

myTEM FT Switch Dimmer
MTSWD-100-FT

The myTEM FT Switch Dimmer is a universal wall or ceiling switch and is used to switch and dim the lighting (ON/OFF and 0-100%). The power and energy consumption of the connected device is measured. The programmable behavior allows a flexible use in the house.

The device is intended for installation in a flush-mounted box.

Further information can be found on our website:
<https://www.mytem-smarthome.com/web/en/download>



ATTENTION:

This device is not a toy. Please keep it away from children and animals!

Please read the manual before attempting to install the device!

These instructions are part of the product and must remain with the end user.

Warning and safety instructions

WARNING!

This word indicates a hazard with a risk that, if not avoided, can result in death or serious injury. Work on the device must only be carried out by persons with the necessary training or instruction.

CAUTION!

This word warns of possible damage to property.

SAFETY INSTRUCTIONS

- Operate this device only as described in the manual.
- Do not operate this device if it has obvious damage.
- This device shall not be altered, modified or opened.
- This device is intended for use in buildings in a dry, dust-free location.
- This device is intended for installation in a flush-mounted box. After installation, it must not be openly accessible.

DISCLAIMER

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The manufacturer, TEM AG, is not liable for any loss or damage caused by failure to follow the instructions in the manual.

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Trademarks

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Product description

The myTEM FT Switch Dimmer is a universal wall or ceiling switch and is used to switch and dim the lighting (e.g. dimmable LED bulbs, incandescent lamps, halogen lamps, etc.) (ON/OFF and 0-100%). The power and energy consumption of the connected device is measured. The programmable behavior allows a flexible use in the house.

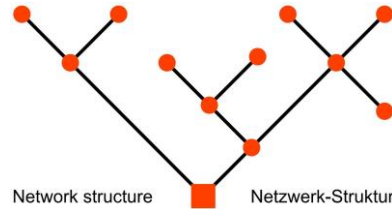
The device is intended for installation in a flush-mounted box, e.g. behind light switches.

Applications:

- Switching of lights
- Dimming of lights, selectable for leading or trailing edge control (e.g. dimmable LED bulbs, incandescent lamps, halogen lamps, etc.)
- Measuring of power and energy consumption of connected device
- Wiring according to the tree topology. Supply and communication each have four connection points for distribution to other devices. These push-in terminals can be pulled upwards for easy replacement of the device.
- Operation via the central server

Functions:

- Supply voltage 24 VDC with 4-pole push-in support terminals for further wiring. The device is working properly even if the supply voltage drops down to 10 VDC.
- Electronic output **1 A, 250 VAC** (L-out), selectable for leading or trailing edge control with measuring of the current for the power and energy consumption.
- CFT bus with free wiring according to the tree topology as indicated in the picture below.



Installation

WARNING! Depending on national safety standards, only authorized and/or trained technicians may be allowed to make electrical installations on the power supply. Please inform yourself about the legal situation before installation.

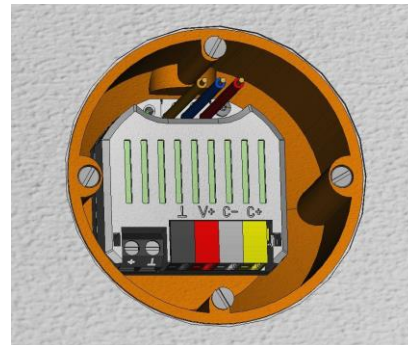
WARNING! To avoid electrical shock and/or equipment damage, disconnect power to the main fuse or circuit breaker before installation or maintenance. Prevent the fuse from being accidentally switched on again and check that the system is de-energized.

WARNING! The device shall be connected according to the wiring diagram only. Covers of the flush-mounted boxes must comply with relevant safety standards.

WARNING! The electrical installation must be protected with a fuse of max. 10 A.

WARNING! The myTEM FT Switch Dimmer should be installed in a flush-mounted box (wall, ceiling) in compliance with relevant national safety standards and with a depth of not less than 60 mm. The length of the cables between the device and the load should not exceed 10 m.

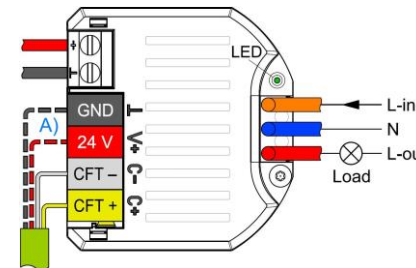
CAUTION! Maximum loads shall not exceed **1 A, 250 VAC, (cos(φ) = 1.0)**.



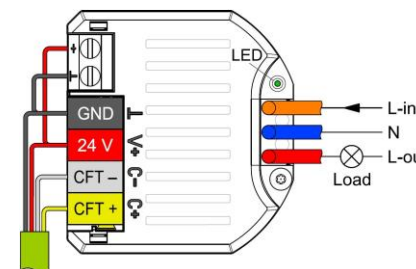
- For your safety, switch off the mains voltage (break fuse) during installation. Make sure that wires are not short-circuited during and after installation, as this may damage the device.
- Connect the device according to the circuit diagram of the myTEM ProgTool or the terminal assignment from the picture below. Use solid wires (Ø0.8 mm) for the communication, stripped by 5 to 6 mm. Insert the conductors until they hit the backstop. Use up to 2.5 mm² wires as supply, stripped by 6 mm. Connect the 1.0 mm² strands to your loads via terminals, the middle strand being the common neutral wire.
- Check the wiring and then push the device into the flush-mounted box.
- Switch on the mains voltage and include the device with the myTEM ProgTool in the server.
- Switch off the mains voltage and fit a cover over the flush-mounted box. When you switch the mains voltage back on again is your device ready.

NOTE! To release a wire from the push-in terminal, hold it firmly and pull it out of the terminal by simultaneously twisting it back and forth.

CAUTION! The myTEM FT Switch Dimmer is powered via the screw terminals. **The red and dark grey push-in terminals are not connected to the electronics**, but they can be used as distribution terminals for further wiring. **A)**



NOTE! In case of short lines and low voltage drop, the device can alternatively be supplied via the line with the solid wires (Ø0.8 mm). To do this, connect the terminals as shown in the picture below.



LED display

The LED next to wires may show the following states:

- LED flashing green:** Device is connected to the FT Base Modul and is in normal operating mode
- LED green:** Device gets network configurations from the FT Base Modul
- LED flashing blue:** Device is identified using the myTEM ProgTool
- LED flashing green and red:** Device started and connected to the FT Base Modul but not yet added to a Smart Server or Radio Server. (Requires an action in myTEM ProgTool.)
- LED red:** Device started but has no connection to the FT Base Modul
- LED off:** Device not powered, not started or broken

Behavior after power failure

After a power failure, all outputs are switched off until the new settings are received from the Smart Server or Radio Server.

Quick trouble shooting

The following hints may help solving trouble:

- Make sure that the power supply is connected with the correct polarity. With wrong polarity the device does not start.
- Make sure that the voltage has not dropped below the allow operating voltage. The push-in terminals have openings (Test) for test probes.
- If a device cannot establish communication to the myTEM FT Base Modul, check if the CFT bus (C+/C-) is correctly wired and the ground (L / GND) is connected. A missing ground connection can affect the communication.
- If the power measurement is out of tolerance, the magnetic field of the measurement is affected. This can happen, for example, when the distance to other power lines or the steel in the concrete is very small. In this case, you can adjust the measurement with the myTEM ProgTool.

Configuration

The products can be used immediately after being added to the Smart Home network. However, depending on the function, a configuration may be helpful or required. After setting the parameters, further optional corrections such as offset, etc. are sometimes possible.

CAUTION! Depending on the function, the server may change some settings.

Description	Settings	
	Leading-edge	Trailing-edge
Analog outputs		

Description	Default	Minimum	Maximum
Main voltage [V]	230	80	280
Phase shift - cosines (φ) [-]	100 (= 1.00)	0 (= 0.00)	100 (= 1.00)
Energy sensor – Delta [kWh] ^{x)}	1.000	0.001	100'000
Energy sensor – Interval [s]	900	60	65'535
Power sensor – Delta [%] ^{x)}	5	1	100
Power sensor – Interval [s]	900	60	65'535

^{x)} Delta value in relation to the last sent value

Technical specifications

Dimensions (W x H x D)	44 x 41 x 18.5 mm	
Installation / mounting	In flush-mounted box (wall, ceiling) $\geq \varnothing$ 60 mm, depth \geq 60 mm	
Operating voltage	24 VDC (The device is working between 10 VDC and 26 VDC)	
Power consumption in standby	Continuous operation, therefore no standby operation	
Power consumption in operation	0.26 W (without consumption of external devices)	
Switchable load	0 – 250 W, 230 VAC, $\cos(\varphi) = 1.0$	
Power (current) measurement accuracy	P = 10 W ... 100 W, $\pm 3\%$; P > 100 W, $\pm 3\%$ (without magnetic interference)	
Ambient temperature for operation	0 °C – 40 °C	
Ambient temperature for storage	-20 °C – 60 °C	
Ambient humidity	5 %RH – 85 %RH (non condensing)	
Wire cross-section 4-pole push-in terminals	0.6 mm – 0.8 mm solid, when using identical conductor diameters – 1.0 mm solid	
Stripping length for 4-pole push-in terminals	5.0 mm – 6.0 mm	
Wire cross-section screw terminals	0.34 mm ² – 2.5 mm ² solid / flexible 22 – 14 AWG	
Stripping length for screw terminals	6.0 mm \pm 0.5 mm	
Tightening torque for connectors	0.4 Nm	
Wire cross-section fixed conductors	1.00 mm ² WARNING! The fixed conductors can be shortened but cannot be replaced. If they are damaged the device should be discarded.	
Degree of protection provided by enclosure	IP 20 (after installation)	(according to EN 60529)
Protection class	II	(according to EN 60730-1)
Overvoltage category	II	(according to EN 60730-1, resp. EN 60664-1)
Pollution degree	2	(according to EN 60730-1)
Electrical safety	EN 60730-1:2016 + A1:2019	
EMC	EN 60730-1:2016 + A1:2019 EN IEC 61000-6-2:2019	EN 61000-6-3:2007 + A1:2011 / AC:2012
RoHS	EN IEC 63000:2018	
CE conformity	2014/35/EU (LVD) 2014/30/EU (EMC)	2011/65/EU (RoHS)

