
 WURTH ELEKTRONIK MORE THAN YOU EXPECT	<h2 style="text-align: center;">Precautions for Toggle Switches</h2>	Revision 2 Valid from 29.09.2022
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Document Control

No	Page	Change Description	Issued by	Date	Revision
1	All	Create	Yuli Hsiao / Jasmin Hsu	2022-Oct-04	1
2	1,4	P1: New add Revision column in Document Control table P4: Amend the torque unit from Kg-cm to kgf-cm and new add the max. torque of N-m unit.	Yuli Hsiao	2022-Oct-20	2

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Precautions for Toggle switches

1 General information

This guideline provides general information about the handling of our Toggle switches.

2 Soldering

2.1 Recommended soldering profiles for THT parts

Please download our soldering profile from our website under the following link:

https://www.wurth-elektronik.com/web/en/electronic_components/download_center_pbs/Download_Center_PBS.php?p=3#dbfilter

File name: "Standard Soldering Profile"


All our products are proven and tested by Wurth Elektronik Soldering Test Standard.

2.2 Recommended soldering conditions for hand soldering

350°C for 3 sec. max.

2.3 Recommendations for vapor phase soldering

Our Toggle switch products have not been tested for vapor phase soldering. The qualification of usability must be approved on customer side for this process, and Wurth Elektronik gladly offers customers the service of ordering free samples.

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2.4 Other recommendations

- The solder profile must comply with technical product specifications. All other profiles will void the warranty.
- All other soldering methods are at the customers' own risk.
- Please keep our switch at delivery original position before and during the soldering process.
- Do not place excessive force on the terminals or lead wires. Do not operate the switch during soldering or for at least one minute after soldering process.
- Design the right angle part with consideration of the wave soldering process so that the parts will not touch the soldering wave during the soldering process or protect the switch part with cover fixture. Melting of the switch might cause malfunction.

3 Cleaning and Washing

Non-washable series are parts without 'washable' label : The switch is not constructed for washing, so it might cause malfunction after washing. Washable series are those with 'washable' label: Cleaning agents that are used to clean the customer applications might damage or change the characteristics of the switch, body, pins, and /or termination.

Please do not immerse our washable products into water or cleaning agents or put them in locations exposed to water completely.

Do not clean washable series immediately after soldering. The cleaning agent may be absorbed into the switch through respiration while the switch cools.

When cleaning by hand (brushing), please do not use excessive force on our switch to avoid malfunction afterwards, otherwise relevant areas for the function of the switch might get deformed.

4 Potting and Coating

If the switch is potted or coated in customer applications, the potting or coating material may shrink or expand during and after hardening; thus, the switch is exposed to the pressure of the potting material with the



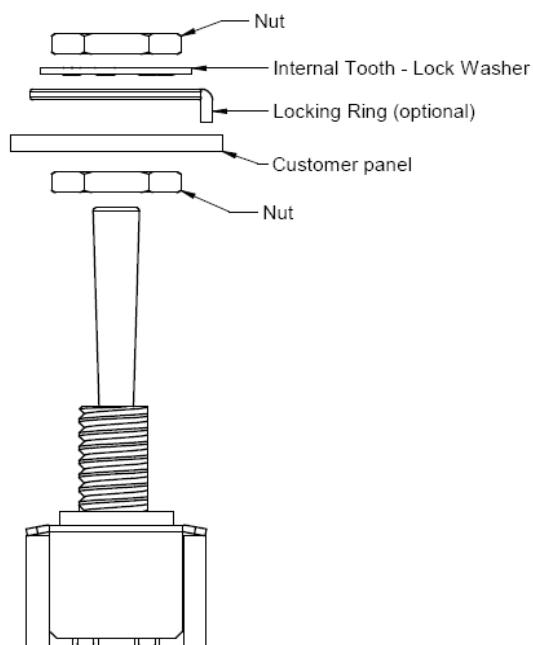
effect that the switch possibly might get damaged by this pressure, resulting in the outcome that the electrical as well as the mechanical characteristics are in danger of being affected. After the potting or coating material is cured, the switch needs to be inspect if any malfunction or destructions on the switch has occurred.

5 Handling of the component

5.1 Panel mounting

For threaded bushing, the recommended mounting sequence and torque is shown as below.

- Do not turn the switch body while mounting it onto the panel
- The nut under the panel can be used to adjust the height
- The internal tooth-lock washer can only be used once, because the teeth becomes somewhat compressed after being used. Do not use lock washers where frequent removal is required.

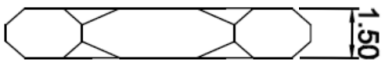


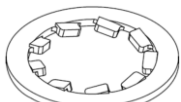
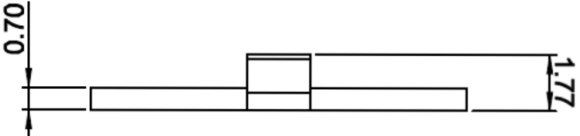



Part number	Allowable max. torque	
472 1xx xxx xxx	10 kgf-cm	1 N-m



5.2 Panel design

For threaded bushing, please refer to our specifications for panel design recommendations and dimensions. There are two types of cut-out offered for reference, depending on the way a toggle switch is mounted on the panel with accessories. The table below shows the thickness of accessories.

Accessory for 472 1xx	Thickness	Figure
Nut		
Internal Tooth -Lock Washer		
Locking Ring (optional)		

5.3 Circuit wiring



Do not wire the switch or touch any terminal of the switch while power is being supplied, or it may result in electric shock.

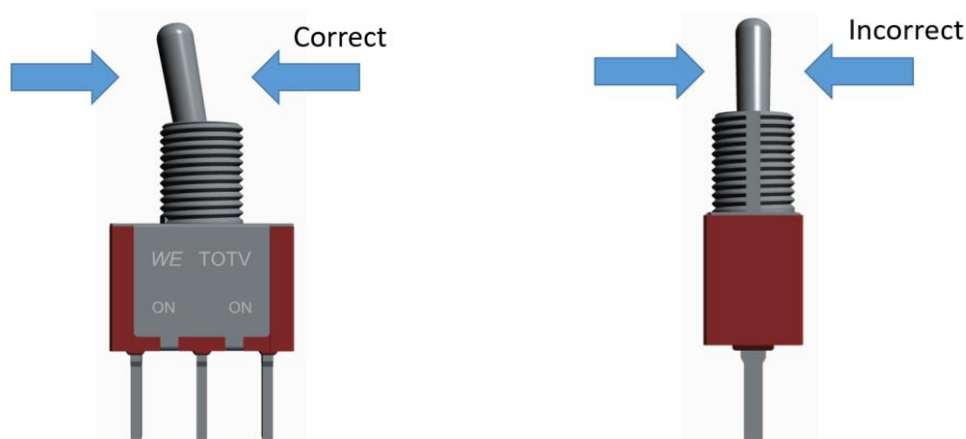
When wiring the toggle switch, the proper wire for the applied voltage and current must be chosen. During the wiring process, it must be ensured that the power supply is switched OFF.

After mounting and wiring, check the insulation distance between terminals and ground. If the insulation distance is inadequate, insulating material in between is required.



5.4 Prevent Accidental Operation

The actuator should be positioned in the correct position. Do not apply the force in the incorrect direction or repeatedly operate the switch with excessive force as it might damage or deform the switch, resulting in malfunction.



5.5 Environments with High Humidity

When a switch is used in an extremely high humidity environment, leakage current may increase. This may cause current malfunction due to insulation deterioration.


Our toggle switches are not suitable where hydrogen sulfide or other corrosive gases are present. Non-washable types are also not suitable for dusty environments.

Condensation will occur inside the switch if there is a sudden change in ambient temperature, when used in an atmosphere of high temperature and high humidity.

6 Storage & operation condition

Storage temperature: -40°C ~ 85°C

Operation temperature: -40°C ~ 85°C

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7 Compliance

Würth Elektronik products are RoHS compliance. For third-party RoHS testing report, please contact us.

For any further information, please feel free to contact our sales representatives.