

Universal-Relais-Einsatz

Universal relay insert
6401 U-102-500



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1 Safety



Warning

Electric voltage!

Risk of death and fire due to electrical voltage of 230 V.

- Work on the 230V supply system may only be performed by authorised electricians!
- Disconnect the mains power supply prior to installation and/or disassembly!

If polyphase operation (two phases) is desired for the control and function of the insert, the following conditions absolutely must be fulfilled according to DIN VDE 0100:



Warning

Danger to life!

If various phases are permitted on the device, care must be taken that all poles are switched off in case of a malfunction or during work on the system. This operation mode is permitted only in Germany.



Information regarding documentation

These operating instructions describe both the standard (Art. No. 6810-xxx-101 ...) and the comfort sensors (Art. No. 6800-xxx-104(M) ...) as "flush-mounted sensors." Please pay attention to the correct type assignment in the description.

The type designation can be found on the back side of the respective device.

2 Environment



Consider the protection of the environment!

Used electric and electronic devices must not be disposed of with domestic waste.

- The device contains valuable raw materials which can be recycled. Therefore, dispose of the device at the appropriate collecting depot.

2.1 Disposal

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.

The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.

(EU Directive 2002/96/EC WEEE and 2002/95/EC RoHS)

(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006)



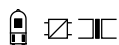

3 Technical data

Mains voltage:	230 V ~ $\pm 10\%$, 50 Hz
Power consumption:	< 1 W max.
Switching voltage:	250 V ~
Max. switching capacity:	2300 W/VA
Max. ripple voltage at the auxiliary post:	100 V at 100 m cable length
Number of buttons:	Unlimited
Protection type:	IP20
Ambient temperature:	-25 – + 55°C






4 Function

4.1 Applications

The device is a switch that can be operated with an auxiliary post input for the switching of:

Load types:	 230 V	230 V incandescent lamps
	 230 V	230 V halogen lamps
		Low-volt halogen lamps with conventional transformers or electronic transformers
		Fluorescent lamps

4.2 Possible combinations

	 <p>6401 U-102 ...</p>
 <p>6455 ...</p>	X
 <p>6813/11-xxx ...</p>	X
 <p>6813-xxx-101 ...</p>	X
 <p>6800-3x-102C ...</p>	X
 <p>6800-xxx-104(M) ...</p>	X
 <p>6810-21x ...</p>	X
 <p>6067-xxx-xxx ...</p>	X
 <p>6543-xxx-10xv ...</p>	X

5 Connection



Caution

- If various phases are permitted on insert 6401U-102 ..., care must be taken that all poles are switched off in case of a malfunction or during work on the system. This operation mode is permitted only in Germany.
- If illuminated pushbuttons are used, only pushbuttons with a separate N-connection are allowed.
Contact-parallel illumination is not permitted.

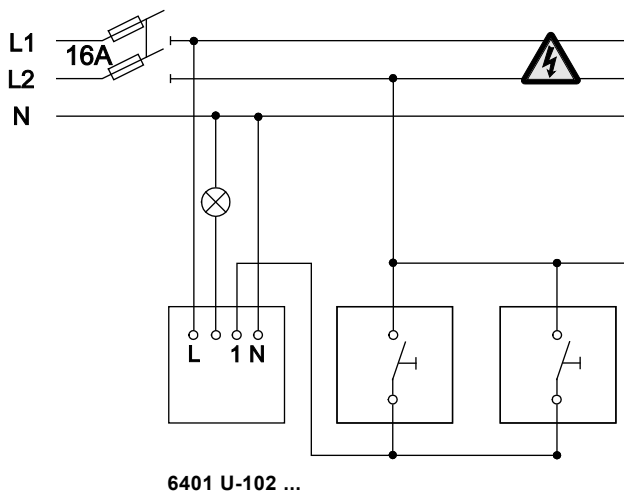


Fig. 1: Universal relay insert with single mode and NO contact button actuation

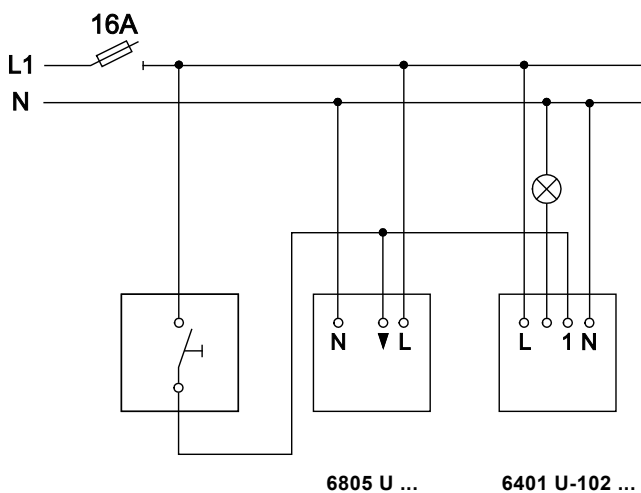


Fig. 2: Universal relay insert in combination with active auxiliary post 6805U ... and NO contact button

6 Mounting / Installation



Warning

Electric voltage!

Risk of death and fire due to electrical voltage of 230 V.

- Low-voltage and 230 V cables must not be installed together in a flush-mounted socket!
In case of a short-circuit there is the danger of a 230 V load on the low-voltage line.

6.1 Requirements for the electrician



Warning

Electric voltage!

Install the device only if you have the necessary electrical engineering knowledge and experience.

- Incorrect installation endangers your life and that of the user of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:

- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
 1. Disconnect from power;
 2. Secure against being re-connected;
 3. Ensure there is no voltage;
 4. Connect to earth;
 5. Cover or barricade adjacent live parts.
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the type supply network (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).

6.2 Mounting

The device may only be installed in suitable flush-mounted sockets (DIN 49073-1) or a suitable surface-mounted housing.

6.2.1 Mounting height/applications in case of use with flush-mounted sensors

To guarantee an optimum function of the flush-mounted sensors, observe the following table.

Flush-mounted sensor type	Mounting height, application	Built-in position of the connecting screws
6810-xxx-10x ... 6800-xxx-10x ...	0.8 – 1.2 m	Bottom
6800-7x-10xM ...	0.8 – 1.2 m (stairwell)	Top
	2.0 – 2.5 m (room monitoring)	Top
6800-2xx-10xM ...	0.8 – 1.2 m (stairwell)	Bottom
	2.0 – 2.5 m (room monitoring)	Bottom

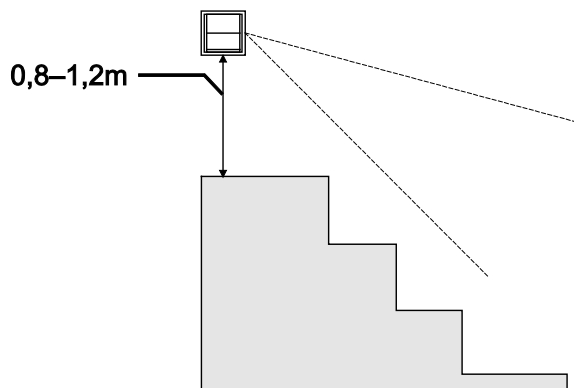


Fig. 3: Mounting height of stairwell
6810-xxx-10x ... / 6800-xxx-10x ... /
6800-7x-10xM ...
6800-2xx-10xM ...

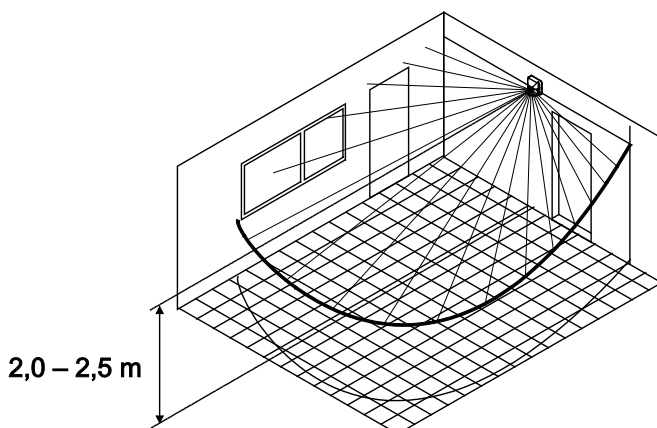


Fig. 4: Mounting height of room monitoring
6800-7x-10xM ...
6800-2xx-10xM ...

6.2.2 Mounting in connection with other devices

6.2.2.1 Mounting in connection with a control element

In combination with the IR control element 6067-xxx-10x ..., the mounting site should lie within the specified values for the IR receiving range. Please note that the IR receiving range may vary due to extraneous light (e.g., sunlight, illumination).

Attachment of the control element:

In the case of the IR control element 6067-xxx-10x ..., set the desired address first. Put the control element on the insert 6401U-102

Removal of the control element:

Use the provided left and right notches for leverage.

6.2.2.2 Mounting in connection with the presence detector 6813 ...

In combination with the presence detector 6813 ..., only ceiling mounting makes sense. If possible, the presence detector 6813 ... should be installed directly above the workplace.

6.2.2.3 Mounting in connection with auxiliary posts



Caution

The illumination of the pushbutton auxiliary post parallel to the switch contact is not permissible: use the pushbutton with a separate N-connection.



Note

To guarantee perfect function, lay the switched lines separately from the auxiliary post lines.

Insert 6401U-102 ... can be operated via auxiliary posts. In the process, the following must be observed:

- The maximum cable length depends on the permissible ripple voltage of the auxiliary post inputs. The ripple voltage, however, must not exceed 100 V (this corresponds to a cable length of at least 100 m in practice).

The following are possible auxiliary posts:

- NO contact button (e.g., 2020 ... US or 2021/6 ... UK)

7 Operation

When the control element is attached, the insert 6401U-102 ... recognizes automatically which control element is being used.

7.1 One-panel operation

Operation via the control element 6543-xxx-10x ...

- ON/OFF: Tip/hold panel
 - Connected consumers are switched on/off.

Auxiliary post operation using a pushbutton is identical.

7.2 Two-panel operation

Operation via the IR control element 6067-xxx-10x ...

- I: Tipping/holding on the top panel
 - Connected consumers are switched on.
- 0: Tipping/holding on the bottom panel
 - Connected consumers are switched off.

On the IR control element, the LED flashes during sending operation.

Auxiliary post operation using a pushbutton is identical to one-panel operation.



Note

- The "Dimming" command via the IR remote control does not trigger a switching procedure in insert 6401U-102 More information regarding IR operation can be found in the operating instructions of the IR manual transmitter, for example.
- The last operation (even at the auxiliary posts) triggers the switching procedure even if the operation does not seem to be concluded when the control element is held for a longer time.

7.3 Busch Remote Control IR operation

Access to the MEMO memories M1 and M2 is gained through the IR hand transmitter or through the wall-mounted transmitter - see the pertinent operating instructions.

- Switching ON: The relay insert switches ON.
- Switching OFF: The relay insert switches OFF.
- Brighter: The relay insert switches ON.
- Darker: No function
- MEMO:
 - Establish the switching state
 - Save MEMO
 - Call MEMO 1 or 2
- EVERYTHING OFF: The relay insert switches OFF.

7.4 Operation with flush-mounted sensors

After interruption of the mains voltage or mains connection, the insert 6401U-102 ... switches the connected consumers

- independently of the measured brightness
- on again for 80 seconds when flush-mounted sensors 6810-2x-101 ... are used
- on again for the selected duration (at least one minute at time settings < 1 minute) when flush-mounted sensors 6800-xxx-104(M) ... are used (exception: short-time pulse \sqcup)

7.5 Auxiliary post operation with flush-mounted sensors

This auxiliary post operation is possible via

- Activation by NO contact button

or

- Auxiliary post insert 6805U ...

7.6 Passive auxiliary post operation by means of pushbutton

The function performed on the NO contact pushbutton causes the connected consumers to be switched on

- independently of the measured brightness
 - for about 80 seconds when flush-mounted sensors 6810-2x-101 ... are used
 - for the time set on the flush-mounted sensor (even in case of time settings under one minute) when flush-mounted sensors 6800-xxx-104(M) ... are used



Notes

- In case of auxiliary post operation using an NO contact button, the maximum length of the auxiliary post line may not exceed 100 m.
- Please use only pushbuttons without contact-parallel illumination.
- In order to avoid disturbances caused by ripple voltage, the switched line must be laid separately from the auxiliary post line.
- Deactivation is not possible through the auxiliary post.
- Multiple activation when the illumination is switched on leads to a "restart" or set switch-off delay.

7.7 Active auxiliary post operation with 6805U ... and flush-mounted sensors

Observe the pertinent operating instructions.

Since the main unit and auxiliary post each have a separate dusk value setting the current brightness conditions at the mounting position can be taken into consideration individually.

The actual light-on time results when adding the time set on the main unit and on the auxiliary post. In connection with the flush-mounted sensors 6800-xxx-10x(M) ..., it is recommended to operate the auxiliary posts with the "short-time pulse" time setting \square if the times set on the main unit can be observed as precisely as possible.

7.8 Operation with timer control element 6455-10x ...

Observe the pertinent operating instructions.

With both buttons \blacktriangledown , the illumination can be activated or deactivated. Auxiliary post operation by pushbutton is identical.

7.9 Operation with presence detector

Observe the pertinent operating instructions.

With auxiliary post operation by pushbutton, the illumination can be switched on or off independently of brightness. The effect of the active auxiliary post with a presence detector is that the detection of movement is sent to the main unit. Depending on brightness, the main unit decides whether the illumination is switched on or remains switched on.

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