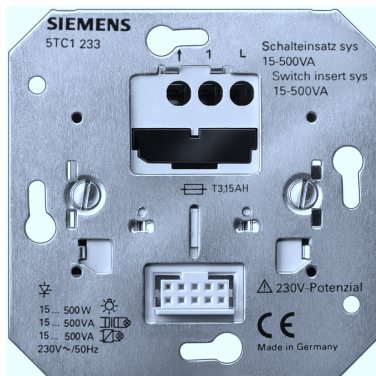


**Switch insert sys 15-500VA**
**5TC1 233**
**Product and Applications Description**


The switch insert sys 5TC1 233 is a flush-mounted device for switching various electrical loads. It is possible to control incandescent lamps, high-voltage halogen lamps and low-voltage halogen lamps with series-connected, conventional or electronic transformers.

The switch insert sys has a 2-wire connection system and switches the connected load via a relay.

The operation or control of the switch insert sys is carried out via the pushbutton wave UP 210 (radio), which routes the necessary commands for the switching processes to the switch insert sys via the specific 230V physical external interface (230V-PEI). An unlimited number of conventional pushbuttons can be connected for further operation via the terminal for the extension inputs.

**Operation**

The operation of the switch insert sys is carried out via the plug-on pushbutton wave UP 210. This can be operated at the TOP, BOTTOM or CENTRE (i.e. TOP and BOTTOM simultaneously).

Switching:

Operation TOP	TOGGLE (i.e. ON or OFF)
Operation BOTTOM	TOGGLE
Operation CENTRE	TOGGLE

Radio-controlled mode (operation longer than 10s):

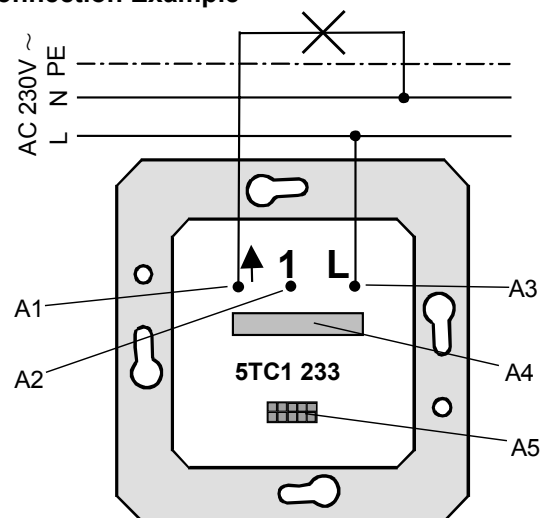
Operation CENTRE	See operating and mounting instructions for pushbutton wave UP 210
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Conventional pushbutton on the terminal for extension inputs:

The connected load is toggled after a pushbutton action.

**NOTE:**

The exact functionality when using the pushbutton wave UP 210 can be taken from the relevant operating and mounting instructions.

**Connection Example**


- A1 Load connection
- A2 Terminal for extension inputs
- A3 Terminal for phase conductor
- A4 Fuse holder including fuse and spare fuse
- A5 Physical external interface (230V-PEI)

**Installation Instructions**
**CAUTION:**

The device may only be used for permanent installation in dry interior rooms for insertion in flush-type boxes.


**DANGER**

- The device may only be installed and commissioned by an authorised electrician.
- The device may not be opened.
- When connecting the device, it is important to ensure that the device can be isolated.
- The device may be used in switch and socket combinations, if VDE-approved devices have been used.
- The prevailing safety and accident regulations must be observed.

## Technical Specifications

### Power supply

Via the 230V mains connection (2-wire system)  
Rated voltage: AC 230V, 50Hz

### Protection against short circuits

The switch insert sys is protected against short circuits by a miniature fuse (T3,15A – switching capacity “H”). After rectifying the short circuit (voltage recovery), the triggered miniature fuse must be replaced. A spare fuse is available in the fuse holder.

### Load connection

- Number: 1
- Rated voltage: AC 230V, 50Hz
- Rated load:
 

- incandescent lamps:	15 – 500W
- conventional transformers:	15 – 500VA
(Exception: toroidal core transformer	15 – 250VA)
- electronic transformers:	15 – 500VA

### CAUTION:

- Conventional transformers may only be used if they have a thermal fuse.
- If a conventional toroidal core transformer is used, please pay attention, that the miniature fuse (T3,15A H) isn't tripped by it's magnetizing current inrush.
- The switch insert sys cannot be operated with energy-saving lamps, fluorescent lamps with conventional/electronic ballast devices and some electronic transformers that are not dimmable.

### Behaviour on mains voltage recovery

On mains voltage recovery, the switch insert sys reverts to the switching state that is adopted prior to the mains failure.

### Connections

The connections for the switch insert sys consist of three screw terminals.

The following conductor cross-sections are permitted:

- 0.5 ... 2.5mm<sup>2</sup> single-core
- 0.5 ... 1.5mm<sup>2</sup> flexible conductor with connector sleeve without an insulation collar (gas-tight crimp connection)

### CAUTION:

If the conductors should be looped through, only conductors with a maximum of 1.5 mm<sup>2</sup> can be used.

## Mechanical specifications

- Housing: plastic
- Dimensions: - module width: 71 x 71mm  
- mounting depth: 32mm
- Weight: approx. 70g
- Fire load: approx. 1000kJ
- Installation: insertion in switch boxes 60mm Ø, 40mm deep in accordance with DIN 49073-1

## Electrical safety

- Degree of pollution (in acc. with IEC 60664-1): 2
- Type of protection (in acc. with EN 60529): IP 20
- Overvoltage category (in acc. with IEC 60664-1): III
- Device complies with EN 60669-2-1

## EMC requirements

complies with EN 60669-2-1, EN 61000-6-2, EN 61000-6-3

## Environmental conditions

- Climatic withstand capability: EN 50090-2-2
- Ambient operating temperature: - 5 ... + 45°C
- Storage temperature: - 25 ... + 70°C
- Relative humidity (not condensing): 5% to 93%

## Approval

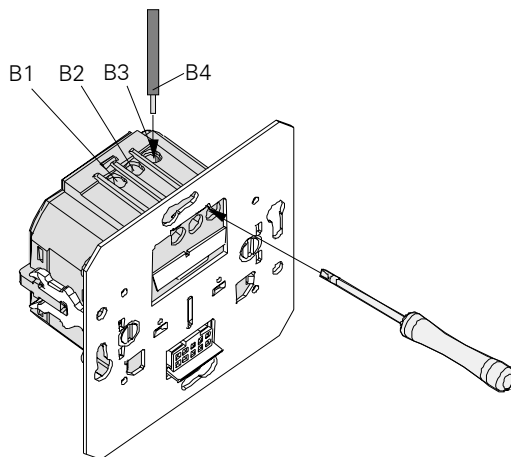
VDE approval in preparation

## CE mark

In accordance with EMC guideline (residential buildings) and low voltage guideline

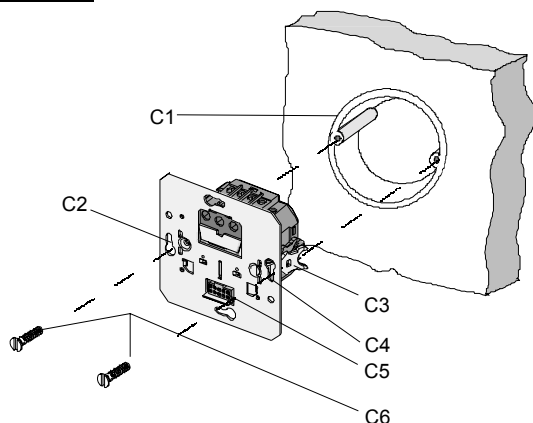
**Switch insert sys 15-500VA****5TC1 233****Mounting and Wiring**

Remove approx. 6...7mm of insulation from the conductors and secure in place in the relevant screw terminals.

Wiring:

- B1 Load connection  
 B2 Terminal for extension inputs  
 B3 Terminal for phase conductor  
 B4 Conductor

The switch insert sys is inserted in switch boxes with 60 mm Ø and 40 mm depth, using screw or claw fixing.

Installation:

- C1 Switch box  
 C2 Switch insert sys  
 C3 Fixing claws  
 C4 Long fixing slots  
 C5 Physical external interface (230V-PEI)  
 C6 Fixing screws

The pushbutton wave is clipped onto the switch insert sys using guiding and mounting springs.

**NOTICE:**

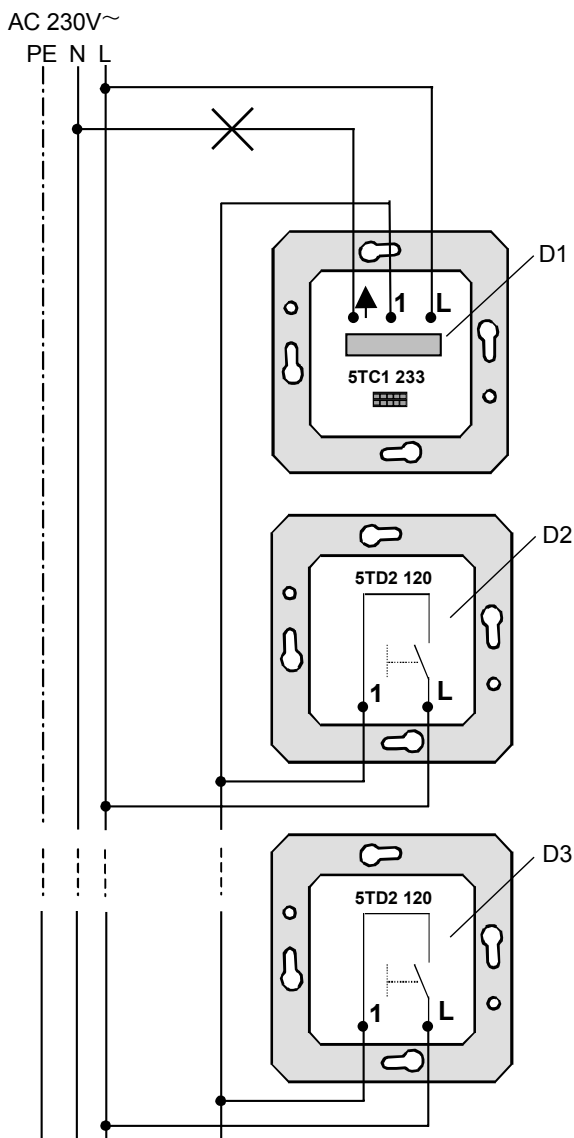
- The switch insert sys should be mounted in the correct position for the operator interface, in accordance with the installation diagram.
- Only conventional pushbuttons without neon bulbs may be connected to the terminal for extension inputs on the switch insert sys; a maximum cable length of 100 m is permitted.

**DANGER**

- The terminals for the phase conductor and the extension input must be operated on the same phase.

**Examples of Applications**

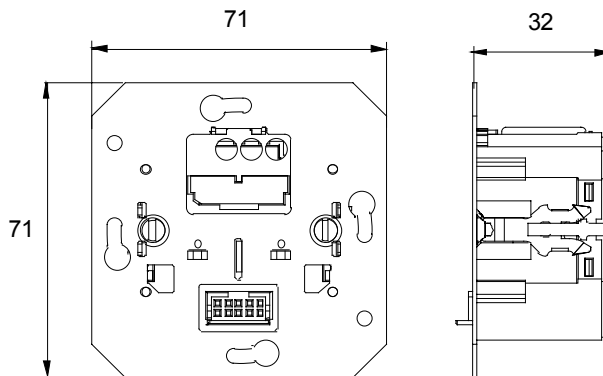
Switch insert sys with conventional pushbuttons:



- D1 Switch insert sys
- D2 Conventional pushbutton
- D3 Further conventional pushbuttons

**Dimensions Diagram**

Dimensions in mm



**General Notes**

- Any faulty devices should be returned to the local Siemens office.
- If you have further questions about the product, please contact our Technical Support:

☎ +49 (0) 180 50 50-222  
 ☎ +49 (0) 180 50 50-223  
 ✉ [adsupport@siemens.com](mailto:adsupport@siemens.com)