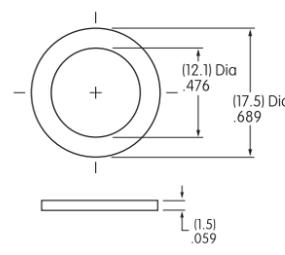
AT503M 正面六角螺母  
**Hex Face Nut**  
 材质: 黄铜镀铬  
 每个开关附送一个  
 Material: Brass with Chrome Plating  
 1 supplied with each switch



AT508内齿锁紧垫圈  
**Internal Tooth Lockwasher**  
 材质: 钢镀锌/铬  
 每个开关附送一个  
 Material: Steel with Zinc/Chromate  
 1 supplied with each switch



AT401P O型圈  
**O-ring**  
 材质: 丁腈橡胶  
 每个开关附送一个  
 Material: NBR  
 1 supplied with each switch



### 可选的附件 OPTIONAL ACCESSORIES

密封组件用于高微粒污染物的应用。  
Boot Assemblies for High Particulate Contamination Applications

AT401A用于防油  
**AT401A for Oil Resistance**

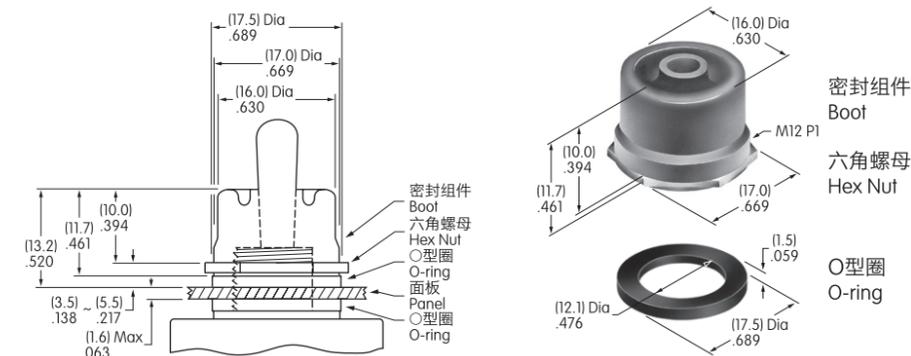
密封材质: 黑色丁腈橡胶  
六角螺母材质和涂覆: 黄铜镀镍  
O型圈材质: 丁腈橡胶  
Boot Material:  
Black nitrile butadiene rubber  
Hex Nut Material & Finish:  
Nickel plated brass  
O-ring Material: NBR

AT401H用于防尘和臭氧  
**AT401H for Dust & Ozone Resistance**

密封材质: 灰色乙烯丙烯橡胶  
六角螺母材质和涂覆: 黄铜镀镍  
O型圈材质: 丁腈橡胶  
Boot Material:  
Gray ethylene propylene rubber  
Hex Nut Material & Finish:  
Nickel plated brass  
O-ring Material: NBR

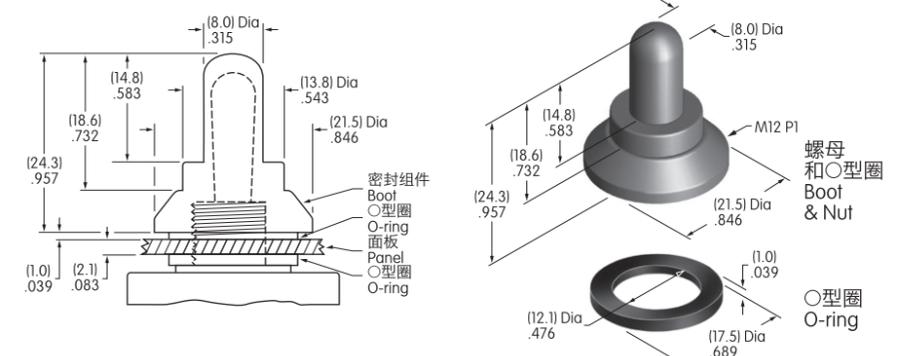
AT401S用于在宽温度范围保持机动性、弹性和抗张强度  
**AT401S for Retention of Flexibility, Resilience & Tensile Strength Over Wide Temperature Range**

密封材质: 黑色硅橡胶  
六角螺母材质和涂覆: 黄铜镀镍  
O型圈材质: 丁腈橡胶  
Boot Material: Black silicone rubber  
Hex Nut Material & Finish:  
Nickel plated brass  
O-ring Material: NBR



AT4181防溅入保护罩组件  
**AT4181 Splashproof Boot Assembly**

密封材质: 黑色硅橡胶  
螺母材质和涂覆: 黄铜镀镍  
O型圈材质: 天然橡胶  
Boot Material:  
Black Silicon rubber  
Nut Material & Finish:  
Nickel plated brass  
O-ring Material: NBR



注: 在使用保护罩组件AT401A/H/S或AT4181时, 也从提供的标准配件中使用O型圈AT401P。正面六角螺母AT503M和锁紧垫圈AT508不与这些保护罩组件一起使用。

Note: When using boot assemblies AT401A/H/S or AT4181, also use o-ring AT401P from the standard hardware supplied. Hex face nut AT503M and lockwasher AT508 are not used with these boot assemblies.

