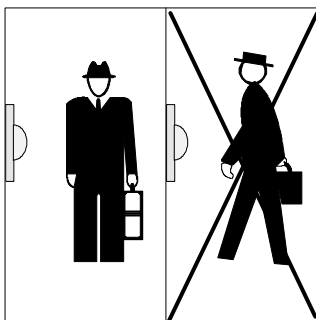
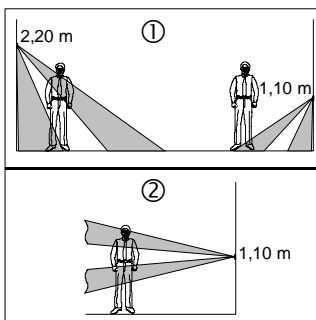
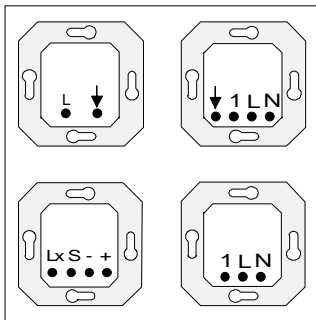


<b>Triac Insert</b> for Incandescent Lamps	Order-No.: 0836 00
<b>LV Insert</b>	Order-No.: 0847 00
<b>TRONIC Insert</b>	Order-No.: 0837 00
<b>Insert with Relay Contact</b> and Extension Input for Incandescent Lamps, Fluorrescent Lamps and Halogen Lamps	Order-No.: 0835 00
<b>Extension Insert</b>	Order-No.: 0846 00
<b>System Insert</b>	Order-No.: 0845 00



## Function

The automatic switch responds to thermal motion caused by human beings, animals or objects and initiates a switching operation. The automatic switch remains operative as long as motions are detected; otherwise it will be switched off after the elapse of a time delay.

The automatic switch consists of two components: a flush-mounting insert and an attachment.

The modular design attachments and inserts (suitable for 60 mm flush-type boxes) can be combined for interior and moisture-proof and/or exterior applications (IP 44).

Inserts to be installed at a height of 1.10 m or 2.20 m, depending on the type of attachment lens involved.

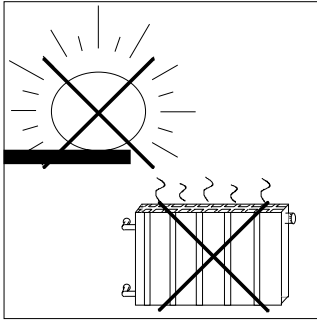
- ① Lens for 2.20 m installation height.
- ② Lens for 1.10 m installation height.

For the area of the detection field and the rated detection range, refer to the "Inserts" section in the Operating Instructions.

**The rated detection range may vary as a function of different installation heights.**

For achieving the optimum detection range, install the automatic switch laterally with the direction of walking.

**Otherwise, a smaller detection range must be anticipated.**



Avoid interference sources e.g. lamps or heaters within the detection range of automatic switches.  
(Refer to the "Use of Slip-Fit Apertures" note.)

Do not align sensors towards the direction of sunlight. The sensors may become destroyed by the high thermal energy.

Automatic Switch	Triac Insert	LV Insert	TRONIC Insert	Relay Contact Insert	Extension Insert	System Insert
Stand. Attachment	●	●	●	●		
Comfort attachment	●	●	●	●		
System attachment					○	○

- marked with red dot
- marked with blue dot

## Warning

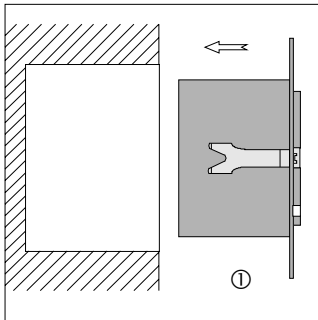
**Caution:** The installation and assembly of electrical equipment may only be performed by a skilled electrician.

**Not suitable for disconnecting.**

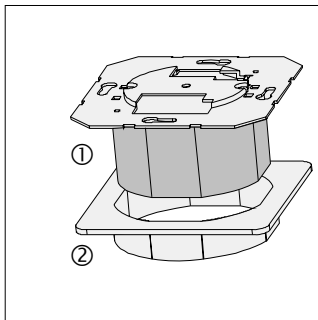
**Isolate installation before removal of attachment** (disconnect fuse).

### Installation

**Only attachments and inserts with the same colour marking may be used for joint operation.**



Install power circuit ① in a 60 mm flush-type box.

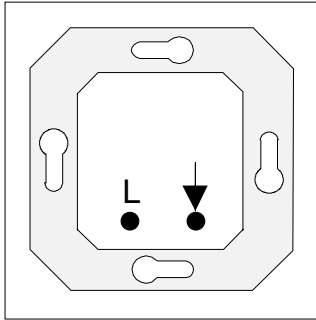


In order to guarantee protective system IP 44 for water-protected units, sealing flange ② must be installed into the flush-type box together with insert ①.

**The terminals must be located at the bottom; otherwise, malfunctions may be caused.**

(For description and installation of attachments, please refer to separate instructions.)

Establish connections as shown in the schematic diagrams.

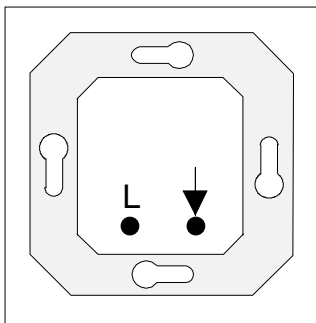
**Use of the Inserts**

The Triac, LV or the TRONIC insert is used when mechanical switches are replaced for an automatic comfort circuit **and when the neutral conductor is not available within the installation.**

**Triac Insert**

For incandescent and halogen HV lamps.  
(For connected loads, please refer to Specifications.)  
Not suitable for operation with extension insert.

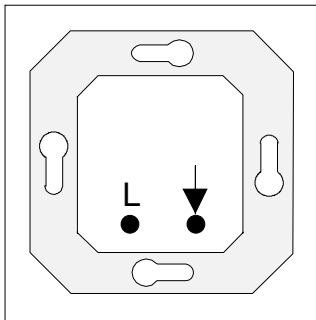
**This device is marked with a red dot.**

**LV Insert**

For incandescent and halogen LV lamps using inductive transformers.  
For power extension, up to 10 LV power attachments can be connected.  
(For connected loads, please refer to Specifications.)

Not suitable for operation with extension insert.

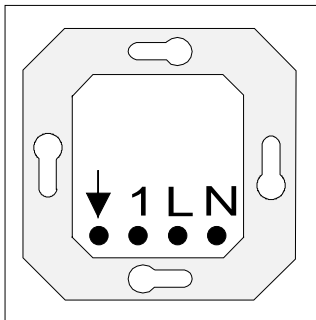
**This device is marked with a red dot.**

**TRONIC Insert**

For incandescent and halogen LV lamps using TRONIC transformers.  
For power extension, up to 10 TRONIC power attachments can be connected.  
(For connected loads, please refer to Specifications.)

Not suitable for operation with extension insert.

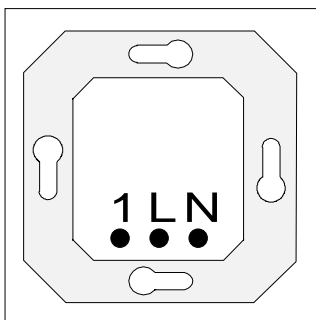
**This device is marked with a red dot.**

**Relay Contact Insert**

Relay contact inserts are used for a higher switching capacity and for operation with extensions.

For standard incandescent lamps, halogen HV and LV lamps as well as for fluorescent lamps.  
(For connected loads, please refer to Specifications.)

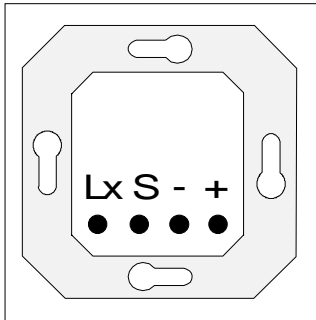
**This device is marked with a red dot.**

**Extension Insert**

The extension insert is an active extension to the relay contact insert. As a motion is detected, a switching command is transmitted to the relay contact insert for evaluation.

Not suitable for direct switching of consumers.  
May be used in combination with a relay contact insert only.

**This device is marked with a blue dot.**



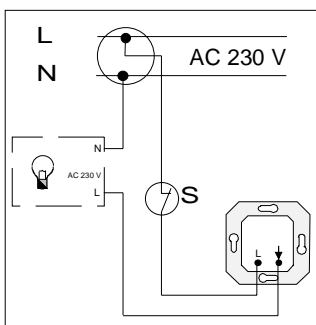
### System Insert

The system insert is a part of the observer system and may be used in connection with a system power circuit (AP<sup>1)</sup>, single REG<sup>\*\*</sup>, dual REG power attachment) only.  
(Connected loads are determined by the system power circuit.)

**This device is marked with a blue dot.**

<sup>1)</sup> surface-mounted  
<sup>\*\*</sup> series built-in unit

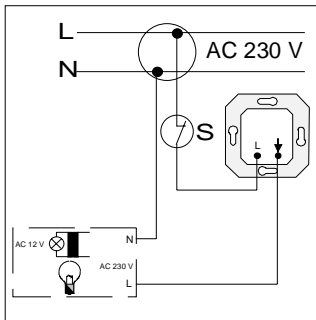
### Schematic Diagrams



#### Triac Insert Connection for Incandescent Lamps

This insert is designed as a 2-wire device and can be used instead of a standard universal-type circuit breaker/two-way switch.  
Disconnect the triac insert via switch 'S'.  
Reclosing initiates a brightness-independent switching operation.

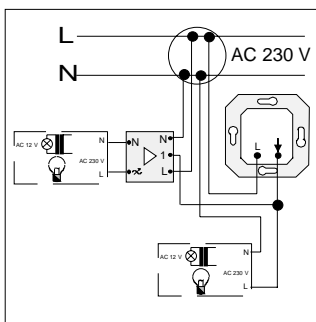
To extend the power, up to 2 flush-type power attachments for 600 W incandescent lamps or 300 W halogen HV lamps each can be connected (refer to Power Attachment Operating Instructions).  
Even though power attachments are used, a minimum basic load of 40 W must be applied to the triac insert.



#### LV Insert Connection

This insert is designed as a 2-wire device and can be used instead of a standard universal-type circuit breaker/two-way switch.

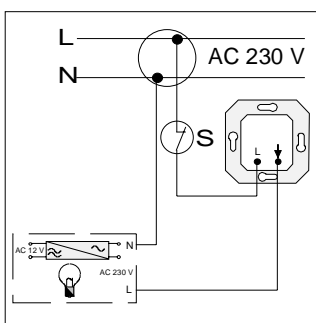
Disconnect the LV insert via switch 'S'.  
Reclosing initiates a brightness-independent switching operation.



#### LV Insert Connection with LV Power Attachment

For power extension, up to 10 LV power attachments can be connected (refer to LV Power Attachment Operating Instructions).

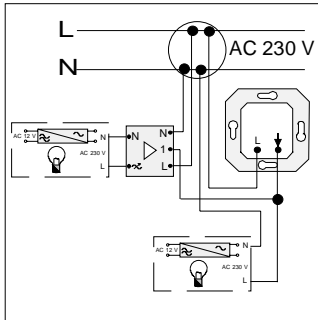
Even though power attachments are used, a basic load of 40 W/VA must be applied to the LV insert.



#### TRONIC Insert Connection

This insert is designed as a 2-wire device and can be used instead of a standard universal-type circuit breaker/two-way switch.

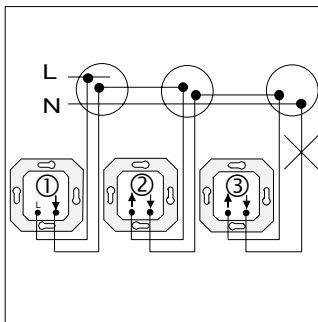
Disconnect the TRONIC insert via switch 'S'.  
Reclosing initiates a brightness-independent switching operation.



**TRONIC Insert Connection with TRONIC Power Attachment**

To extend the power, up to 10 TRONIC power attachments can be connected (refer to TRONIC Power Attachment Operating Instructions).

Even though power attachments are used, a basic load of 50 W must be applied to the TRONIC insert.



**Connection of Mechanical Push-Button Switches**

Existing two-way switches can be replaced by push-button switches.

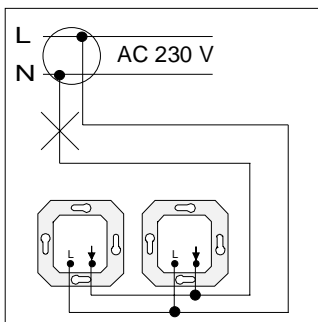
**One** triac insert or **one** LV insert or **one** TRONIC insert can be combined with any number of push-button switches (normally-closed contact).

Reclosing initiates a brightness-independent switching operation.

Examples (see illustration):

- |               |               |               |
|---------------|---------------|---------------|
| ①= Insert,    | ②= P/B Switch | ③= P/B Switch |
| ①= P/B Switch | ②= Insert,    | ③= P/B Switch |
| ①= P/B Switch | ②= P/B Switch | ③= Insert     |

**The lamp load must be connected to the neutral conductor. Connect the phase in any case.**



**Parallel Connection of Triac, LV or TRONIC Inserts**

If a two-way circuit is to be replaced by an automatic switch installation and if the neutral is not available, triac, LV or TRONIC inserts with can be connected in parallel.

**Observe the following conditions**

Triac Insert

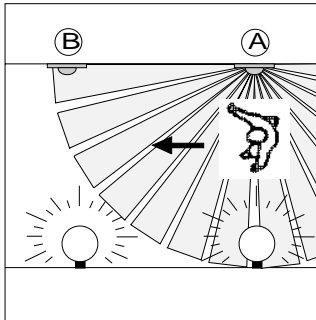
A minimum load of 40 W is required per triac insert (e.g. minimum load for 3 inserts = 120 W). Parallel connection does not increase the maximum connected load.

LV Insert

A minimum load of 40 W is required per LV insert (e.g. minimum load for 3 inserts = 120 W). Parallel connection does not increase the maximum connected load.

TRONIC Insert

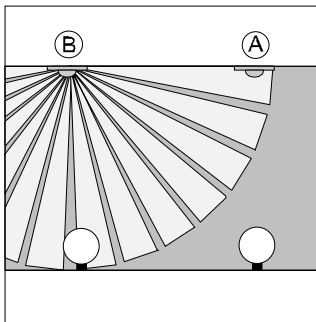
A minimum load of 50 W is required per TRONIC insert (e.g. minimum load for 3 inserts = 150 W). Parallel connection does not increase the maximum connected load.



**Parallel Connection of Triac, LV or TRONIC Inserts**

When triac, LV or TRONIC inserts are connected in parallel, only the currently active device detects a motion (when further devices connected in parallel are exposed to the room lighting, they will not be activated due to the high brightness of the environment).

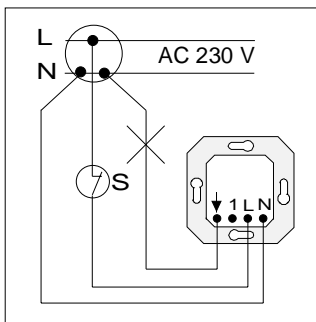
As shown in the illustration on the left, device (A) is active, while (B) cannot detect any other motions.



After insert (A) has been disconnected, wait until the interlocking time of approx. 3 seconds as set by the manufacturer has elapsed. This avoids reclosing due to the detection of the lamp cooling down.

Automatic switches (single or parallel devices) which have not detected any motion (device B in the illustration) are not interlocked and/or their interlocking time of approx. 3 seconds has elapsed.

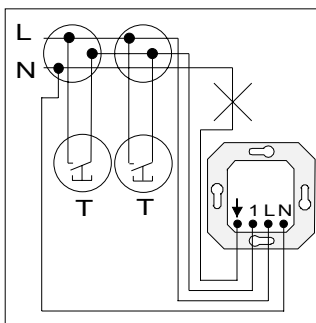
Accordingly, when the lighting is switched OFF, the device may again become operative due to the detection of lamps (cooling and hence different heat rate), due to reflexion of heat radiation from the lighting, or due to too close a spacing between the automatic switch and the lighting fixture.



**Connection of Relay Contact Insert and Extension Input for Incandescent Lamps, Fluorescent Lamps and Halogen Lamps**

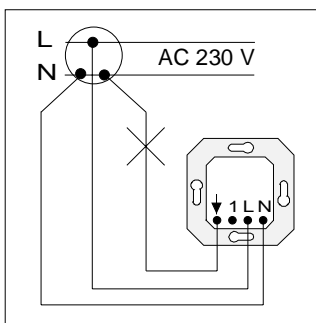
The relay contact universal insert can be used instead of a conventional universal circuit breaker/two-way switch, neutral conductor connection being required.

Disconnect the relay contact insert via switch 'S'. Reclosing initiates a brightness-independent switching operation. (The push-button switch must be open for at least 300 ms.)

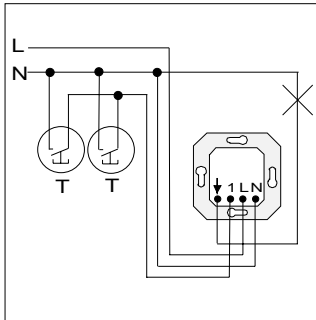


Existing two-way switches can be replaced by T push-button switches (**normally open contacts**).

Depressing the push-buttons switch (for at least 300 ms) initiates a brightness-independent switching operation.

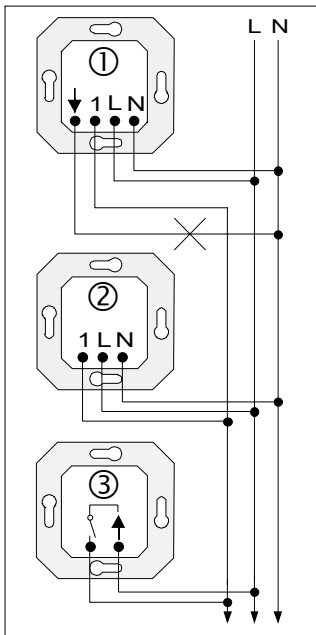


**Relay Contact Insert Connection Using the Simulation Switch Attachment**



If the relay contact insert is combined with the simulation switch attachment, and if mechanical extension push-button switches (T) are to be connected, use the schematic diagram shown on the left.

In this case, the neutral conductor (N) is gated to the relay contact insert extension input (1).



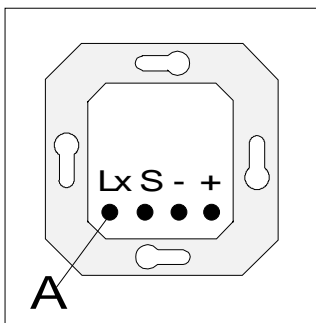
### Extension Insert Connection

Connect terminal "1" of extension insert ② with terminal "1" of relay contact insert ①.

Any desired number of extension inserts ② can be connected in parallel (active extension as a function of brightness). The brightness is always evaluated via relay contact insert ①.

A combination with any desired number of non-illuminated push-button switches ③ (normally open contacts) is also possible. Use illuminated push-button switches with N-terminals.

Any actuation of passive extension ③ causes the lighting to be switched ON without evaluation of the brightness of the environment.



### System Insert Connection

Telecommunication wiring e.g. JY-ST-Y 2x2x0.8 or YR 4x0.8 is recommended for the connection of system inserts. Terminal assignment:

**+**, **-** : DC voltage supply to the system inserts.

**S** : Switching signal of system inserts.

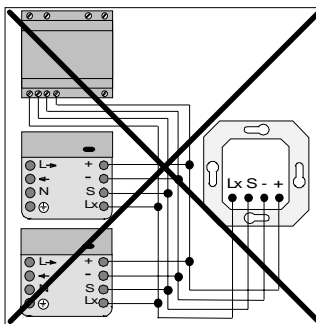
**Lx** : Output signal of brightness sensors in the system inserts.

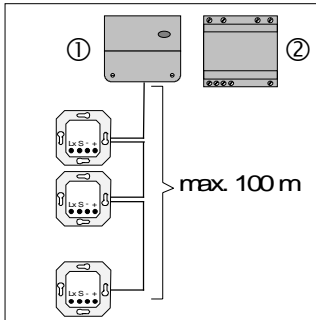
### Important:

**Each** system attachment has a brightness sensor. Within any installation, however, only the brightness sensor of **one** system attachment may be connected, i.e. the 'Lx' terminal (A) of **one** system insert is assigned only. **Only this** particular system attachment measures the brightness and transmits this value to the system power circuit for evaluation.

Loop through the Lx-signal (brightness signal) to the power circuit in case of linear connection of the remaining system inserts.

**The connection of several system power circuits to one system insert line is not permissible; otherwise, malfunctions may be caused.**





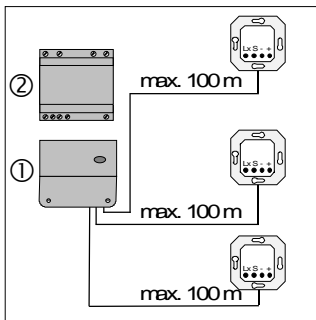
### System Insert Connection

#### Maximum length of system insert wiring:

a) Linear wiring:

Keep line losses low.

Restrict the wiring between the system power circuit (① system power circuit for surface wiring, ② system power circuit REG\*) and the final system insert to a maximum length of 100 m.

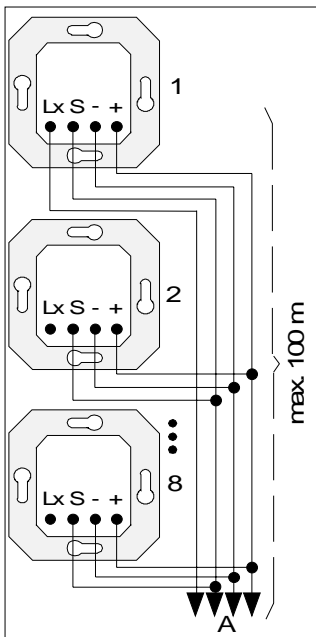


b) Star-type wiring:

Keep line losses low.

Restrict the wiring between the system power circuit (① system power circuit for surface wiring, ② system power circuit REG\*) and each system insert to a maximum length of 100 m.

\* REG = Series built-in unit



### System Insert Connection

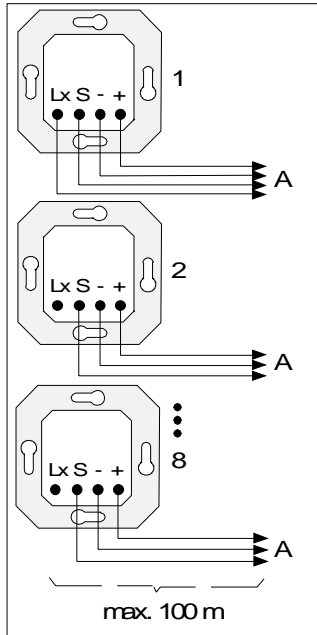
#### Linear Wiring

Connect a maximum of 8 system inserts to the surface-mounted system power circuit and 1-channel REG\*, or 16 system inserts to the system power circuit 2-channel REG\*, respectively.

One system insert only (device 1 in the illustration) evaluates the brightness and transmits this value to the system power circuit (A).

\* REG = Series built-in unit





**System Insert Connection**

**Star-Type Wiring**

Connect a maximum of 8 system inserts to the surface-mounted system power circuit and 1-channel REG\*, or 16 system inserts to the system power circuit 2-channel REG\*, respectively.

One system insert only (device 1 in the illustration) evaluates the brightness and transmits this value to the system power circuit (A).

\* REG = Series built-in unit

**Specifications**

Installation height for rated detection range:	1.10 m / 2.20 m
Waiting time after disconnect:	Approx. 3 seconds
Protective system:	IP 20
With water-protected attachment:	IP 44

**Triac Insert for Incandescent Lamps**

Rated voltage:	230 V AC, 50 Hz
Switching capacity:	40-400 W for incandescent lamps 40-200 W for halogen HV lamps
Power switch:	Triac
<b>Not suitable for disconnecting.</b>	
Residual phase control:	Approx. 2 ms
(Approx. 8 % loss of brightness as compared with mechanical switches.)	
Fuse:	T 1.6 H 250
Connecting terminals:	2 screw terminals for max. 2.5 mm <sup>2</sup>

**LV Insert for Incandescent Lamps and Inductive Transformers**

Rated voltage:	230 V AC, 50 Hz
Switching capacity:	40-400 W for incandescent lamps 40-400 W for halogen HV lamps 40-400 VA for inductive transformers

Apply at least 85 % of the rated load to the transformers by lamps. The total load including the transformer loss must not exceed 400 W/VA. Choose a dimmable transformer with a possibly low starting current.

Power switch:	Triac
<b>Not suitable for disconnecting.</b>	
Residual phase control:	Approx. 2 ms
(Approx. 8 % loss of brightness as compared with mechanical switches.)	
Fuse:	T 3,15 H 250
Connecting terminals:	2 screw terminals for max. 2.5 mm <sup>2</sup>

### TRONIC Insert for TRONIC Transformers and Incandescent Lamps

Rated voltage:	230 V AC, 50 Hz
Switching capacity:	50-315 W for incandescent lamps 50-315 W for halogen HV lamps 50-315 W for TRONIC transformers
Power switch:	MOSFET
<b>Not suitable for disconnecting.</b>	
Residual phase control:	Approx. 2.5 ms
(Loss of brightness as compared with mechanical switches for incandescent lamps: approx. 15 %, for TRONIC transformers: approx. 13 %.)	
Fuse:	Electronic fuse Automatic restart after short-circuit up to 7 seconds. After this, restarting by mains disconnection.
Connecting terminals:	2 screw terminals for max. 2.5 mm <sup>2</sup>

### Insert with Relay Contact and Extension Input for Incandescent Lamps, Fluorescent Lamps and Halogen Lamps

Rated voltage:	230 V AC, 50 Hz
Switching capacity:	
Incandescent lamps:	1000 W
Halogen HV lamps:	1000 W
Halogen LV lamps	
with conv. transformers:	750 VA
Conventional transformers with min. 85 % rated load.	
With TRONIC transformers:	750 W
Fluorescent lamps:	
Unbalanced:	500 VA
Parallel comp. (47 µF):	400 VA
Twin-lamp circuit:	1000 VA

**Note:**

Pay attention to high starting current peaks in case of energy-saving lamps. Check suitability of lamps prior to use!

Power switch:	Relay
<b>Not suitable for disconnecting.</b>	
Fuse:	T 6.3 H 250
Connecting terminals:	4 screw terminals for max. 2.5 mm <sup>2</sup>

### Extension Insert

Rated voltage:	230 V AC, 50 Hz
Connecting terminals:	3 screw terminals for max. 2.5 mm <sup>2</sup>

### System Insert

Rated voltage:	Low voltage via system power circuit
Wiring:	
E. g.	JY-ST-Y 2x2x0.8 or YR 4x0.8, each with a maximum length of 100 m.
Number of system inserts:	Max. 8 to AP <sup>*)</sup> system power circuit Max. 8 to 1-channel system power circuit REG* Max. 16 to 2-channel system power circuit REG*
Connecting terminals:	4 screw terminals for max. 2.5 mm <sup>2</sup>

\* REG = Series built-in unit

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## Acceptance of guarantee

We accept the guarantee in accordance with the corresponding legal provisions.

**Please return the unit postage paid to our central service department giving a brief description of the fault:**

Gira  
Giersiepen GmbH & Co. KG  
**Service Center**  
Dahlienstrasse 12  
D-42477 Radevormwald

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 The CE sign is a free trade sign addressed exclusively to the authorities and does not include any warranty of any properties.

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D-42461 Radevormwald

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