Instruction manual

Series switch

Z-WAVE PLUS

Keep the operating instructions in a safe place for later use and teaching-in of the product.

TechniSat

Preface

Dear Customer,

Thank you for choosing a TechniSat Smart Home product.
This instruction manual is intended to help you get to know the extensive functions that your new device offers and to make the best use of them. It will help you to use the product as intended and safely. It is intended for anyone installing, operating, cleaning or disposing of the device.
Store the instruction manual in a safe place for later use.

A current version of the instruction manual can be found in the download area for your product on the TechniSat website at www.technisat.de.

We hope you enjoy your
TechniSat Smart Home product!

Your
TechniSat Team

1.1 Signs and symbols used

In this instruction manual:

Indicates a safety instruction which can lead to serious injuries or death if not observed. Note the following signal words:

DANGER - Severe injury with fatal consequences

WARNING - Severe injury, possibly with fatal consequences

CAUTION - Injury

Indicates an important instruction which you absolutely should observe in order to avoid defects the device, loss or misuse of data or unwanted operation. It also describes additional functions of your device.

Beware of electrical voltage. Follow all safety information to prevent an electric shock. Do not open the device under any circumstances.

On the device:

Indoor use - Devices with this symbol are only suitable for indoor use.

Protection class II - Electrical devices of protection class II are electrical devices with continuous double and/or reinforced insulation and no connection options for a protective conductor. The housing of an electrical appliance of protection class II enclosed using insulation material may partially or completely form the additional or reinforced insulation.

$C\epsilon$ Your device bears the CE symbol and complies with all requisite EU standards.

Electronic devices/batteries must not be disposed of with household waste, but must be disposed of properly, in accordance with Directive 2012/19 / EU of the European Parliament and of the Council dated 04 July 2012 on Old Electrical and Electronic Equipment. Please return this device to the designated public collection point for disposal at the end of its service life.

1.2 Intended use

With the **TechniSat series switch**, it is possible to switch 2 consumer (e.g. lights) on and off via Smart Home or on the device itself. Furthermore, the power consumption can be determined at the same time or entire scenes can be controlled via Smart Home. The series switch may only be installed in suitable flush-mounted boxes (DIN 49073-1).

1.3 Using Smart Home products safely

Please observe the following instructions to minimise any safety hazards, prevent damage to the device, and help protect the environment.
Please read all the safety instructions carefully and store them for future reference. Always follow all the warnings and instructions in this instruction manual and on the rear of the device.

⚠️ **WARNING**

This device is only intended for installation.
Only trained personnel (electricians) may connect devices without plugs.
Risk of electric shock!

⚠️ **WARNING**

The device may only be installed when disconnected from the mains. Switch off at the fuse and secure it against being switched on accidentally.
Risk of electric shock!

WARNING

Do not open the device under any circumstances!
Touching parts that conduct voltages can be fatal!

Observe all of the following instructions on the intended use of the device and to prevent device defects and personal injury.

- Do not repair the device yourself. Repairs may only be carried out by trained specialists. Contact our customer service department.

- The device should only be operated under the intended environmental conditions.

- Do not expose the device to dripping or splashing water (protection class IP20). If water has penetrated the device, switch it off and inform the service department.

- Do not expose the device to heat sources which could heat it up more than normal use will.

- In the event of an obvious device defect, the production of an odour or smoke, significant malfunctions, or damage to the housing, notify the service department immediately.

- The device must only be connected to a mains voltage of 230 V~, 50 Hz (+/- 10 %). Never try to operate the device at a different voltage.

- If the device shows signs of damage, it must not be put into operation.

- Do not put the device into operation in the vicinity of bath tubs, showers, swimming pools or running/splashing water (protection class IP20). There is a risk of electric shock and/or device defects. Bathroom installations may only be carried out by trained specialists in compliance with the applicable standards and regulations.

- Foreign bodies, e.g. nails, coins, etc. must not be allowed to fall inside the device. Do not touch the connection contacts with metal objects or your fingers. This may cause a short circuit.

- Never allow children to use the device unsupervised.

- Modifications to the device are prohibited.

1.3.1 Legal notices

ℹ️ TechniSat hereby declares that the series switch radio equipment complies with Directive 2014/53/EU. The full text of the EU conformity declaration is available at the following Internet address:

http://konf.tsat.de/?ID=22946

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TechniPark

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D-54550 Daun/Vulkaneifel, Germany

www.technisat.de

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1.3.2 Service instructions

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This product is quality-tested and comes with the statutory warranty period of 24 months from the date of purchase. Please keep your receipt as proof of purchase. In the event of warranty claims, please contact the product dealer.

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For questions and information, or if there is a problem with this device, please contact our technical hotline:

Mon. - Fri. 8:00 am - 6:00 pm at tel.:
+49 (0) 3925 9220 1800.

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Repair orders can also be placed directly online at www.technisat.de/reparatur.

If the device needs to be sent to us for any reason, please only use the following address:

TechniSat Digital GmbH
Service Center
Nordstr. 4a
39418 Stassfurt, Germany

2 Special features

- Flush-mounted series switch
- Energy consumption measurement
- Scene control switch
- Z-Wave Plus
- Security S2
- SmartStart
- Overload protection
- Compatible with multiple German switch system manufacturers*:
  Merten - M1 series,
  Busch-Jaeger - Duro 2000 series,
  Gira - System 55 series,

This device can be operated in any Z-Wave network and with other Z-Wave certified devices from other manufacturers. Non-battery powered devices within the Z-Wave network act as repeaters, regardless of manufacturer, to increase the range and reliability of the network.

This device is a secured Z-Wave Plus product that can communicate with other secured Z-Wave Plus products via encrypted Z-Wave Plus messages.

* Depending on the model, see label on page 1.

Front (using Busch-Jaeger as an example)
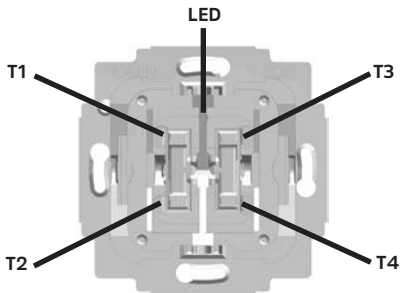
LED	Status LED
T1	Upper push-button position (left)
T2	Lower push-button position (left)
T3	Upper push-button position (right)
T4	Lower push-button position (right)

Rear
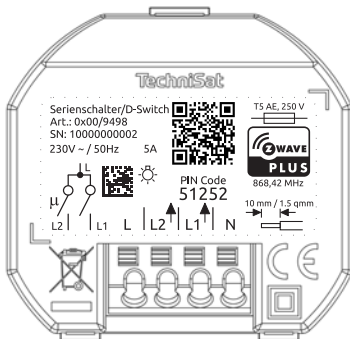
L	Phase
L1	Switched output (to consumer 1) (T1 - T2)
L2	Switched output (to consumer 2) (T3 - T4)
N	Neutral

4 Connection diagram

Connection example:

Flush-mounted box
(DIN 49073-1)

Frame

Rocker switch

Balancing frame

TechniSat
Series switch
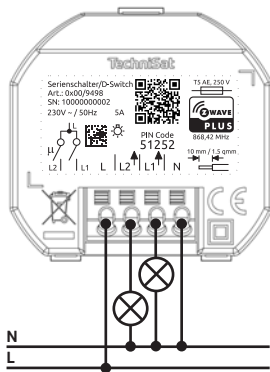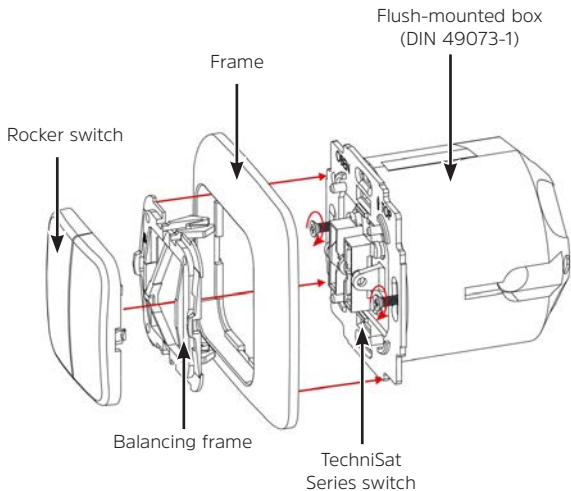
4.2 Terminal connection

The terminal on the series switch is designed for cables of 1.5 mm² (fixed) or 1 mm² (flexible with clamping sleeve).
The conductor must be stripped by 10 mm.

The conductor can be connected and disconnected again by pressing the push-button with a suitable tool, e.g. a slotted screwdriver 2.5 x 0.4 mm.
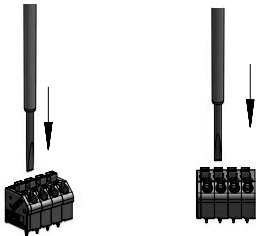
5 Integration into the Z-Wave network (Adding / Inclusion)

5.1 SmartStart setup

SmartStart technology enables you to add your Z-Wave product to your Z-Wave network by scanning a QR code. The QR code is located on the back of the product, on the front of this manual or on the device box and is scanned via the primary Z-Wave controller and smartphone camera. After scanning, it may take up to 10 minutes for your new device to be added to your Z-Wave network.

1. The Z-Wave SmartStart QR code can be found on the back of the TechniSat series switch, on the front of this manual or on the device box.

2. Activate the SmartStart function in your primary Z-Wave controller and follow the operating steps to add a device.

⚠️ **WARNING**

Only trained personnel (electricians) may connect devices without plugs.
Risk of electric shock!

3. Install the TechniSat series switch in its intended position.

⚠ WARNING

The device may only be installed when disconnected from the mains. Switch off at the fuse and secure it against being switched on accidentally.
Risk of electric shock!

4. After the wiring and power supply have been properly set up, switch the fuse back on.

5. After restoring the power supply, it may take up to 10 minutes for the TechniSat series switch to be added to your Z-Wave network.

5.2 Manual set-up

⚠ WARNING

Only trained personnel (electricians) may connect devices without plugs.
Risk of electric shock!

1. Install the TechniSat series switch in its intended position.

⚠ WARNING

The device may only be installed when disconnected from the mains. Switch off at the fuse and secure it against being switched on accidentally.
Risk of electric shock!

2. After the wiring and power supply have been properly set up, switch the fuse back on.

3.	Set your primary Z-Wave controller to Inclusions mode (adding) and follow the operating steps.

4.	Press the upper push-button position (T1) 3 times within one second.

5.	The LED lights up red while the TechniSat series switch is being added to the Z-Wave network.

6.	If the set-up has been successful, the LED lights up green for 5 seconds.

5.3 Removing the device from the network

1.	Set your primary Z-Wave controller to Exclusions mode (removing) and follow the operating steps.

2.	Press and hold the upper push-button position (T1) for at least 10 seconds.

3.	The LED lights up red while the unlearning process is running.

4.	The LED lights up green after the device has been successfully removed from the Z-Wave network.

5.4 Resetting the device

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Only use the reset in the event that a primary Z-Wave controller is missing or no longer functional.

The reset process erases the device's memory, including the Z-Wave network controller information.

1.	Press and hold the lower push-button position (T2) for at least 20 seconds.

2. If the set-up has been successful, the LED lights up alternately red / green for about 5 seconds.

6 Configuration

The following settings can be made. The configuration is carried out via the primary Z-Wave controller.

Parameter	Description	Size (bytes)	Value	Default
1	Activates / Deactivates: central scene notification Press 2 to 5 times	1	0 - Deactivates 1 - Activates	1
2	Current power consumption message interval	2	0 - Deactivates unrequested messages 3 - 8640 (30 seconds - 1 day)	3 (30 s)
3	Current energy consumption message interval	2	0 - Deactivates unrequested messages 10 - 30240 (10 minutes - 3 weeks)	60 (1 hour)

Parameter	Description	Size (bytes)	Value	Default
4	Switch operation of push buttons T1 - T4	1	0 - T1 & T3 switch output on, T2 & T4 switch output off. 1 - T1 - T4 switch output on or off respectively	0

7 Supported association groups

Main device:

ID	Name	Maximum group members	CC commands
1	Lifeline	1	- Device reset locally notification - Central scene notification - Meter report - Switch binary report - Notification report
2	Switch State 1	10	- Basic set
3	Switch State 2	10	- Basic set

Connection 1:

ID	Name	Maximum group members	CC commands
1	Lifeline	0	- Meter report - Switch binary report - Notification report
2	Switch State 1	10	- Basic set

Connection 2:

ID	Name	Maximum group members	CC commands
1	Lifeline	0	- Meter report - Switch binary report - Notification report
2	Switch State 2	10	- Basic set

8 Basic command class

Members of association group 2 are controlled with Basic_Set commands of the basic command class.

If the TechniSat series switch is **switched on**, a Basic_Set (**0 x FF**) command is sent to members of **association group 2**.

If the TechniSat series switch is **switched off**, a Basic_Set (**0 x 00**) command is sent to members of **association group 2**.

9 Notification command class

Notification	Event	Description
Power management (0 x 08)	Inactive (0 x 00)	No event detected / event cancelled
	Overload detected (0 x 08)	The maximum permissible load on L1 / L2 was exceeded

10 Supported Z-Wave command classes

Main device:

Command class	Version	Required Z-Wave safety levels
Association	2	highest permitted
Association group information	1	highest permitted

Command class	Version	Required Z-Wave safety levels
Basic	2	highest permitted
Binary switch	1	highest permitted
Central scene	3	highest permitted
Configuration	1	highest permitted
Device reset locally	1	highest permitted
Firmware update meta data	4	highest permitted
Manufacturer specific	2	highest permitted
Meter	4	highest permitted
Multi-channel	4	highest permitted
Multi-channel association	3	highest permitted
Notification	8	highest permitted
Power level	1	highest permitted
Security 0	1	none
Security 2	1	none
Supervision	1	none
Transport service	2	none

Command class	Version	Required Z-Wave safety levels
Version	3	highest permitted
Z-Wave Plus info	2	none

Connection 1 & 2:

Association	2	highest permitted
Association group information	1	highest permitted
Basic	2	highest permitted
Binary switch	1	highest permitted
Meter	4	highest permitted
Multi-channel association	3	highest permitted
Notification	8	highest permitted
Security 0	1	none
Security 2	1	none
Supervision	1	none
Z-Wave Plus info	2	none

11 Central scene command class

The TechniSat series switch can also be used as a scene switch.
In the default configuration (page 19, parameter 1), the series switch sends
Z-Wave command class central scene trigger notifications to the primary
Z-Wave controller when push-button positions T1, T2, T3 or T4 are pressed
multiple times.
When the respective push-button position is pressed multiple times, the
following trigger notifications are sent:

Push-button position	T1	T2	T2	T4
triggered scene number	1	2	3	4

The following push-button attributes are used for all scene numbers in trigger
notification:

Push-button position (T1 / T2 / T3 / T4) pressed	Z-Wave push-button attribute
twice	Push-button pressed twice
three times	Push-button pressed three times
four times	Push-button pressed four times
five times	Push-button pressed five times

12 Firmware update

The firmware for the TechniSat series switch can be updated via the Z-Wave network. For safety reasons, an update must be confirmed manually on the TechniSat series switch.
Proceed as follows to update the firmware:

1.   Observe all instructions and pop-ups on your primary Z-Wave controller.

2.   Perform a firmware version query for the TechniSat series switch on your primary Z-Wave controller.

3.   The LED on the TechniSat series switch lights up red for about 10 seconds once the firmware version query has been received.

4.   Press T1, T2, T3 or T4 while the LED is lit red to confirm the update request. The LED now lights up green for about 10 seconds.

5.   While the LED is lit green, you can start updating the firmware for the TechniSat series switch on your primary Z-Wave controller.

13 Technical data

Special features	Flush-mounted series switch Z-Wave Plus Security S2 SmartStart Overload protection Compatible with multiple German switch system manufacturers*: Merten - M1 series, Busch-Jaeger - Duro 2000 series, Gira - System 55 series,
power supply	230 V AC +/- 10 %
Frequency	50 Hz +/- 10 %
Nominal load current of outputs	5 A (single output) 5 A (both outputs together).
Output performance Apparent power	1,150 W 1,150 VA
Power consumption (with no load)	< 0.4 W
Switch element	µ, relay with contact opening width < 3 mm
Operating height	< 2,000 m above sea level
IEC protection class	II

Protection type (housing)	IP20
Measurement accuracy (performance) 1 W - 10 W 10 W - 50 W > 50 W	±0.3 W ±0.4 W ±3 %
Status LED	Red = device is logged into the network. Flashing red = overload detected. Green (5 seconds) = device successfully logged in.
Z-Wave frequency Transmission capacity	868.42 MHz 4 dBm
Ambient conditions In operation	Temperature: +5 °C - +35 °C Humidity: 10 % - 75 % RH
Ambient conditions Storage & transport:	Temperature: -20 °C - +60 °C Humidity: 5 % - 90 % RH non-condensing
Dimensions (W x H x D)	70 mm x 70 mm x 45 mm

* Depending on the model, see label on page 1.

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