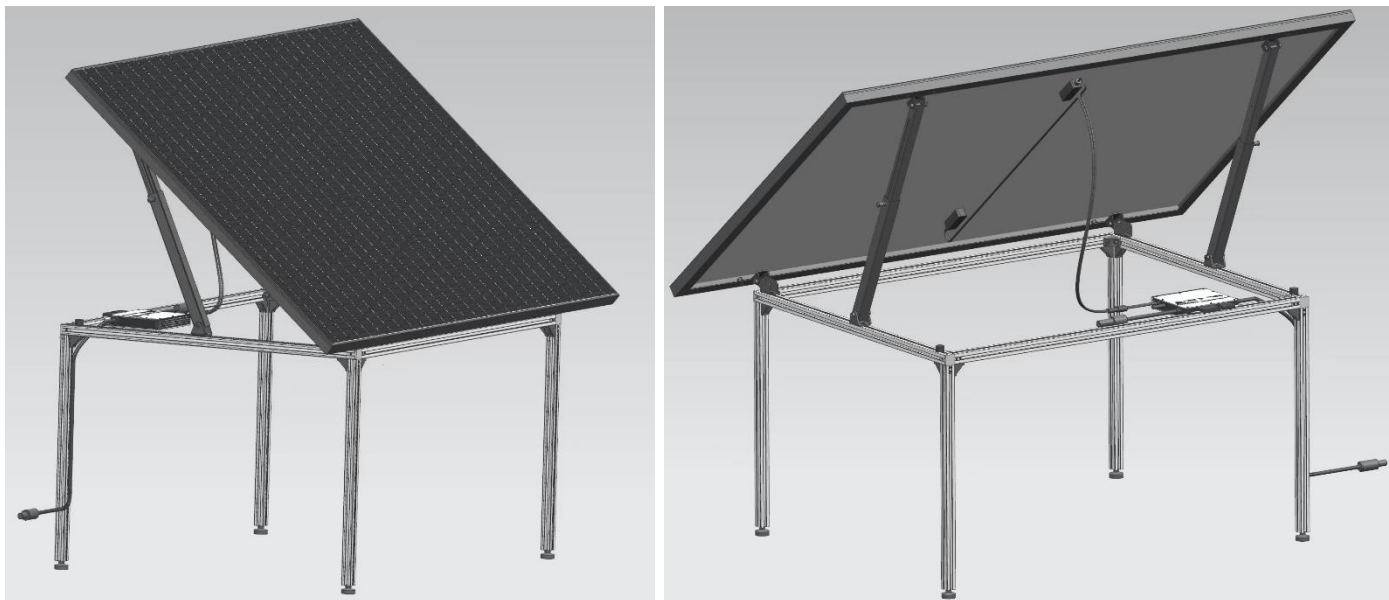


Technaxx® * User Manual

Solar Table Power Plant 400W TX-250

IMPORTANT, KEEP FOR FUTURE REFERENCE: READ CAREFULLY

Before using the appliance for the first time, please read the instructions for use and safety information carefully.



This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capacities, or by persons lacking in experience or knowledge, unless they are supervised or instructed on the use of this device by a person responsible for their safety. Children should be supervised to ensure they do not play with this device.

Keep this user manual for future reference or product sharing carefully. Do the same with the original accessories for this product. In case of warranty, please contact the dealer or the store where you bought this product.

Solar Panel	Micro Inverter
Limited Product Warranty – 2 years	12 years (144months)
Limited Peak Power Warranty - Limited Remedy 2 years	limited warranty

Enjoy your product. * Share your experience and opinion on one of the well-known internet portals.

Specifications subject to change without notice - please make sure you are using the latest manual available on the manufacturer's website.

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Important notes at the start



ATTENTION! (for DE & CH, as of 10-2023)

Installations over 600W may only be carried out by electrical contractors. In addition, a corresponding written notification must be made to the grid operator! Therefore, contact a specialist electrical company if your installation exceeds 600W!

Intended use

- The product is designed exclusively for outdoor usage. It is intended for residential use only and is not suitable for commercial use. Use the product only as described in these installation instructions. Any other use is considered improper and may result in property damage or even personal injury. The product is not a children's toy. The manufacturer or dealer accepts no liability for damage caused by improper or incorrect use.
- The micro inverter may only be operated with a fixed, Wieland or Schuko connection to the public power supply. The micro inverter is not intended for mobile use. The micro inverter is an On-Grid device only. Modifications to the micro inverter are generally prohibited. For changes in the environment, you must always consult a qualified electrician. Assembly, installation and electrical connection.

Explanation of the pictograms used



Read the user manual



Warning



Caution, risk of electric shock.



Caution, hot surface

Note

● Only use the product for purposes due to its intended function ● Do not damage the product. Following cases may damage the product: Incorrect voltage, accidents (including liquid or moisture), misuse or abuse of the product, faulty or improper installation, mains supply problems including power spikes or lightning damage, infestation by insects, tampering or modification of the product by persons other than authorized service personnel, exposure to abnormally corrosive materials, insertion of foreign objects into the unit, used with accessories not preapproved. ● Refer to and heed all warnings, precautions and safety instructions in the user manual.

Risk of injury!

Improper handling of the product can lead to injuries.

- Do not allow children to play with, pull themselves up or stand on the product. They may fall off and seriously injure themselves.
- The product can tip over if it is loaded too heavily or on one side. Ensure that the load is evenly distributed.
- Never sit or stand on the product.
- The table tops are made of glass. If the product tips over, the glass may shatter and cause serious injury. Do not lean against the product.
- Do not place extremely cold or hot objects directly on the glass top. Always use a suitable base.
- Do not use the product as a step stand, trestle, gymnastics apparatus, or the like.
- Check the product regularly for damage.
- Do not carry out any improper repairs or structural modifications to the product. This may result in hazards for the user.
- Only use the product on level surfaces.
- If the product is incorrectly constructed, it may collapse under load. You may be injured in the process. Make sure to assemble the product according to these assembly instructions.
- Do not place more than 25 kg of weight on the product.
- The product has considerable weight. Carry out transport and assembly with at least 2 people to avoid injuries.

Improper assembly and use can cause injuries.

- Watch your hands and fingers during assembly and daily use.
- Make sure that your hands do not get caught in the folding device to avoid injuries.
- When using the folding device, make sure that the folding mechanism fully engages before using the product.
- Glass is heavy and may shatter. Be sure to handle with care.
- To avoid crushing, ensure careful assembly and transportation.

Risk of damage!

Improper handling of the product may result in damage to the product.

- Place the product on an easily accessible, level and sufficiently stable surface.
- Do not place the product on or near hot surfaces (grill, stove, heater, etc.).
- Treat glass surfaces with care.

- Do not use the product if the components are cracked, chipped or deformed. Replace damaged components only with matching original components.

Safety instructions

- Read the user manual carefully. They contain important information on the use, safety and maintenance of the device. Keep the user manual in a safe place and pass them on to subsequent users if necessary.
- Before installing or using the Solar Table Power Plant, please read all instructions and warnings in the technical documentation, on the micro inverter and on the solar module.
- The device may only be used for its intended purpose in accordance with this user manual.
- Observe the safety instructions during use.
- Before commissioning, check the device and its connecting cable as well as accessories for damage. Do not use the device if it shows visible damage.
- Operate the device only from household power sources. Check whether the mains voltage specified on the type plate corresponds to that of your mains supply.
- Perform all electrical installations in accordance with local regulations (including VDE).
- When installing and operating the plug-in photovoltaic system, observe the national legal regulations and the connection conditions of the grid operator.
In particular, DIN VDE V 0100-551-1 (VDE V 0100-551-1), VDE AR-N 4105:2018-11, DIN VDE 0100-712, DIN VDE 0100-410 and DIN VDE V 0628-1 (VDE V 0628-1).
- Note the information on determining the line reserve at the end of these operating instructions.
- Note that the housing of the micro inverter is a heat sink and can reach a temperature of 80 degrees Celsius. To reduce the risk of burns, do not touch the housing of the micro inverter.
- Note that the solar panel with its black surface can reach high temperatures. To reduce the risk of burns, do not touch the solar panel when it was placed for a longer time in the sun. Use gloves to change the angle or put a tablecloth on it. Wait for about 5-10 minutes to make sure you do not get burned.
- Do not squeeze the power cord, do not pull it over sharp edges or hot surfaces; do not use the power cord for carrying.
- If the power cord of this device is damaged, it must be replaced by the manufacturer or its customer service or a similarly qualified person in order to avoid hazards.
- The appliance is intended for household or similar use only. It must not be used for commercial purposes!
- Make sure that the device is well secured during operation and cannot be tripped over by cables.
- Never use the device after a malfunction, e.g. if the device has been damaged in any other way.
- The manufacturer assumes no responsibility in the event of incorrect use resulting from failure to follow the instructions for use.
- Modification or alteration of the product will affect the product safety. Caution: Risk

of injury!

- All modifications and repairs to the device or accessories may only be carried out by the manufacturer or persons expressly authorized by the manufacturer for this purpose.
- Make sure that the product is operated from a power source that is easily accessible so that you can quickly disconnect the device from the mains in case of an emergency.
- Never open the product without authorization. Never carry out repairs yourself!
- Handle the product with care. It can be damaged by shocks, impacts or falling from even a low height.
- Keep the product away from extreme heat.
- Technical changes and errors excepted!



Warning!

- Do not tamper with or manipulate the micro inverter or other parts of the equipment under any circumstances.
- Risk of damage due to improper modifications!
- Keep all contacts dry and clean!



Caution Risk of electric shock!

- When operating this device, certain parts of the device are under dangerous voltage, which can lead to serious physical injuries or death. Therefore, follow the following instructions to minimize the risk of injury.
 - Disconnect the plug connection only in a de-energized state!
- Before carrying out visual inspections and maintenance work, check that the power supply is switched off and secured against being switched on again.



Caution, hot surface!

- The surface of the micro inverter and the solar panel can become very hot. Touching the surface can cause burns.
 - Mount the micro inverter in such a way that accidental contact is not possible.
- Do not touch hot surfaces. When working on the micro inverter, wait until the surface has cooled down sufficiently.

Assembly, installation and electrical connection



Warning!

- All work including transport, installation, commissioning and maintenance must be carried out by qualified and trained personnel.
 - The electrical connection to the central building services may only be carried out by a licensed electrician.
- Do not connect the micro inverter to the operator grid until you have fully implemented the installation process and have received confirmation / approval from the electricity network operator.
- If you mount the micro inverters at a great height, avoid possible fall risks.
- Do not insert electrically conductive parts into the plugs and sockets! Tools must be

dry.

Caution measures during installation

- Installation must be performed with the unit disconnected from the grid and with the solar panels shaded and/or insulated.
- Install the micro inverter and all DC connections in a suitable location, for example under the solar panel, to avoid direct UV/sunlight exposure, rain exposure, snow accumulation, etc. In any case, sufficient air circulation for cooling must be ensured.
- Install the micro inverter in such a way that at least 2cm distance to the nearest surface is maintained. Otherwise, the micro inverter may overheat.
- Do not install in locations where gases or flammable materials may be present.

Qualified personnel

An adequately informed person or a person supervised by a person with electrical engineering skills and knowledge so that he or she recognizes the risks and avoids the hazards caused by electricity. For safety reasons, in this manual 'Qualified Personnel' means that this person is familiar with safety requirements, cooling systems and EMC and that this person is authorized to power, ground and attach equipment, systems and circuits according to existing safety procedures. The micro inverter, accessories and connected systems may only be commissioned and operated by qualified personnel.

Disclaimer

- In no event shall Technaxx Deutschland be liable/responsible for any direct, indirect punitive, incidental, special consequential damage, to property or life, improper storage, whatsoever arising out of or connected with the use or misuse of their products.
- Error messages may appear depending on the environment it is used in.

Features

- Dual-use solution of solar power plant and table
- Easy installation: connect, start, save power
- When not in use, the solar module converted into a tabletop generates electricity
- Angle adjustment for better yield (20°/30°/35°)
- Includes pre-assembled micro-inverter with 400W output power
- Power tracking possible via APP and web view
- Suitable for feeding electricity into the 230V household grid
- Ideal for covering the base load during the day in your home
- Partially pre-assembled solution – only the legs need to be screwed to the frame
- Optimal for terraces and balconies (A real alternative to balcony power plants)
- Suitable for 6-8 persons
- VDE compliant

Product details

Risk of damage!

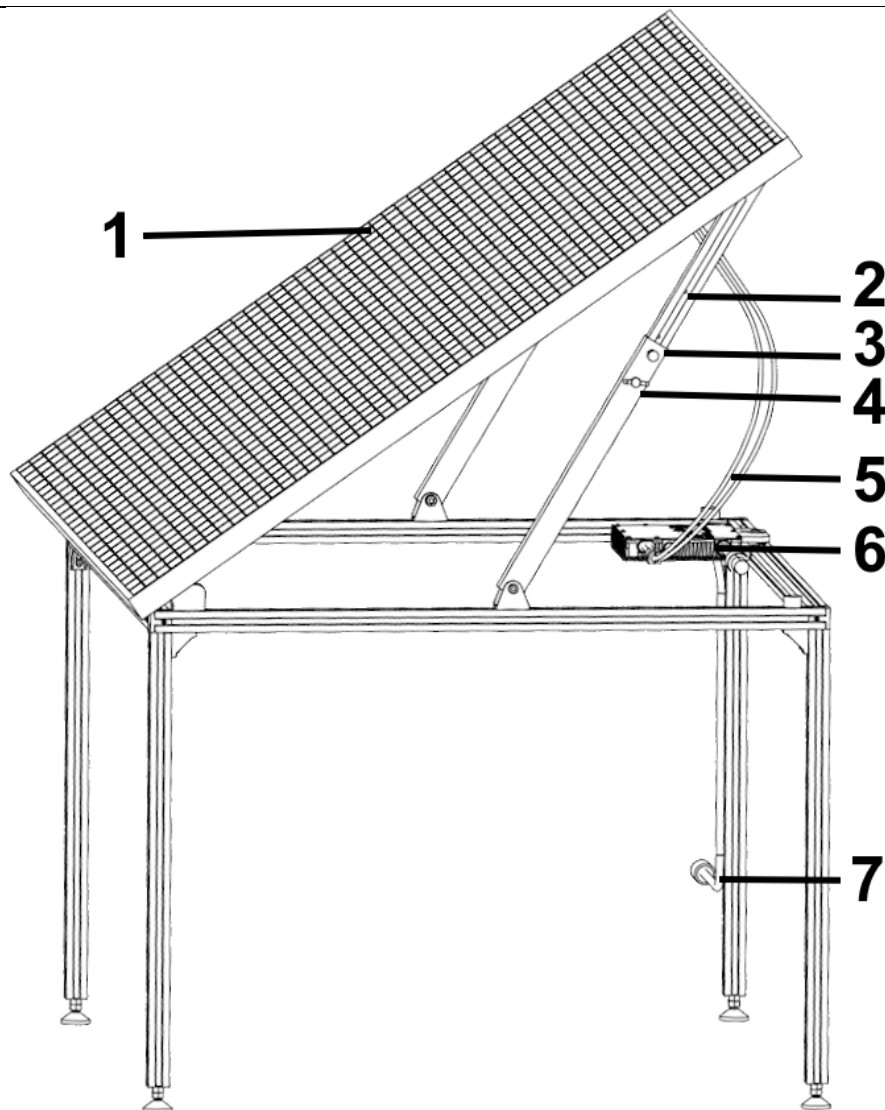
If you open the packaging carelessly with a sharp knife or other pointed objects, the product can be damaged quickly. Be very careful when opening.

Package content:

- 1x PV micro inverter 400W
- 1x Solar panel 410W
- 1x Table frame (pre-assembled)
- 4x Table leg
- 1x Connection cable 5m
- 1x User manual

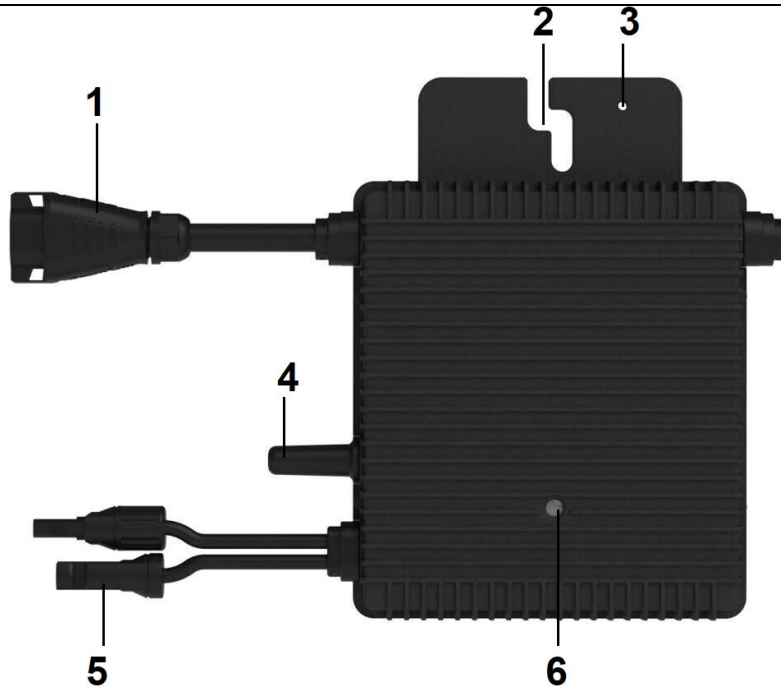
Product overview

Solar Table Power Plant



1	Solar Panel (Table Top)	5	DC Cable (Solar Panel)
2	Telescope Arm	6	Micro Inverter (HMS-400W-1T)
3	Adjustment Pin	7	Connection Cable
4	Locking Screw		

PV Micro Inverter 400W HMS-400W-1T



1	AC connection to power socket (BC05)	4	Antenna (WiFi)
2	Mounting hole	5	DC connection solar panel (MC4)
3	Ground connection	6	Indicator LED

Preparation

Requirements for the operation of a photovoltaic system

- Wieland socket (recommendation), permanent connection or Schuko/Type13 socket
- RCD in the fuse box (standard nowadays)
- Socket, better protected outdoors
- Electricity meter with backstop or bidirectional meter



ATTENTION!

The following requirements must be met in order to operate a photovoltaic system.

- You must register your photovoltaic system in writing with your responsible grid operator. **(AT)** Register in writing with the grid operator two weeks before commissioning. If there is no objection from the grid operator within these two weeks, the table power plant may be put into operation.
- **(DE only)** In addition, a report must be submitted to the responsible authority (Market Master Data Register (MaStR)).
- You must have ensured that an appropriate and sufficiently dimensioned feed-in socket is already available.
- Meter replacement required: A bi-directional meter must be present or depending on what your electricity provider specifies. Simple electricity meters are often not sufficient.
- If you are unsure, please have the local conditions checked, if necessary, or contact your network operator for information.

Assembly

Observe the following instructions for the corresponding assembly.

General notes

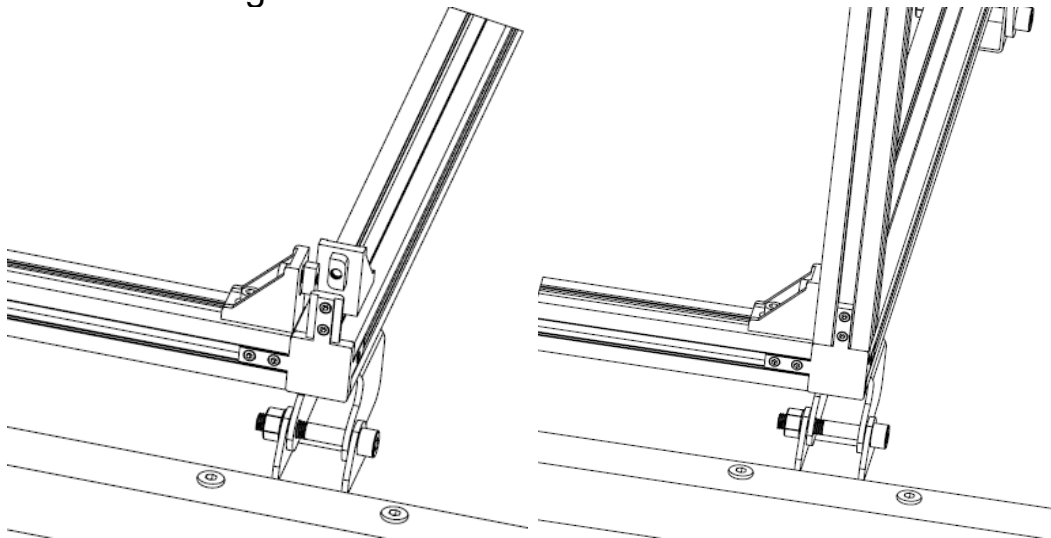
Improper handling of the product may result in damage to the product or property.

- Mount the product on a soft and clean surface. If necessary, place a blanket or similar underneath so that the surfaces are not scratched or damaged.
- When mounting the product, proceed carefully and follow the mounting instructions.
- The product has considerable weight. Carry out transport and assembly with at least 2 people to avoid damage.
- Before you start assembling, check the solar module, the inverter and all cables for visual damage.
- Do not stand on the module or the module frame. To prevent grease stains on the module, avoid contact with your hands on the glass surface and ideally wear work gloves.
- Write down the model and serial number of the components [inverter, solar module] and keep the numbers. In the event of a defect, we need the numbers for clear identification.

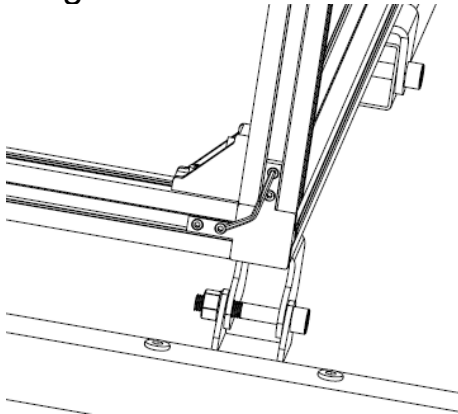
Leg mounting

Tools are needed: 1x Allen key 3mm and 1x Allen key 5mm

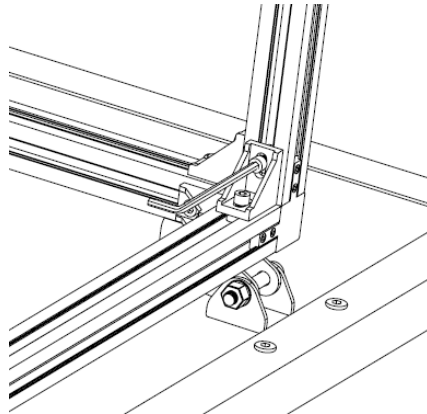
1. Lay the table with the solar module flat on clean surface. Best is to use some protection like a blanket or cardboard in the size of the module underneath. Be careful not to damage the glass front.
2. Take one of the four legs and slide it on to the first corner of the table.



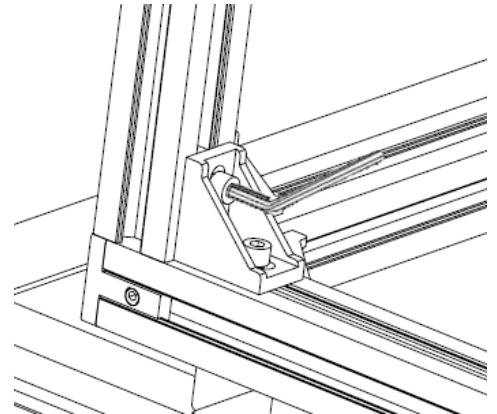
3. Tighten all 4 screws.



Use 2x 3mm Allen key



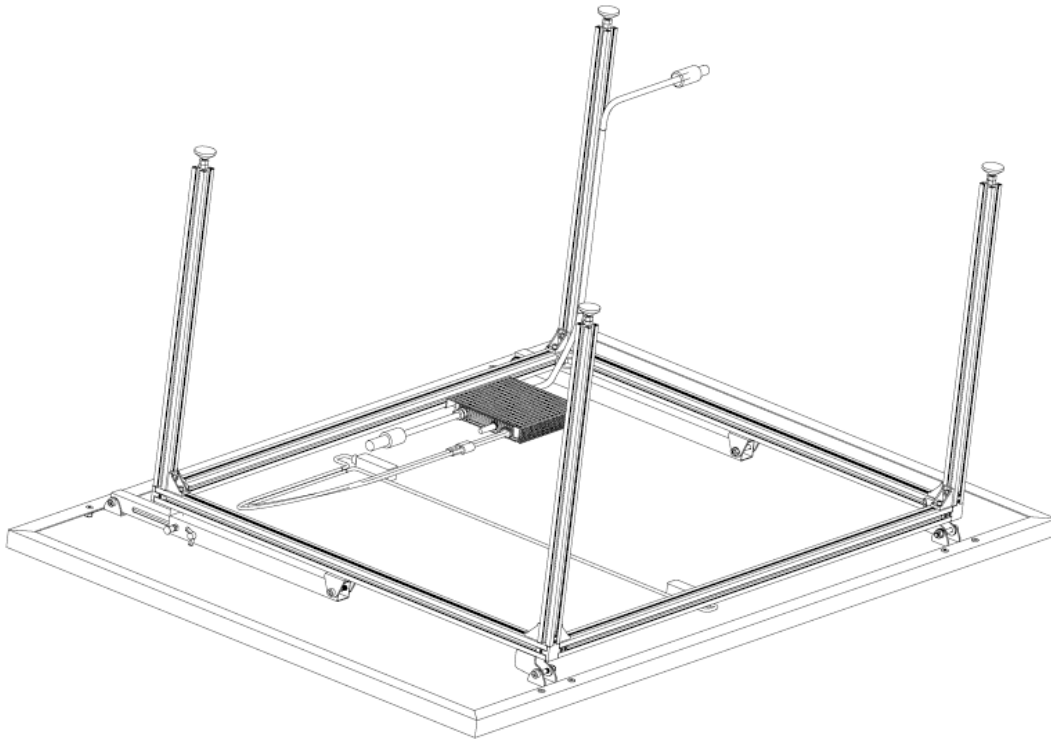
Use 1x 5mm Allen key



Use 1x 5mm Allen key

4. Repeat above steps with the other 3 legs.

5. The leg with the clips for the connection cable needs to be installed like in the picture below, next to the micro inverter.



Connection cable routing/mounting

All the cables are pre-connected. Normally you are not intended to make any further connections. Just check before plugging in the plug to the power socket if all connections are done and tight. Only connection you need to do is to plug in the connection cable from the micro inverter into the power socket.

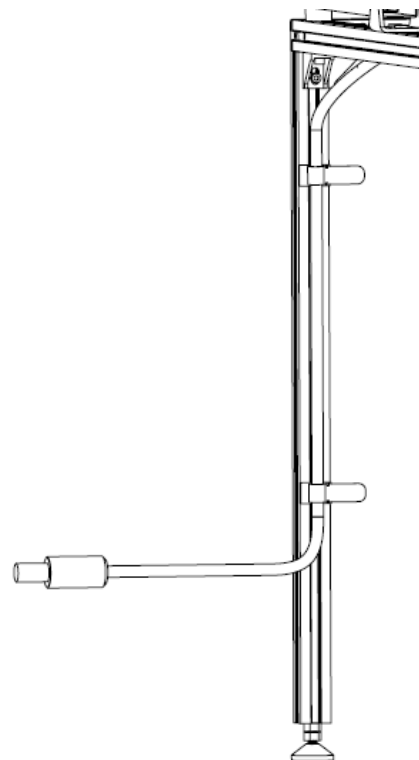
Mounting the connection cable to the leg

One leg is preinstalled with clip holders for the connection cable.

The picture on the right shows the finish mounted connection cable. Attach the connection cable like shown on the right.

Connecting the micro inverter

The micro inverter is already pre-installed to the frame of the table in this set. (It may only be necessary to connect the solar modules (DC) to the micro inverter.) On the AC side, only the connection with the enclosed connection cable must be made. A Wieland plug connection is recommended here according to VDE. A Schuko/Type13 plug connection with a Schuko/Type13 socket is also possible because the used micro inverter is a proofed for VDE 4105!



CAUTION!

Observe all local regulations and restrictions before/during installation.



CAUTION!

The external protective grounding conductor is connected to the protective grounding conductor terminal of the micro inverter via AC connection. When connecting, connect the AC terminal first to ensure grounding of the micro inverter. Then connect the DC terminals. When disconnecting, disconnect the AC first by opening the branch circuit breaker but keeping the protective grounding conductor in the branch circuit breaker connected to the micro inverter. Then disconnect the DC inputs.



CAUTION!

Install disconnect devices on the AC side of the micro inverter.



CAUTION!

It is strongly recommended to install surge protectors in the appropriate meter box.

Connect the solar panels (DC connection)

Connect the solar panels DC cables to the DC input side of the micro inverter.

The 400W inverter is already connected to the solar panel via MC4 connectors. Simply connect the DC connection cables of the micro inverter to the matching counterpart of the solar panel. When doing so, plug the pair of connectors together until you hear a "click" sound. The connectors of some solar panels have the polarity (+, -) printed on them, which is valid for the panels. The DC cable of the micro inverter with the plus marking (+) is connected to the - pole of the panel, the negative marked cable (-) to the + pole. Make sure that the polarity is correct.

Note: When plugging in the DC cables, if the AC cable is already plugged in, the micro inverter LED should immediately flash green and start synchronizing with the grid within 2 minutes. If the AC cable is not plugged in, the red LED will flash continuously and repeat this until the AC cable is plugged in (see chapter LED Status).

Connecting the micro inverter to the AC grid (AC connection)



A maximum of 1x 400W may be connected to an EU / 50Hz / 230V installation with 13A automatic circuit breaker.

The connection to the mains is made with a suitable power cable. Only use 3-core cables that are also approved for outdoor installation and have a conductor cross-section adapted to the amperage (preferably 1.5mm² or 4mm²).

Fasten the connection cables to the mounting rail using UV-stable cable ties in such a way that the cables are protected from rain and sun and, in particular, the plug connections cannot lie in a puddle of water. To connect the micro inverter and the connection cable, the pre-assembled AC plug-in system in combination with an AC cable and assembled BC05 connection socket or the AC string input/output can be used, depending on the delivery variant. To mount a Wieland connector, the pre-assembled BC05 connector system must be removed.

Note: Other plug connections / systems may be possible, provided they are suitable for outdoor use and the current levels involved.

Set up the table

After assembling the table checking all the cable connections you are ready. Make sure the locking screws of the telescope arm are tight. Now be at least 2 persons to lift the table up and turn it around and put it on its feet.

Important:

1. Depending on the location of the table, it is necessary to supervise or fix the elevated power plant to prevent damages and accidents.
2. When the table is used as a table, disconnect the Micro Inverter.
3. Use coasters or a tablecloth when placing cups, plates, cutlery, pots, etc. on the table. To prevent scratches or defects of the solar panel.
4. Make sure that the connection cable to the power socket does not pose a trip hazard. If possible, lay the cable in a straight line and directly to the nearest wall with power socket.

Leg height adjustment / Level out unevenness

Tools are needed: 1x 14mm open end wrench

1. To adjust the height of the table rotate the bottom nut of the table foot counter clockwise. Note: The whole table foot will turn.

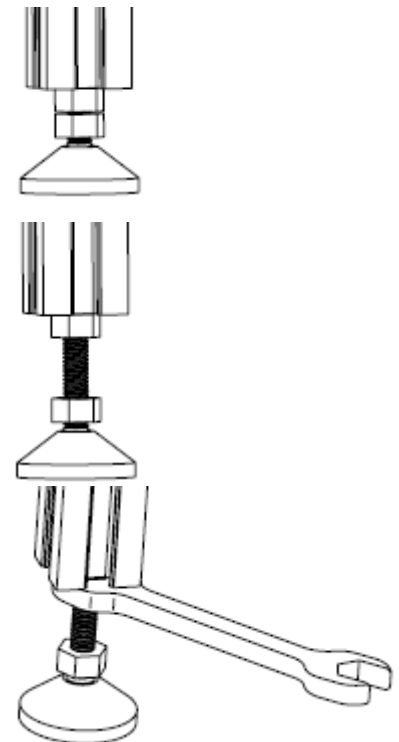
Important: Do not unscrew the table foot further than 20mm in height to assure the stability of the table!

2. Rotate the nut until either the wanted height is reached or the unevenness is balanced.

3. Now tighten die upper nut to lock the table foot. Screw it clockwise until the nut reaches the table leg.

4. Repeat step 1-3 for the other 3 legs if necessary to reach the wanted height or balance the table.

Tip: Use a spirit level to check that the table surface is leveled.



Use as power plant

Angle adjustment

You can choose between 3 different angles to set up the solar panel. 20°, 30° and 35°.

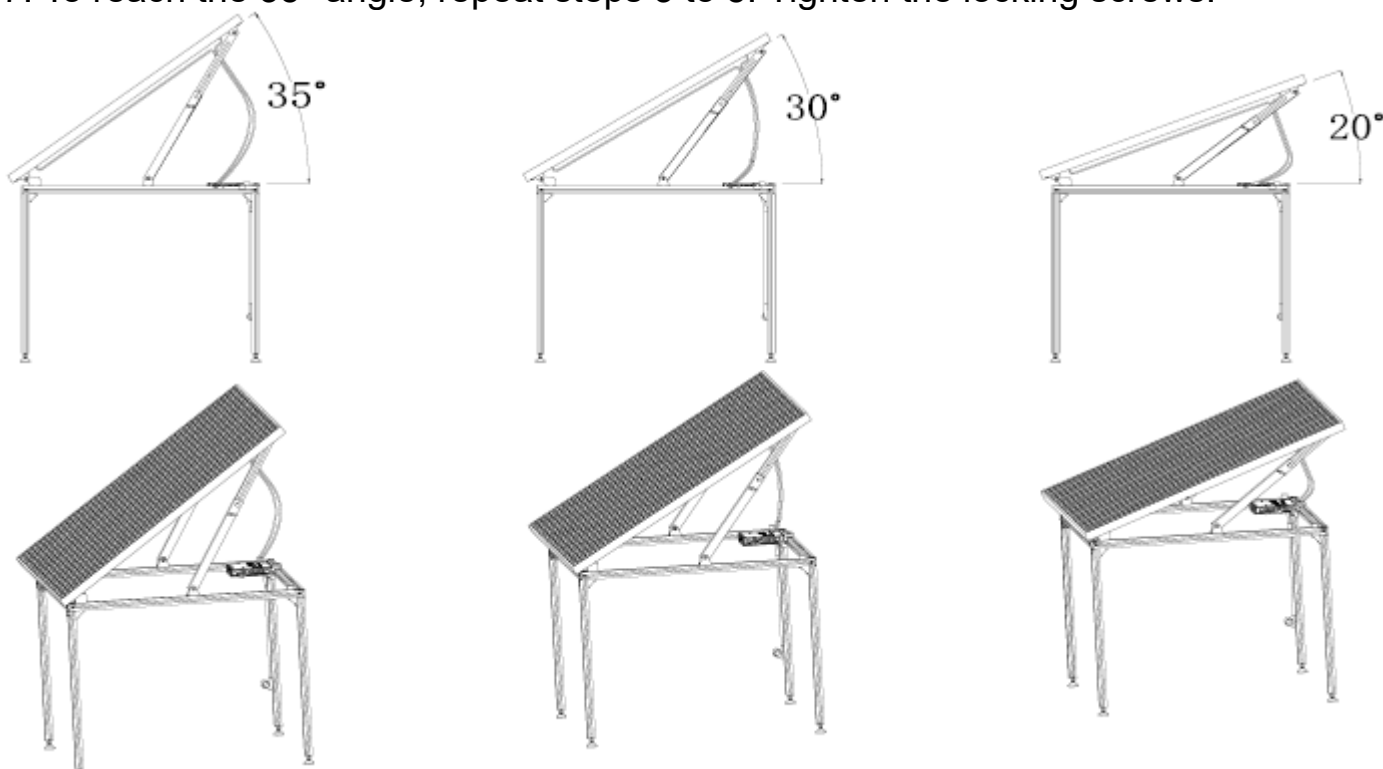
Estimated yield

The mounting angle (20°, 30°, 35°), the orientation (west, south, east) and the geographical location affect the yield of the table power plant.

Power	Ø max. electricity yield / year	Ø max. electricity yield / day
410W (400W) – South; 20°	455 to 470 kWh	1.25 to 1.29 kWh
410W (400W) – S; 30°	475 to 490 kWh	1.30 to 1.34 kWh
410W (400W) – S; 35°	485 to 500 kWh	1.33 to 1.37 kWh
410W (400W) – SEast; 35°	455 to 465 kWh	1.25 to 1.27 kWh
410W (400W) – Swest; 35°	460 to 465 kWh	1.26 to 1.27 kWh
410W (400W) – E; 20°	380 to 390 kWh	1.04 to 1.07 kWh
410W (400W) – W; 20°	385 to 395 kWh	1.05 to 1.08 kWh

How to set up the angle?

1. To adjust the angle, loosen the locking screws on each the telescopic arm and pull out the adjustment pins and turn them so that they do not re-engage. Lift the solar panel further. Allow the adjustment pins to snap into place.
2. Lift the solar panel until it locks into the first angle of 20°. Tighten the locking screws.
3. To set another angle, pull out the adjustment pins and turn them so that they do not re-engage (loosen the locking screws).
4. Lift the solar panel further.
5. Allow the adjustment pins to snap into place.
6. The solar panel will automatically lock into the next angle of 30° as you continue to lift it. Tighten the locking screws.
7. To reach the 35° angle, repeat steps 3 to 5. Tighten the locking screws.



First commissioning

After mechanical and electrical installation of the solar table, you can put the system into operation. There should be enough sunshine for this. The solar panel needs to produce at least a start voltage of 22V.

Initial state:

1. The micro inverter is connected to the solar panel
2. The micro inverter is connected to the house mains via Wieland plug(recommended) or Schuko/Type13 plug.
3. The cables are fixed protected from rain and sunlight
4. The feed line is connected to the mains via a circuit breaker

Proceed as follows:

1. Plug in the connection cable to the power socket. If not done yet!
(Turn on the circuit breaker and any other switches that may be present.)
2. The micro inverters LED should be flashing red.
3. After you turn on the AC circuit breaker the LED flashes red until the micro inverter has synced with the house grid.
3. The micro inverter starts feeding (grid synchronization) within 2 minutes if there is sufficient solar radiation. The status LED indicates the basic function. You can check the feed-in power with a suitable power socket energy meter* (*needs to be water proof for outside use!).
4. If you have installed a feed-in meter, you can also use it to check the current feed-in power or energy.

Note: When AC power is applied but the micro inverter is not started, approximately 0.2W of power can be measured for each micro inverter using a power meter. This power is reactive power, not consumption from the utility grid.

LED status

The LED of each micro inverter provides information about the current status. All micro inverters draw their supply voltage from the DC connector/solar panels.

Status during power up

Until the micro inverter has synced with the grid it flashes red. Then switch-on process usually takes up to 2 minutes. Synced successfully with the grid, micro inverters LED flashes green. Following LED status can occur:

Flashing fast red (1s):	No AC connection	→ no grid feed
Flashing slow green (3s):	AC connection & DC connection voltage lower 22V	→ no grid feed
Flashing fast green (1s):	AC connection & DC connection voltage over 22V	→ grid feed
No LED Flashing/LED off:	No DC connection/solar panels connected	→ no grid feed

Status after the switch-on process

A fast green flashing LED indicates normal status and an active feed into the grid. If the LED remains flashing red after 3minutes, this indicates an error with solar panel voltage that is too low (below 22V) or a missing AC voltage.

The micro inverter can only start feeding (again) after the cause of the error has been eliminated. The reason for this error could be a faulty solar panel connection / AC connection or the connected grid exceeds / falls below the voltage / frequency range of the micro inverter. If the LED shows no function or remains OFF, the most common cause is that there is no connection to the solar panel or the solar panel voltage is far below the start voltage.

WiFi configuration

1. The micro inverter of the solar table should be already installed and connected with the house grid. Plugged into a power socket.
2. The maximum communication distance between micro inverter and router is 20m in open space. Walls, roofs, or other obstacles in between will affect the signal and reduce the communication distance in actual installations.

Get the APP


To download the APP S-Miles Installer from the APP-Store or the Google Play Store search for “S-Miles Installer” or scan the QR-code below.

[iOS 13.0 or above; Android 10.0 or above (10-2023)]



1. To register click on “No Account”, check for “DIY” and click on “register”. Fill out the registration form with the required information. Then tap the register button.

2. To connect the micro inverter to the WiFi router, connect your Smartphone with the AP (WiFi=DTUBI-xxxxxxx) of the micro inverter. Use the WiFi password on the back of the inverter.

Go to O&M page (bottom middle icon ). Click on Network configuration and the APP connects with DTU.

Configure the WiFi of your micro inverter.

3. Back on the main page, press on “+” to create a new plant. Follow the instruction in the APP to create a plant. Follow the APP to fill in the required information.

Note: It takes up to 30 minutes until the first values are shown in the APP.

If you need further assistance, read the detailed TX-247 manual on our homepage: <https://www.technaxx.de/products/> and search for 'TX-247'.

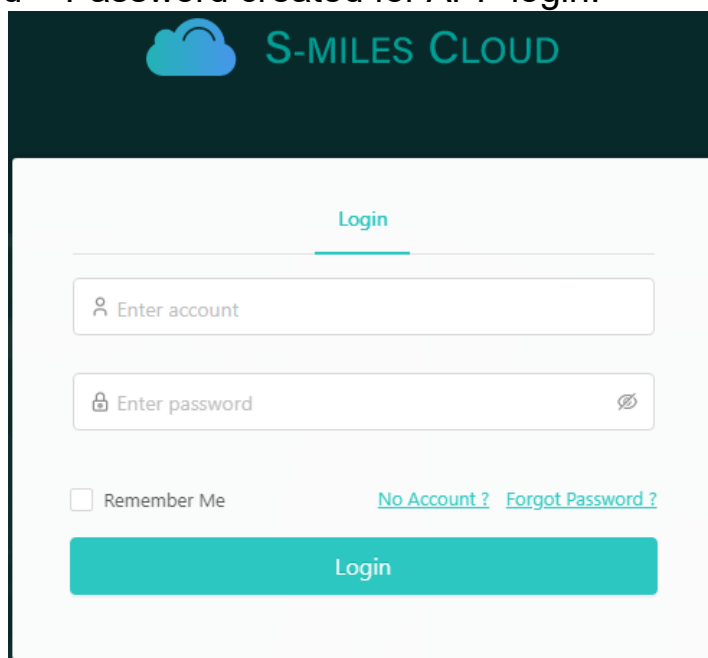


Webpage

You can view the inverter’s operating details on the computer web page by accessing the S-Miles Cloud (Hoymiles Monitoring Platform) at <https://world.hoymiles.com>.

Therefor use your login which you created via S-Miles Installer APP registration.

- Enter account = Login account, username created by APP.
- Enter password = Password created for APP login.



The image shows a screenshot of the S-Miles Cloud login interface. At the top, there is a dark teal header with a cloud icon and the text "S-MILES CLOUD". Below the header, the word "Login" is centered in teal. There are two input fields: the first is labeled "Enter account" with a person icon, and the second is labeled "Enter password" with a lock icon and a toggle eye icon. Below the password field, there is a "Remember Me" checkbox and two links: "No Account ?" and "Forgot Password ?". At the bottom, there is a large teal button labeled "Login".

Troubleshooting

Maintenance work and troubleshooting on the micro inverter may only be carried out by qualified personnel. Modifications to the micro inverter are generally prohibited. The micro inverter is potted, the electronics cannot be repaired. The HMS-400W-1T micro inverter draws its supply voltage from the DC side. To restart the micro inverter, the solar panels must be disconnected from the micro inverter. The start-up process usually takes place within 2 minutes. For troubleshooting purposes, perform the following steps in the order listed:

1. Check that all AC fuses are turned ON.
2. Check all connection cables for external damage.
3. Check all AC side connections for damage or connection errors.
4. Measure at the connection points. The applied mains voltage must not exceed or fall below the AC voltage range of 180-275V.
5. Restart the micro inverter by disconnecting and reconnecting the DC power / solar panels. A normal start-up process should be indicated by a green LED (see LED status).



CAUTION!

- Never disconnect the DC cables while the micro inverter is generating power.
6. Measure the voltage of the solar panel to the micro inverter with a suitable multi-meter. The required starting voltage of the micro inverter is above DC22V.
 7. Check the MC4 connectors of the micro inverter and solar panel(s). Damaged DC connections must be replaced.
 8. If necessary, check with your grid operator whether the grid frequency matches the frequency range of the micro inverter.



CAUTION!

Do not attempt to repair the micro inverter.

If the above steps do not solve the problem, contact our support or an electrician.



The AC connection on the micro inverter cannot be replaced/repared. If the cable has been damaged, the device should be disposed of.



Unless otherwise specified, maintenance work must be carried out with the equipment disconnected from the mains (mains switch open) and the solar panels covered, or insulated.



Do not use rags or corrosive products for cleaning that could corrode parts of the equipment or cause electrostatic charges.



Avoid temporary repairs. All repairs should be made only with original spare parts.



Each micro inverter should be protected by a circuit breaker, but central disconnect protection is not required unless specified by national standards, or by the responsible network operator.

Technical specifications

For the technical specifications of the solar module, please refer to the enclosed data sheet.

Table

Dimensions	Solar panel/table top: approx. 173 x 114 x 4 cm Frame: approx. 125 x 103 x 80 cm
Leg adjustment height	max. 20mm
Material	Frame: Aluminum, coated by plastic particle Glass: Low-iron tempered glass 3.2 mm
Color	Black
Weight	32.5kg
Maximum load	25kg
Package content	1x PV micro inverter 400W, 1x Solar panel 410W, 1x Table frame (pre-assembled), 4x Table leg, 1x Connection cable 5m, 1x User manual

Inverter

Modell	HMS-400W-1T
DC-input	
Recommended panel power (W)	320-540
Max. number of panels	1
Panel connection	MC4
MPPT voltage range (V)	16-60
Starting voltage (V)	22
Operating voltage range (V)	16-60
Max. input voltage (V)	65
Max. input current (A)	14
Max. input short-circuit current (A)	25

AC-output	
Rated output power (VA)	400
Rated output current (A)	1.81 at 220V 1.74 at 230V 1.67 at 240V
Rated output voltage/range (V)	220/180-275 230/180-275 240/180-275
Rated frequency/rated frequency range (Hz)	45-55 (under 50Hz @ 220 V & 230 V)
Power factor	>0.99 standard 0.8 leading.....0.8 delayed
Output current harmonic distortion	≤3%

Efficiency, safety and protection	
CEC weighted efficiency	96.70%

MPPT rated efficiency	99.80%
Nightly power consumption (mW)	<50

Mechanical data	
Ambient temperature range (°C)	-40~+65
Storage temperature range (°C)	-40~+85
Dimensions (WxHxD) mm	182 x 164 x 30
Weight (kg)	1.75
Protection class	Outdoor IP67 (NEMA 6)
Cooling	Natural circulating air - no fans
AC cable length (cm)	50

Features	
Communication	Built-in Wi-Fi
Frequency band	2.4GHz
Radiated transmission power max.	69.2mW
Topology	Galvanically Isolated HF Transformer
Monitoring	Micro Toolkit or S-Miles Cloud
Compliance	VDE-AR-N 4105: 2018, EN 50549-1: 2019, VFR 2019, IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4, IEC/EN 61000-3-2/-3

Appendix

Determining the line reserve

The PI Photovoltaic Institute Berlin in cooperation with the German Society for Solar Energy (DGS), the University of Applied Sciences (HTW) Berlin have worked out in a study that it is possible to feed in up to 2.6 amps (approx. 630 W, equivalent to 2 solar modules) with plug-in solar devices in every household with circuit breakers without any safety concerns, without having to make any changes to the house electrics. However, there may be a deviation from the applicable standard for line loading. We have described how to comply with the requirements of the standard and how to test the line in this appendix. If mini solar systems feed into the existing final circuit, the current load on individual cable sections may exceed the designed standard size. To prevent overloading of the cables in the household, they are protected by a line circuit breaker (LSS). This switches off automatically as soon as an overload occurs. As a rule, several sockets and consumers are protected by a common line protection. Due to the additional power of the mini solar system, the currents from the utility grid and the mini solar system can now add up. However, the currents are not detected by the line circuit breaker, so theoretically an overload can occur. You can use the following formula to determine whether the existing line with your circuit breaker is sufficiently dimensioned:

I_z indicates the current carrying capacity of the line, which should be greater than the sum of the rated current of the protective device (circuit breaker in amperes) and the generating equipment (power in amperes). Both I_z and I_g can be found in the following table for the example application below.

$$I_z = I_n + I_g$$

I_z Permissible current carrying capacity of the line

I_n Rated current of the protective device (circuit breaker)

I_g rated current of the power generation system

Load capacity of copper lines

Load capacity of copper cables and lines for fixed installation in buildings 1.5mm ² nominal cross-section; at ambient temperature 25°C, with 2 loaded cores*.				
Installation method	On thermally insulated walls	In electrical installation pipes	On walls	In the air
Current carrying capacity I _z of the conductors of the final circuit in amperes	16,5	17,5	21	23
Maximum rated current I _g of the power generation system with 16A circuit breaker	0,5	1,5	5	7
Maximum rated current I _g of the power generation system with 13A circuit breaker	3,5	4,5	8	10
Photovoltaic system	one solar module	two solar modules	up to 3 × 115W	from 4 × 115W
max. current load in amperes	1.3	2.6	1.3	2.6

* The example from the table is based on two loaded copper lines with a nominal cross-section of 1.5mm², which reflects the line in a typical German household. In the case of a larger cross-section or a different cable type, the permissible current-carrying capacity is different, so that this must be considered separately, in accordance with DIN VDE 0298-4.

Example before fuse replacement	Example after fuse replacement
(1) Circuit breaker	
(2) electrical consumer	
(3) Mini solar system 600W	

* max. permissible line load is 16.5A

Determination of the line reserve

If the cable is a copper cable with a core cross-section of $3 \times 1.5 \text{mm}^2$, then the cable is designed for a continuous load of 16.5A (in thermally insulated walls at 25°C). The free capacity is the difference of the line with 16.5A, minus the circuit breaker with 16A. The free capacity is therefore 0.5A in thermally insulated walls. If the solar power exceeds the current of 0.5A, then the circuit breaker should be replaced with a smaller one in order to comply with the requirements of the DIN VDE 2948-4 standard. By exchanging the fuse for a smaller 13A fuse, 13A can now still be drawn from the power grid, resulting in free capacity for the power line with the difference of 3.5A. The power of the solar system could therefore be up to 805W. In the example (right half of the picture), the power of the mini solar system is 2.6A/600W, which complies with the permissible load.

Further safety instructions

- Only connect the mini solar system to a permanently connected socket, never to a multiple socket.
- If you still have older screw fuses installed, it is mandatory to replace them from 16A to the next smaller fuse.

Support

Service phone No. for technical support: **01805 012643** (14 cent/minute from German fixed-line and 42 cent/minute from mobile networks). Free Email: **support@technaxx.de**

The support hotline is available Mon-Fri from 9am to 1pm & 2pm to 5pm

Care and maintenance

- Check all screw connections regularly and tighten them if necessary. Loose screw connections impair safety and pose a risk of injury.
- Clean the device only with a dry or slightly damp, lint-free cloth.
- Do not use abrasive cleaners to clean the device.
- Use osmotic water for cleaning

Storage

All parts must be completely dry before storage.

- Use protective covers to cover the product.
- Always store the product in a dry place.
- Store the product out of reach of children, securely closed and at a storage temperature between $+5^\circ\text{C}$ and $+20^\circ\text{C}$ (room temperature).

Declaration of Conformity



The EU Declaration of Conformity can be requested at the following address: www.technaxx.de/ (in the lower bar "Declaration of Conformity").

Disposal



Disposal of the packaging. Sort packaging materials by type upon disposal.

Dispose of cardboard and paperboard in the waste paper. Foils should be submitted for recyclables collection.



Disposing of old equipment (Applies in the European Union and other European countries with separate collection (collection of recyclable materials) Old equipment must not be disposed of with household waste! Every consumer is required by law to dispose of old devices that can no longer be used separately from household waste, e.g. at a collection point in his or her municipality or district. This ensures that the old devices are properly recycled and that negative effects on the environment are avoided. For this reason, electrical devices are marked with the symbol shown here.

Made in China

Distributed by:

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Solar Table Power Plant 400W TX-250