
 WURTH ELEKTRONIK MORE THAN YOU EXPECT	<h2 style="text-align: center;">Precautions for Toggle Switches</h2>	Revision 3 Valid from 20.03.2025
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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
3		Delete paragraph overlap with Datasheet : -2 Soldering -3 Cleaning and Washing -4 Potting and Coating -6 Storage & operation condition -7 compliance Add 2.1 maximum allowable bushing installation torque for 472 2xx xxx xxx. Add 2.2 accessories for 472 2xx xxx xxx. Add 2.6 tightening torques for screw terminals. Add 2.7 Actuator-sealed and panel-sealed switch.	John Li / Jasmin Hsu	2025-Mar-20	3

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Precautions for Toggle switches

1 General information

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

2 Handling of the component

2.1 Panel mounting


For threaded bushing, the allowable max. bushing installation 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.

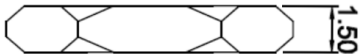



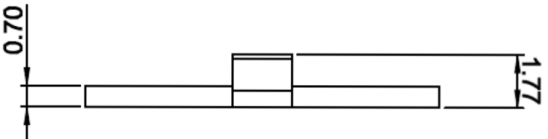

The internal tooth-lock washer can only be used once, because the teeth becomes somewhat compressed after being used. Do not use lock washers where frequent removal is required.

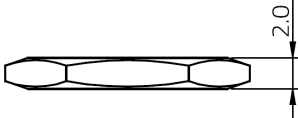
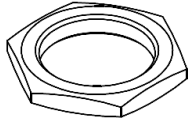
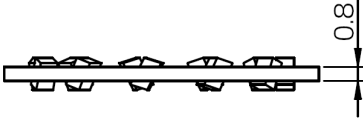
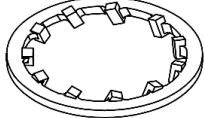
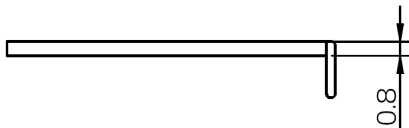
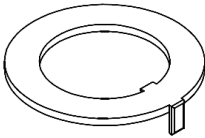
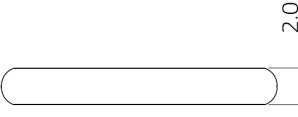

Part number	Allowable max. bushing installation torque	
472 1xx xxx xxx	10 kgf·cm	1 N·m
472 2xx xxx xxx	17.3 kgf·cm	1.7 N·m


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2.2 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
Hex Nut		
Internal Tooth -Lock Washer		
Locking Ring (optional)		

Accessory for 472 2xx	Thickness	Figure
Hex Nut		
Internal Tooth -Lock Washer		
Locking Ring (optional)		
O-ring		

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2.3 Circuit wiring



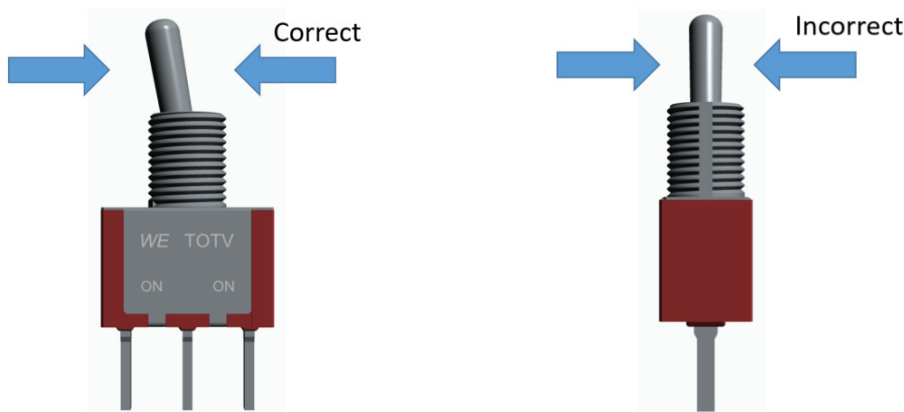
Do not wire the switch or touch any terminal of the switch while power is being supplied, or it may result in electric shock.


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.

2.4 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.



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2.5 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.

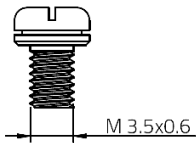

Our toggle switches are not suitable where hydrogen sulfide or other corrosive gases are present. Non-washable types are also not suitable for dusty environments.

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.

2.6 Recommended tightening torque for screw terminal

Increasing the tightening torque of terminal screws does not considerably improve the contact resistance. The terminal may be damaged if the recommended values are significantly exceeded.

Part number	Allowable max. tightening torque	
472 2xx xxx xxx	4 kgf·cm	0.4 N·m

Accessory for 472 2xx	Screw Thread	Figure
SEMS Screw		



2.7 Actuator-sealed and panel-sealed switch

An actuator seal produced over molding, and a panel seal (e.g. o-ring), are provided to prevent liquids from entering any equipment in which the switch is mounted with recommended dimensions of panel cut-out. See figure below

