TOMMATECH GmbH

GERMAN-based company

SMALL WP AND SEALED PANEL SYSTEMS

Catalogue

Garching - Munich Manufacturing Facility / Germany

Antalya Manufacturing Facility / Türkiye

Contents

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In an increasingly complex world, we continuously adapt to changes and actively encourage all our partners to embrace our long-term goals and values through goal-oriented communication and a deep mutual understanding of our mission. In this way, we aim to provide a valuable contribution for future generations.

Technology

Vision:

Our vision is to be a leader in the development of advanced solar energy technologies that maximize energy efficiency, protect the ecological balance, restore harmony between humans and nature, and accelerate the global transition to renewable energy in order to achieve the set climate goals.

Mission:

We focus on continuous innovation and research to develop modern solar technology and integrate it efficiently into smart home systems, enabling our customers to benefit from connected and sustainable energy use.

Today:

Many customers are already benefiting from our modern installations, which we have seamlessly integrated into their homes. This optimizes energy consumption, allowing customers to save money immediately and reduce their carbon footprint.

Optimization

"Through intelligent optimization solutions, we achieve the most efficient use of solar energy worldwide, actively supporting the achievement of climate neutralty."

"We are committed to developing and implementing advanced automation and control technologies to optimize energy consumption in households and businesses while significantly reducing operating costs."

Our customers' current energy optimization systems have already achieved significant improvements in emissions.

Manufacturing

We aim to be a leading manufacturer of solar technologies, setting industry standards for quality and sustainability.

We are committed to producing high-quality and innovative solar products that meet the needs of the present while addressing future challenges. Through continuous improvements and investments in our production processes, we strive to maximize efficiency and minimize environmental impact.

Our customers are already benefiting from the advanced solar products manufactured in our state-of-the-art facilities. These products are not only efficient and reliable but also leading in terms of sustainability and environmental protection. The continuous optimization of our production processes guarantees products that are both economically and ecologically advantageous.

Milestones

We are pioneering solar techno- logy that plays a crucial role in contributing to energy indepenence and climate resilience.

We drive transformative change in the global use of solar energy. By developing technologies that enable significant improvements in performance and ease of use, we are setting new standards.

Customers worldwide are using our technology, and together we are accelerating the transition to renewable energy while achieving both economic and ecological benefits.

Automation

To drive the integration of intelligent automation solutions that make the interaction between solar technologies and end users seamless and intuitive.

To develop automation systems that not only operate smoothly but also adapt to consumer needs. These systems aim to optimize energy consumption, enhance operational efficiency, and accelerate the adoption of renewable technologies.

Our customers are enjoying the convenience and efficiency that our intelligent automation solutions bring to their daily lives. These technologies simplify the control of their energy supply, reduce costs, and support the transition to a more environmentally friendly future.

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2014

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Transparency

Vision:

We aim to create an atmosphere of openness where everyone from our customers to our employees feels secure and well-informed.

Mission:

Clear information, no secrets that's our motto. Whether it's about the production of our products or how they function, we keep you constantly updated. We believe that well informed people make better decisions.

Today:

Our customers and partners benefit from our transparent business management. We ensure complete openness at every stage of our processes, from development to product delivery. This practice of open communication allows our stakeholders to make informed decisions and strengthens trust in long-term collaboration with our company.

Experience

We want every interaction with our company to be a positive experience for customers and partners. Our products and services should not only be reliable and innovative but also inspire enthusiasm.

Our goal is to provide each customer and partner with a personalized and valuable experience. With our extensive experience in solar technology, we know what works and we use that knowledge to exceed your expectations and make the transition to sustainable energy easier for you.

Our customers benefit directly from our many years of experience in solar technology. We deliver tailored solutions that are reliable and efficient, supporting every step of the journey toward sustainable energy. Our team ensures a seamless experience through professional advice and assistance.

Commitment

Our vision is to be a leader in the solar industry through our unwavering commitment to quality and sustainability. We strive to improve in every aspect every day from product development to our services.

Our primary goal is to consistently exceed our customers' expectations. We are committed to the highest quality and continuous improvement of our products and services. Our dedication to sustainability and ethical business practices is unwavering and guides all our actions.

Our customers and partners can rely on our strong commitment. We employ innovative and sustainable technologies to ensure that our solutions are not only efficient but also environmentally friendly. Every project is executed with the highest standards of quality and a focus on long-term customer satisfaction.

Home Solution

We aim to transform every home into an eco-friendly energy source. Our vision is to offer advanced solar solutions that are easy to integrate and optimize household energy consumption while contributing to global sustainability.

Our goal is to develop customized solar solutions tailored to the specific needs and conditions of each household. We are committed to providing our custmers with the best combination of efficiency, ease of use, and economic benefit, making the transition to renewable energy simple and appealing.

Our Home Solution products enable customers to meet their energy needs sustainably while saving costs. Homes equipped with our technology benefit from intelligent energy management and a reduced carbon footprint. Our solutions are not only environmentally friendly but also user-friendly, allowing every household to fully harness the advantages of modern solar technology.

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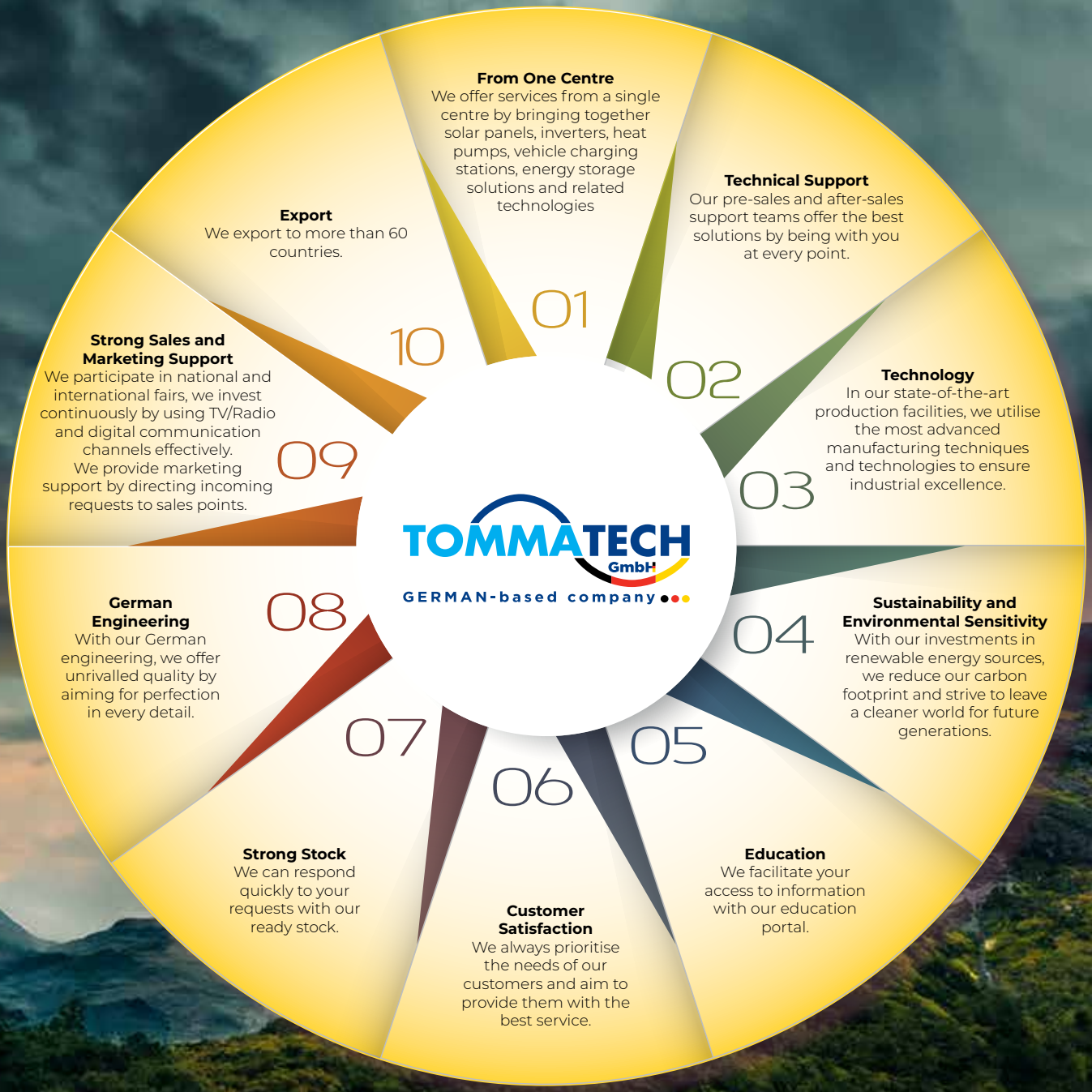

with TommaTech

You are in control!

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M12 PERC MONOCRYSTALLINE SERIES

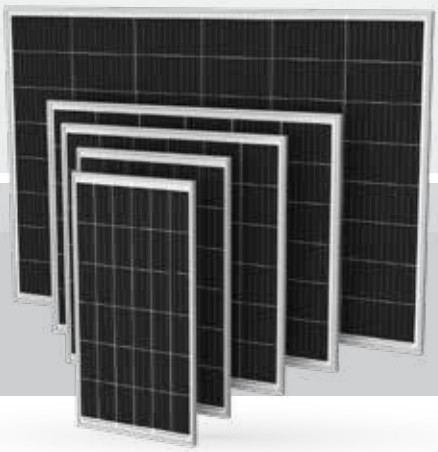
TT045WP-36PM12

TT060WP-36PM12

TT090WP-36PM12

TT120WP-36PM12

TT240-48PM12



M12 PERC MONOCRYSTALLINE DARK SERIES

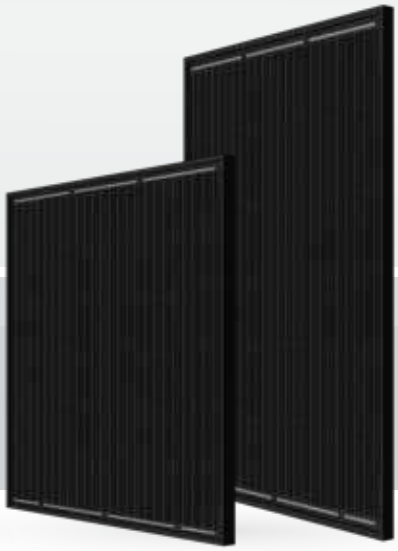
TT045WP-36PMFB12

TT060WP-36PMFB12

TT090WP-36PMFB12

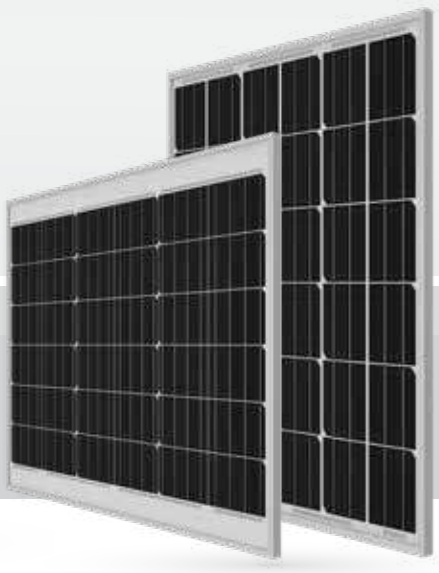
TT120WP-36PMFB12

TT240-48PMFB12



M10 TOPCon MONOCRYSTALLINE SERIES

TT040-36TN10
TT045-36TN10
TT055-36TN10
TT065-36TN10
TT070-36TN10
TT080-36TN10
TT085-36TN10
TT095-36TN10
TT100-36TN10
TT110-36TN10
TT120-36TN10
TT130-36TN10
TT285-72TN10



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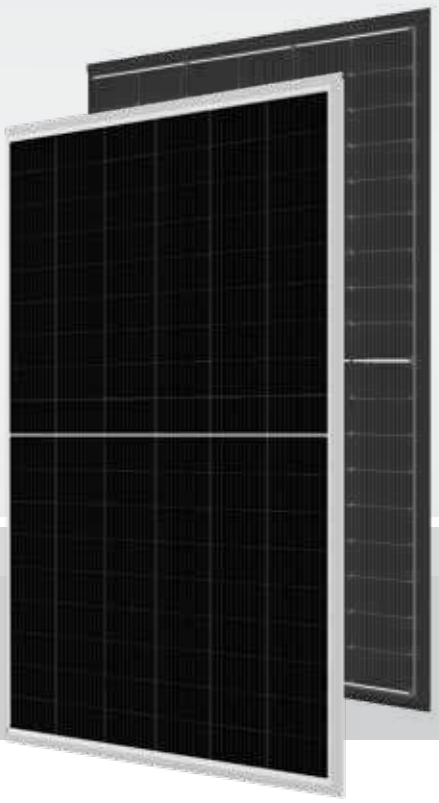
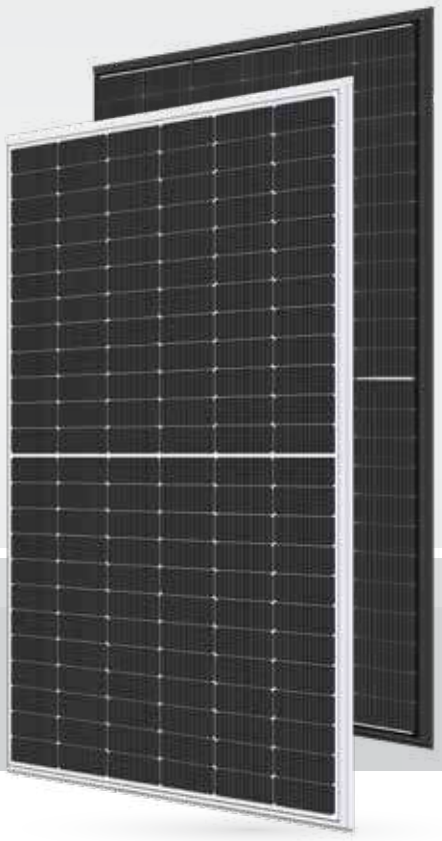
M12 PERC MONOCRYSTAL LEAK-PROOF SOLAR PANEL

TT530-550-108PMCK12
TT530-550-108PMFBCK12



M10 TOPCON LEAK-PROOF SOLAR PANEL

TT585-605-144TNCK10
TT585-605-144TNFBCK10



WHAT IS A SMALL WP SOLAR MODULE?

A small watt-peak (Wp) solar module is a photovoltaic panel that converts sunlight into electricity.
"Watt-peak" (Wp) refers to the maximum output power the panel can generate under standard test conditions- typically 25 °C ambient temperature and 1000 W/m² irradiance.
These modules usually produce between 5 Wp and 240 Wp.

HOW DOES A SMALL WP PANEL WORK?

Solar cells inside the module absorb sunlight.
The light excites electrons, generating direct current (DC) electricity that can be used immediately or stored.
In other words, it turns sunlight into usable energy.

APPLICATION AREAS OF LOW-WATTAGE PANELS

- Caravans, Boats, Tiny Houses
- Security Systems
- Lighting Systems
- Small Electronic Devices
- Campsites

ADVANTAGES OF LOW-WATTAGE PANELS

Portability: Low watt-peak panels tend to be lightweight and portable. Thanks to these features, they are ideal for mobile energy needs such as in caravans, boats, and camping areas.

Easy Installation: Low watt-peak panels typically require less complex installation. They come with simple mounting systems and can be easily installed in homes or small-scale projects.

Low Cost: Low watt-peak panels are generally more affordable compared to larger solar energy systems. This makes them a budget-friendly option.

Independence: Low watt-peak panels can generate electricity without the need for a grid connection. This feature allows them to serve as a backup power source during outages.

Eco-Friendly: Solar panels harness the sun's energy, a clean and renewable energy source. Therefore, using low watt-peak panels reduces dependence on fossil fuels and minimizes environmental impact.

Easy Maintenance: Low watt-peak panels are generally easy to maintain. Regular cleaning and occasional check-ups are usually sufficient to keep them functioning efficiently.

WHY CHOOSE LOW-WATTAGE PANELS?

- Minimizes optical and electrical losses with multi-busbar cell technology.
- Special coated glass maintains efficiency even under low irradiation conditions.
- Panels are built to meet high standards of durability against wind and snow loads.
- Offers easy and flexible installation.
- Designed to enhance the efficiency of solar energy systems while providing a robust and long-lasting solution.

WHAT IS A (SEALED/WATERPROOF) SOLAR PANEL?

A sealed/waterproof panel is a waterproof photovoltaic module designed with a special interlocking frame that creates a watertight seal.
It allows direct installation into roofs or canopy structures without additional sealing materials.

HOW DOES IT WORK?

Like all solar modules, it generates electricity from sunlight.
The difference lies in its mechanical structure:
This panel acts as both an energy-producing unit and a structural roof component, offering protection against rain and snow.

APPLICATION AREAS OF SEALED PANELS

- Carport Systems
- Canopy Roofs
- Garage Roofs
- Storage Building Roofs

ADVANTAGES OF SEALED PANELS

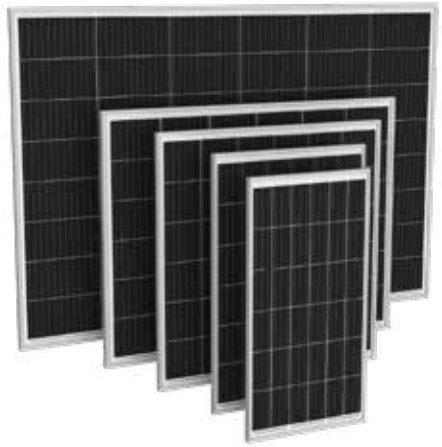
In commercial and industrial facilities, sealed solar panels can be used on rooftops, parking areas, and canopy structures to generate electricity without the need for additional roofing materials.
Thanks to their high efficiency, sealed solar panels eliminate the need for both traditional roof coverings and extra construction materials required for panel installation.
When used in carport systems, the advanced technology of sealed solar panels not only protects vehicles from external elements such as rain, snow, and sunlight, but also allows you to utilize the generated solar energy as needed.

WHY CHOOSE SEALED PANELS?

Sealed solar panels feature a specially designed frame structure, making them more resistant to external factors and fully waterproof compared to standard framed panels.
In building-integrated systems—such as canopy roof projects and carport structures—they can be installed directly on roof surfaces, providing insulation without the need for additional roofing materials.

TOMMATECH M12 PERC MONOCRYSTALLINE SERIES

45WP - 240WP



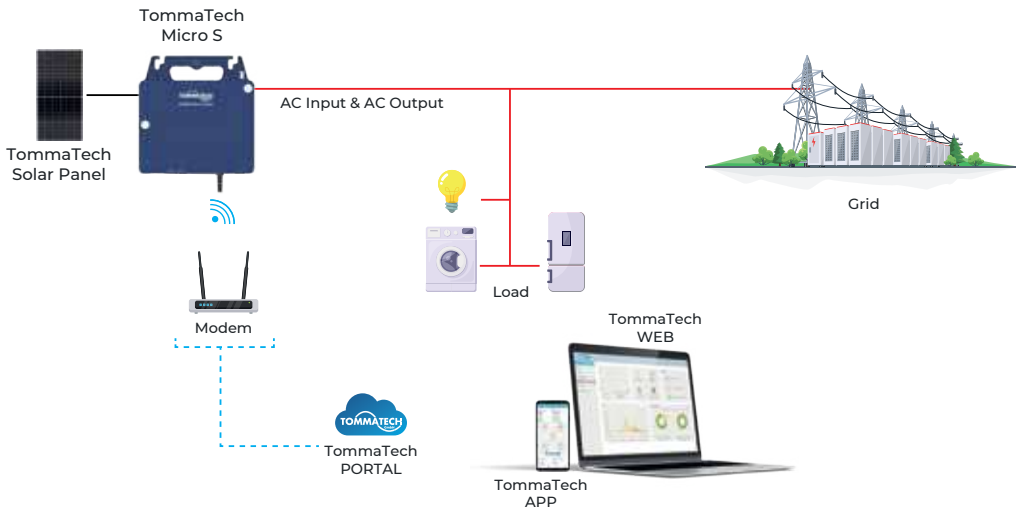
M12 Perc Monocrystalline

The TommaTech M12 PERC Monocrystalline Series is engineered for both on-grid and off-grid solar systems.
With multi-busbar cell technology, these panels reduce optical and electrical losses, while PERC cell architecture(Passivated Emitter Rear Contact) boosts energy efficiency.
The anti-reflective, coated glass ensures high energy output even in low-light conditions.
Built to withstand heavy wind and snow loads, the panels offer easy installation – ideal for mobile, residential, or industrial use.

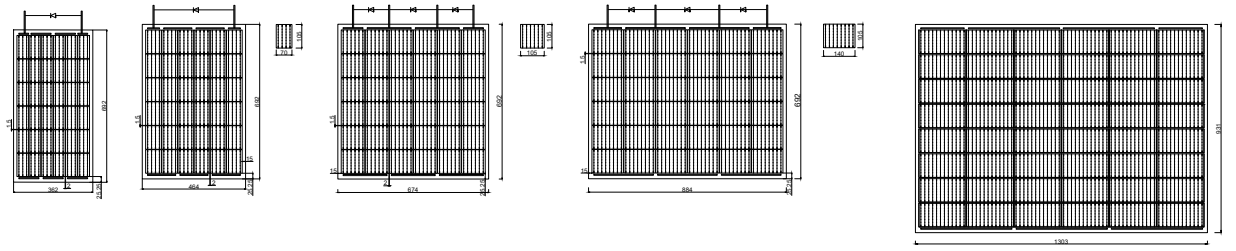
Product Features

- **High Efficiency**
- **Self-Cleaning and Anti-Reflective Glass**
- **High Efficiency in Low Irradiance**
- **Excellent Durability**
- **0~+5W Positive Power Tolerance**
- **Easy Installation**
- **Compatible with Solar LED Lighting Poles**
- **Custom-Made**
- **Wide Operating Temperature Range**
- **2-Year Warranty**

Product Features



MODEL	TT045 36PM12	TT060 36PM12	TT090 36PM12	TT120 36PM12	TT240 48PM12
ELECTRICAL PROPERTIES					
Maximum Power (Pmax)	45 Wp	60 Wp	90 Wp	120 Wp	240 Wp
Maximum Power Voltage (Vmp)	20.77	20.77	20.77	20.77	27.70
Maximum Power Current (Imp)	2.17	2.90	4.34	5.78	8.67
Open Circuit Voltage (Voc)	24.37	24.37	24.37	24.37	32.50
Short Circuit Current (Isc)	2.34	3.04	4.55	6.06	9.11
Cell Size (mm)	36 (6x6)	36 (6x6)	36 (6x6)	36 (6x6)	48 (6x8)
Number of Cells	53x105	70 x 105	105 x 105	140 x 105	210x105
Panel Size (mm)	362x692x20	464x692x20	674x692x20	884x692x20	931x1303x30
Weight (kg)	3.25	4.00	5.54	7.10	13.46
Operating Temperature Range	-40 ~ +85°C				
MECHANICAL PROPERTIES					
Solar Glass	3.2mm Low iron, Tempered Glass				
Frame	Anodized Aluminum				
Connection Box	IP67 / IP68				
Cable Diameter	4mm²				
Cable Length	500mm				
TEMPERATURE COEFFICIENT					
Temperature Coefficient (Isc)	0.050%/°C				
Temperature Coefficient (Voc)	-0.270%/°C				
Temperature Coefficient (Pmax)	-0.350%/°C				
PHYSICAL PROPERTIES					



45 Wp **60 Wp** **90 Wp** **120 Wp** **240Wp**

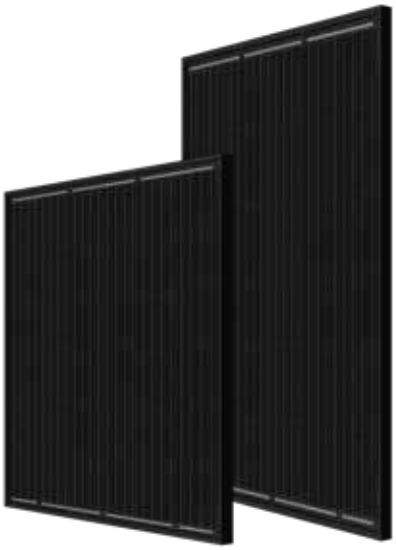
* The above data were obtained under standard test conditions (STC): 1000 W/m² solar radiation, 1.5(AM) air mass and 25°C cell temperature. Measurement uncertainty for all panels is 6%. Actual data will be subject to the agreements made. The technical values in this document are for information purposes only and are not part of the contracts. Technical specifications in this document may vary. For detailed information, please refer to the 'Installation Mounting Guide'.

* Solar panels are mounted on a fire-resistant coating suitable for this application for installations to be applied on roofs, facades and similar areas, with sufficient ventilation space between the back layer of the modules and the mounting surface. Incorrect installations may pose a danger in case of fire and may cause fire. Solar panels; transparent plastic, PVC, plastic and similar structures and products consisting of materials that are not resistant-protected against fire risk must not be installed on them. Use and installation not in accordance with the installation and assembly manual and the conditions in the warranty certificate exclude the products from the warranty. For details, please refer to the Installation and Assembly Manual and the Warranty Certificate.

* TommaTech® GmbH reserves the right to change product specifications without prior notice.

TOMMATECH M12 PERC MONOCRYSTALLINE DARK SERIES

45WP - 240WP



M12 Perc Monocrystalline

The TommaTech M12 PERC Dark Series unites high-efficiency monocrystalline solar cells with a refined fully black appearance. Designed for on-grid and off-grid systems, these modules are ideal for applications where aesthetic appeal matters – such as building-integrated PV, gardens, RVs, or stylish carports.

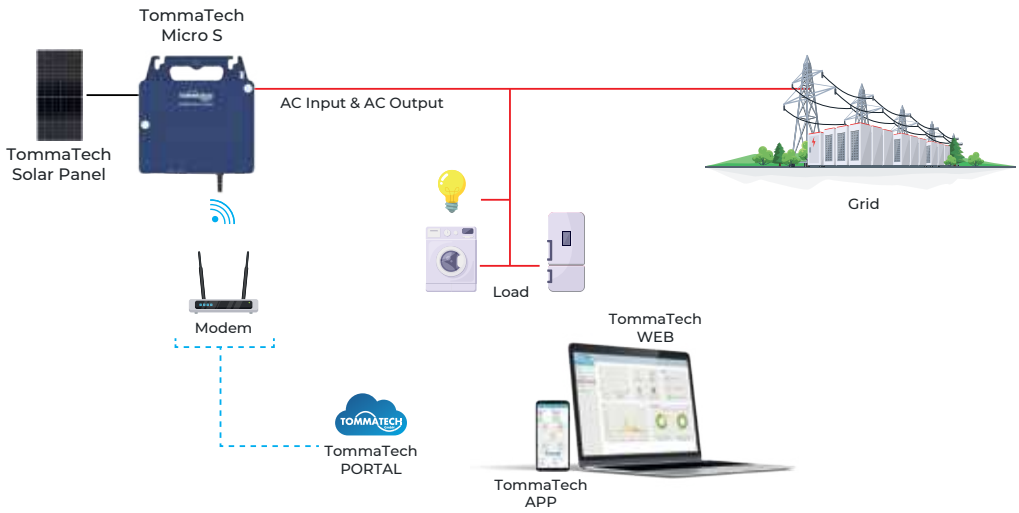
Multi-busbar technology reduces both optical and electrical losses. The special coated glass ensures high performance even in low-light conditions.

With a robust structure, the panels meet international standards for wind and snow load resistance.

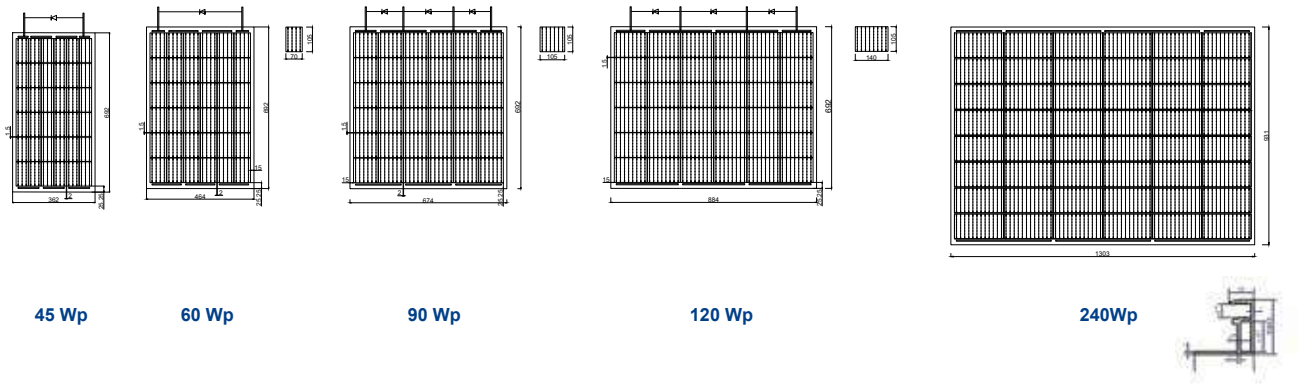
Product Features

- **High Efficiency**
- **Self-Cleaning and Anti-Reflective Glass**
- **High Efficiency in Low Irradiance**
- **Excellent Durability**
- **0~+5W Positive Power Tolerance**
- **Easy Installation**
- **Compatible with Solar LED Lighting Poles**
- **Custom-Made**
- **Wide Operating Temperature Range**
- **2-Year Warranty**

Product Features



MODEL	TT045 36PMFB12	TT060 36PMFB12	TT090 36PMFB12	TT120 36PMFB12	TT240 48PMFB12
ELECTRICAL PROPERTIES					
Maximum Power (Pmax)	45 Wp	60 Wp	90 Wp	120 Wp	240 Wp
Maximum Power Voltage (Vmp)	20.77	20.77	20.77	20.77	27.70
Maximum Power Current (Imp)	2.17	2.90	4.34	5.78	8.67
Open Circuit Voltage (Voc)	24.37	24.37	24.37	24.37	32.50
Short Circuit Current (Isc)	2.34	3.04	4.55	6.06	9.11
Cell Size (mm)	36 (6x6)	36 (6x6)	36 (6x6)	36 (6x6)	48 (6x8)
Number of Cells	53x105	70 x 105	105 x 105	140 x 105	210x105
Panel Size (mm)	362x692x20	464x692x20	674x692x20	884x692x20	931x1303x30
Weight (kg)	3.25	4.00	5.54	7.10	13.46
Operating Temperature Range	-40 ~ +85°C				
MECHANICAL PROPERTIES					
Solar Glass	3.2mm Low iron, Tempered Glass				
Frame	Anodized Aluminum				
Connection Box	IP67 / IP68				
Cable Diameter	4mm²				
Cable Length	500mm				
TEMPERATURE COEFFICIENT					
Temperature Coefficient (Isc)	0.050%/°C				
Temperature Coefficient (Voc)	-0.270%/°C				
Temperature Coefficient (Pmax)	-0.350%/°C				
PHYSICAL PROPERTIES					



45 Wp **60 Wp** **90 Wp** **120 Wp** **240Wp**

* The above data were obtained under standard test conditions (STC): 1000 W/m² solar radiation, 1.5(AM) air mass and 25°C cell temperature. Measurement uncertainty for all panels is 6%. Actual data will be subject to the agreements made. The technical values in this document are for information purposes only and are not part of the contracts. Technical specifications in this document may vary. For detailed information, please refer to the 'Installation Mounting Guide'.

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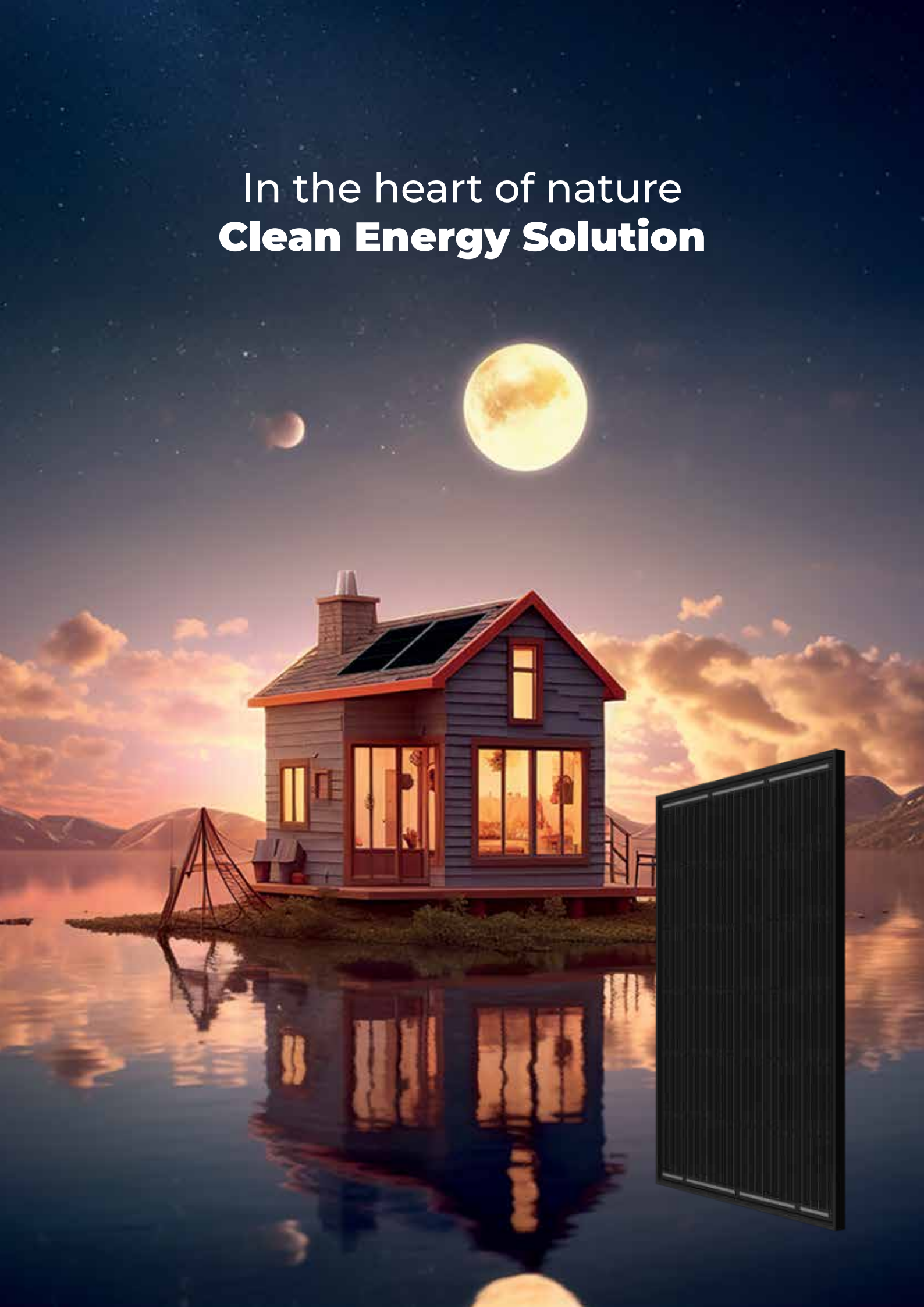
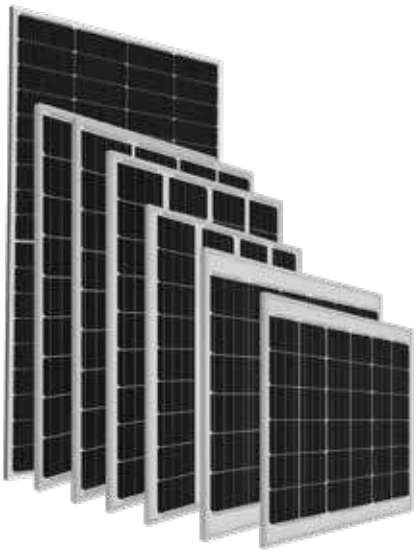
Energised by the sun
independent and sustainable living

In the heart of nature
Clean Energy Solution



TOMMATECH M10 TOPCON MONOCRYSTALLINE SERIES

40WP - 285WP



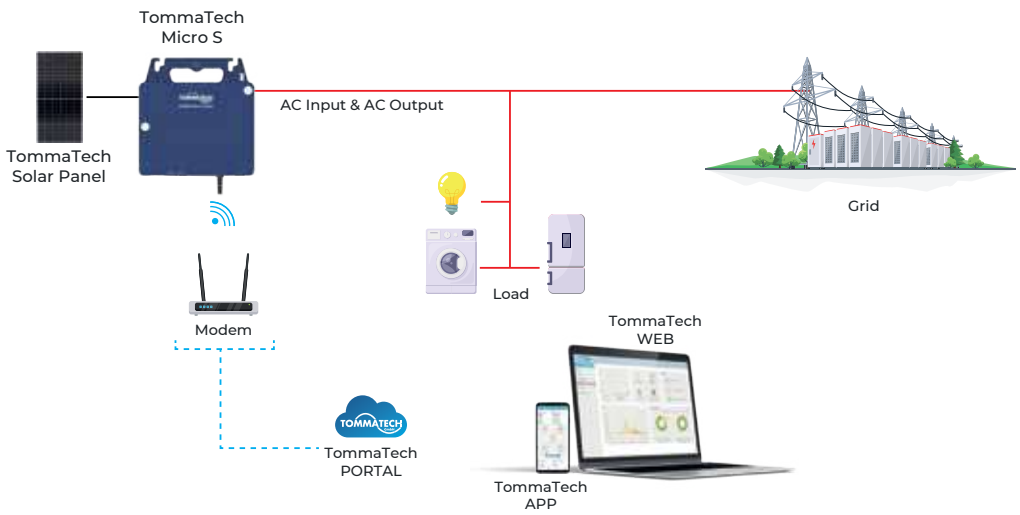
M10 TopCon

The TommaTech M10 TOPCon Series features cutting-edge monocrystalline silicon technology and is designed for use in both on-grid and off-grid solar power systems.
With integrated TOPCon cell structure (Tunnel Oxide Passivated Contact), these modules deliver exceptional efficiency and energy output, even in low-light or diffused conditions.
Combining multi-busbar technology, anti-reflective coated glass, and a durable mechanical design, the M10 TOPCon Series ensures top-level performance, resilience, and adaptability across a wide range of applications – from mobile setups to fixed installations.

Product Features

- **High Efficiency**
- **Self-Cleaning and Anti-Reflective Glass**
- **High Efficiency in Low Irradiance**
- **Excellent Durability**
- **0~+5W Positive Power Tolerance**
- **Easy Installation**
- **Compatible with Solar LED Lighting Poles**
- **Custom-Made**
- **Wide Operating Temperature Range**
- **2-Year Warranty**

Product Features

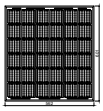


MODEL	TT040 36TN10	TT045 36TN10	TT055 36TN10	TT065 36TN10	TT070 36TN10	TT080 36TN10	TT085 36TN10	TT095 36TN10	TT100 36TN10	TT110 36TN10	TT120 36TN10	TT130 36TN10	TT285 72TN10
ELECTRICAL PROPERTIES													
Maximum Power (Pmax)	40 Wp	55 Wp	55 Wp	65 Wp	70 Wp	80 Wp	85 Wp	95 Wp	100Wp	110 Wp	120 Wp	130 Wp	285 Wp
Maximum Power Voltage (Vmp)	21.81	21.81	21.81	21.81	21.81	21.81	21.81	21.81	21.81	21.81	21.81	21.81	21.48
Maximum Power Current (Imp)	1.84	2.53	2.53	3.00	3.30	3.67	3.90	4.36	4.60	5.05	5.51	5.97	13.40
Open Circuit Voltage (Voc)	25.45	25.45	25.45	25.45	25.45	25.45	25.45	25.45	25.45	25.45	25.45	25.45	25.30
Short Circuit Current (Isc)	1.99	2.75	2.75	3.24	3.50	3.98	4.24	4.73	4.98	5.48	5.98	6.47	14.17
Cell Size (mm)	36 (6x6)	36 (6x6)	36 (6x6)	36 (6x6)	36 (6x6)	36 (6x6)	36 (6x6)	36 (6x6)	36 (4x9)	36 (4x9)	36 (4x9)	36 (4x9)	72 (4x18)
Number of Cells	50x91	70 x 91	70 x 91	83 x 91	91 x 91	105 x 91	113 x 91	124 x 91	135 x 91	145 x 91	156 x 91	165 x 91	182 x 91
Panel Size (mm)	430x680x20	464x692x20	464x692x20	562x601x20	674x692x20	674x692x20	680x790x20	680x790x20	692x884x20	692x884x20	692x884x20	692x884x20	767x1722x30
Weight (kg)	3.32	4	4	5.26	5.54	5.54	5.87	5.87	7.10	7.10	7.10	7.10	15.50
Voltage (V)	12												
MECHANICAL PROPERTIES													
Solar Glass	3.2mm Low iron, Tempered Glass												
Frame	Anodized Aluminum												
Connection Box	IP67 / IP68												
Cable Diameter	4mm²												
Cable Length	300mm-1000mm												
TEMPERATURE COEFFICIENT													
Temperature Coefficient (Isc)	0.040%/°C												
Temperature Coefficient (Voc)	-0.260%/°C												
Temperature Coefficient (Pmax)	-0.300%/°C												
PHYSICAL PROPERTIES													

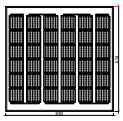
40 Wp

45 Wp

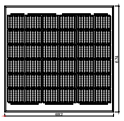
55 Wp



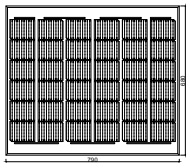
65 Wp



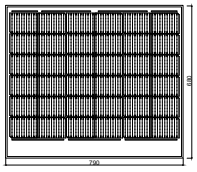
70 Wp



80 Wp



85 Wp



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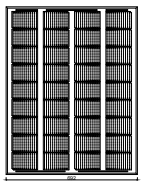
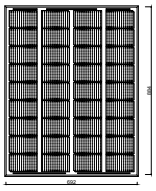
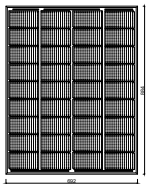


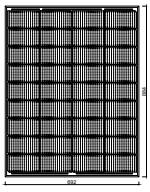
100 Wp



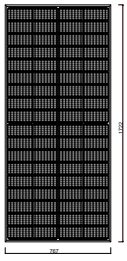
110 Wp



120 Wp



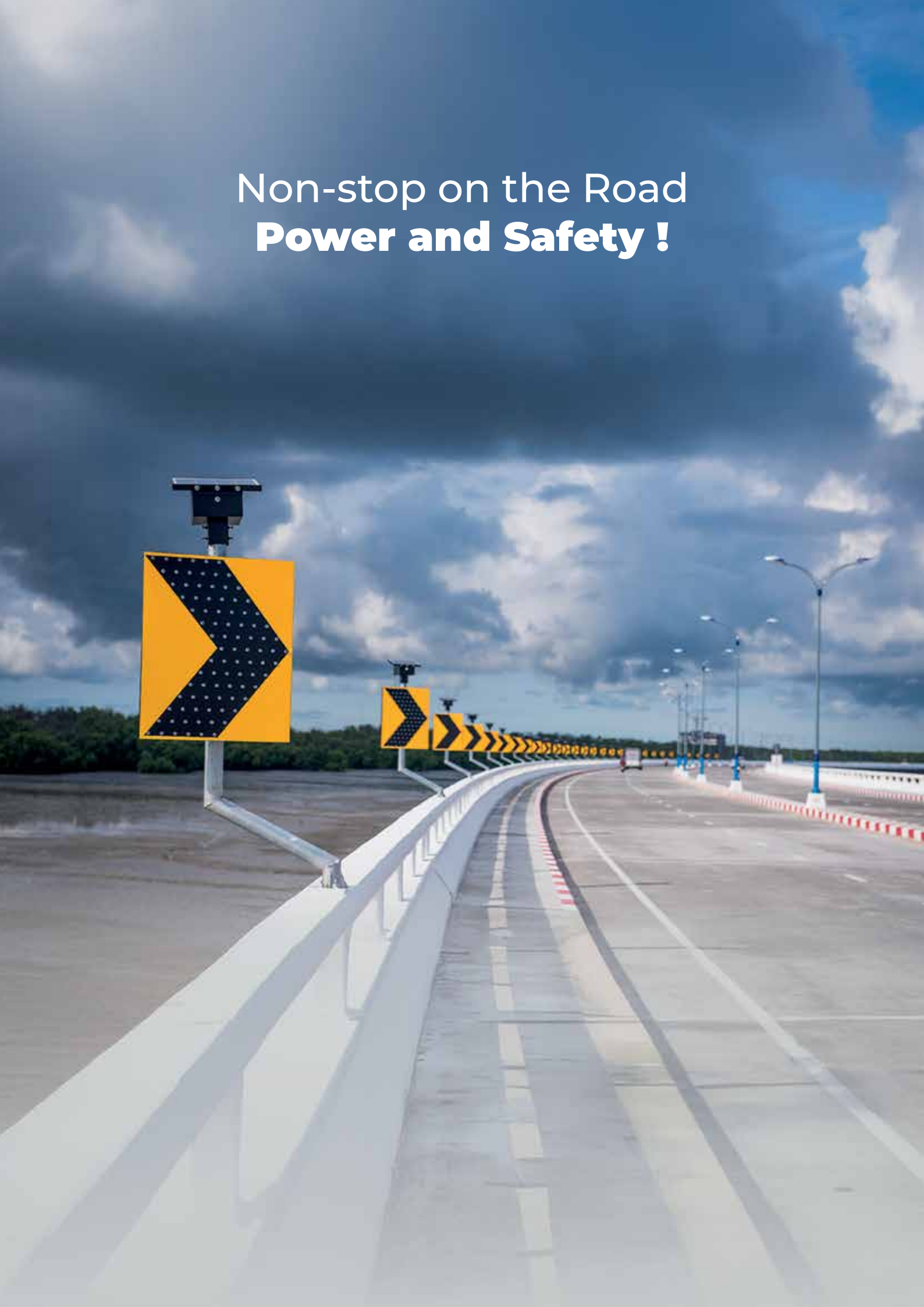
130 Wp



285 Wp

* The above data were obtained under standard test conditions (STC): 1000 W/m² solar radiation, 1.5(AM) air mass and 25°C cell temperature. Measurement uncertainty for all panels is 6%. Actual data will be subject to the agreements made.
The technical values in this document are for information purposes only and are not part of the contracts. Technical specifications in this document may vary. For detailed information, please refer to the 'Installation Mounting Guide'.
* Solar panels are mounted on a fire-resistant coating suitable for this application for installations to be applied on roofs, facades and similar areas, with sufficient ventilation space between the back layer of the modules and the mounting surface.
Incorrect installations may pose a danger in case of fire and may cause fire. Solar panels; transparent plastic, PVC, plastic and similar structures and products consisting of materials that are not resistant-protected against fire risk must not be installed on them. Use and installation not in accordance with the installation and assembly manual and the conditions in the warranty certificate exclude the products from the warranty. For details, please refer to the Installation and Assembly Manual and the Warranty Certificate.
* TommaTech® GmbH reserves the right to change product specifications without prior notice.

Off-grid energy solutions


Non-stop on the Road
Power and Safety !

TOMMATECH M10 TOPCON MONOCRYSTALLINE SEALED SERIES

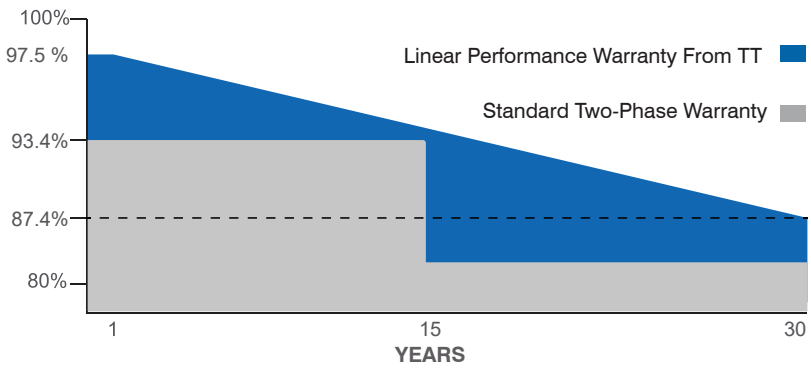
530 - 550 WP

M12 PERC Monocrystalline Sealed Solar Panel

The sealed version of the TommaTech M10 TOPCon Series is specially developed for projects requiring both high efficiency and structural waterproofing.
Equipped with advanced TOPCon cell technology (Tunnel Oxide Passivated Contact), these modules offer excellent energy output, even in low or diffused sunlight.
A custom-designed interlocking frame system ensures the panels connect seamlessly and watertight, making them ideal for use as roofing elements – without the need for additional sealing materials.
Perfect for carports, terraces, warehouses, or open outdoor structures where durability and performance matter.

Product Features

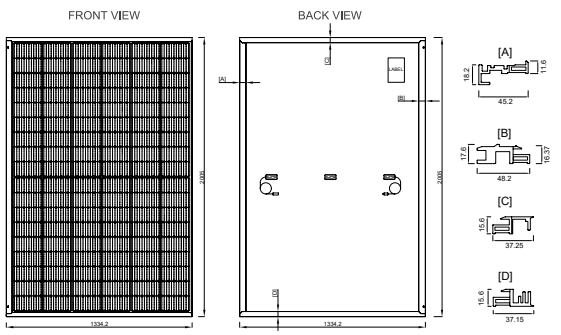
- **High Conversion Efficiency**
- **Self-Cleaning and Anti-Reflective Glass**
- **High Efficiency in Low Irradiance**
- **Excellent Durability**
- **Easy Installation**
- **0~+5W Positive Power Tolerance** (0~+5W)
- **15-Year Product Warranty** (15)
- **30-Year Performance Warranty** (30)



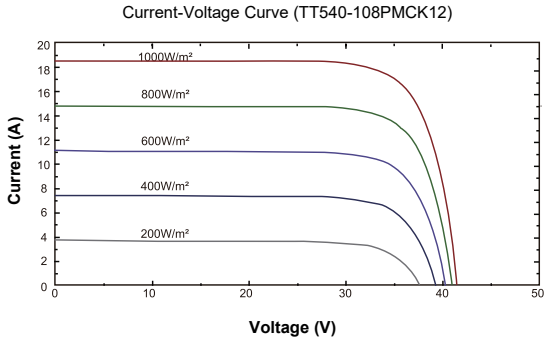
30-Year Performance Warranty 15-Year Product Warranty

MODEL	TT530 108PMCK12	TT535 108PMCK12	TT540 108PMCK12	TT545 108PMCK12	TT550 108PMCK12
Peak Power (Pmax)	530 Wp	535 Wp	540 Wp	545 Wp	550 Wp
Module Efficiency	20.70	20.90	21.09	21.29	21.48
Maximum Power Voltage (Vmp)	30.70	30.90	31.10	31.30	31.50
Maximum Power Current (Imp)	17.27	17.31	17.36	17.42	17.46
Open Circuit Voltage (Voc)	37.00	37.20	37.50	37.70	37.90
Short Circuit Current (Isc)	18.28	18.33	18.38	18.45	18.49
Power Tolerance	0~+5W				
Maximum System Voltage	1500V DC				
Operating Temperature	-40 ~ +85°C				
Protection Class	Class II				
Maximum Series Fuse Rating	25A				
MECHANICAL SPECIFICATIONS					
Cell Dimensions(mm)	210x105				
Cells per Module(pcs)	108 (6x18)				
Weight(kg)	30.6				
Panel Dimensions(mm)	2005x1334.1x25.6				
Max. Wind/Snow Load(Pa)	2400/5400				
Junction Box	IP68				
Junction Box Cable Length(mm)	300-1600				
Purlins Spacing(mm)	1291				
TEMPERATURE COEFFICIENT					
Temperature Coefficient (Isc)	0.05%/°C				
Temperature Coefficient (Voc)	-0.27%/°C				
Temperature Coefficient (Pmax)	-0.35%/°C				

PHYSICAL CHARACTERISTICS



ELECTRICAL CHARACTERISTICS



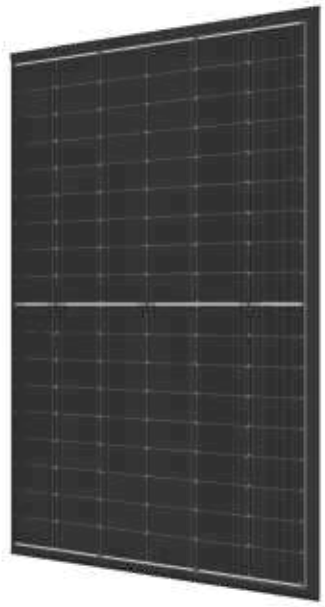
* The specifications are obtained under the standard test conditions: 1000W/m2 solar irradiance, 1.5 Air Mass and cell temperature of 25°C. Measurement uncertainty for all panels is 6%. The actual transactions will be subject to the contracts. These parameters are for reference only and it is not a part of the contracts. The technical specifications in this document may vary. For more information, refer to the "Installation Manual".

* For roof, facades and installations on similar surfaces, solar panels should be mounted over a fire-resistant covering suitable for this application, with adequate ventilation between the back of the solar panels and the mounting surface. Improper installations are hazardous and may spark a fire. Solar panels must not be mounted on structures and roofs which are made of not fire-resistant materials such as plastic layer, transparent plastic, PVC or similar materials without any fire-protection layer. Usage and installation not in accordance with the guidelines as outlined in the installation manual will terminate the warranty. Please refer to the installation manual and the warranty documents for further details.

* TommaTech® GmbH reserves the right to change the specification of products without prior notice.

TOMMATECH M12 PERC MONOCRYSTALLINE FULL BLACK SEALED SOLAR PANEL

530 - 550 WP



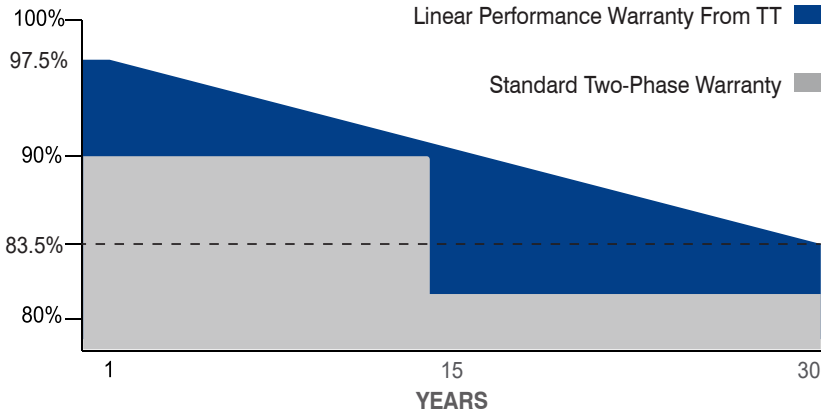
M12 PERC Monocrystalline Full Black Sealed Solar Panel

TommaTech PERC Monocrystalline Roof Tile Solar Panels are designed for use in both on-grid and off-grid solar energy systems. The next-generation solar modules, with updated cell shapes and sizes, ensure the highest energy production per unit area.

With PERC technology, the electron capture capability of the cells is optimized, which increases the efficiency of the cells and consequently the entire module. At the same time, the sealed structure ensures that the insulation is not compromised.

Product Features

- **High Conversion Efficiency**
- **Self-Cleaning and Anti-Reflective Glass**
- **High Efficiency in Low Irradiance**
- **Excellent Durability**
- **Easy Installation**
- **0~+5W Positive Power Tolerance** (0~+5W)
- **15-Year Product Warranty** (15)
- **30-Year Performance Warranty** (30)

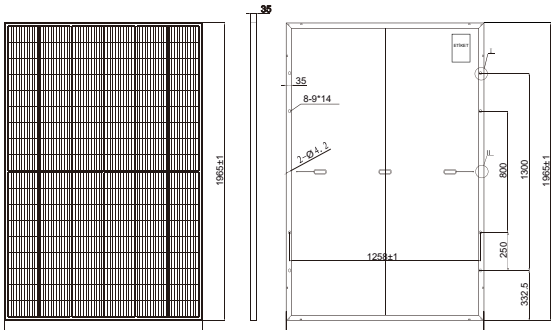


30-Year Performance Warranty

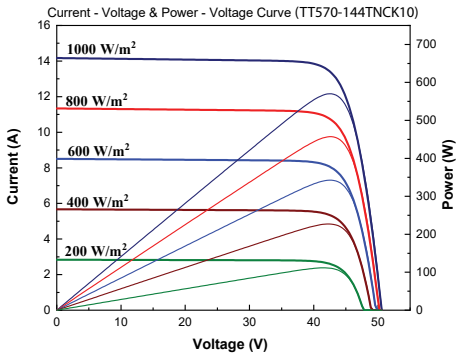
15-Year Product Warranty

MODEL	TT530 108PMFBCK12	TT535 108PMFBCK12	TT540 108PMFBCK12	TT545 108PMFBCK12	TT550 108PMFBCK12
Peak Power (Pmax)	530 Wp	535 Wp	540 Wp	545 Wp	550 Wp
Module Efficiency	20.70	20.90	21.09	21.29	21.48
Maximum Power Voltage (Vmp)	30.70	30.90	31.10	31.30	31.50
Maximum Power Current (Imp)	17.27	17.31	17.36	17.42	17.46
Open Circuit Voltage (Voc)	37.00	37.20	37.50	37.70	37.90
Short Circuit Current (Isc)	18.28	18.33	18.38	18.45	18.49
Power Tolerance	0~+5W				
Maximum System Voltage	1500V DC				
Operating Temperature	-40 ~ +85°C				
Protection Class	Class II				
Maximum Series Fuse Rating	25A				
MECHANICAL SPECIFICATIONS					
Cell Dimensions(mm)	210x105				
Cells per Module(pcs)	108 (6x18)				
Weight(kg)	30.6				
Panel Dimensions(mm)	2005x1334.1x25.6				
Max. Wind/Snow Load(Pa)	2400/5400				
Junction Box	IP68				
Junction Box Cable Length(mm)	300-1600				
Purlins Spacing(mm)	1291				
TEMPERATURE COEFFICIENT					
Temperature Coefficient (Isc)	0.05%/°C				
Temperature Coefficient (Voc)	-0.27%/°C				
Temperature Coefficient (Pmax)	-0.35%/°C				

PHYSICAL FEATURES



ELECTRICAL FEATURES



* The data presented above was obtained under Standard Test Conditions (STC): 1000 W/m² solar irradiance, 1.5 air mass (AM), and a cell temperature of 25°C. The measurement uncertainty for all panels is 6%. Actual data will be subject to contractual agreements. The technical specifications in this document are for informational purposes only and do not constitute part of any contract. The technical features in this document may vary. For detailed information, please refer to the "Installation Manual."

* Solar panels should be mounted on fire-resistant surfaces suitable for applications such as rooftops, facades, and similar areas, ensuring sufficient ventilation space between the backsheet of the modules and the mounting surface. Improper installations may pose fire hazards and could lead to fires. Solar panels must not be installed on structures or products made of materials such as transparent plastic, PVC, or other plastic components that are not resistant or protected against fire risks. Installations and use that are not in accordance with the Installation Manual and Warranty Terms will void the product warranty. Please refer to the Installation Manual and Warranty Documents for details.

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TOMMATECH M10 TOPCON SEALED SOLAR PANEL

585 - 605 WP

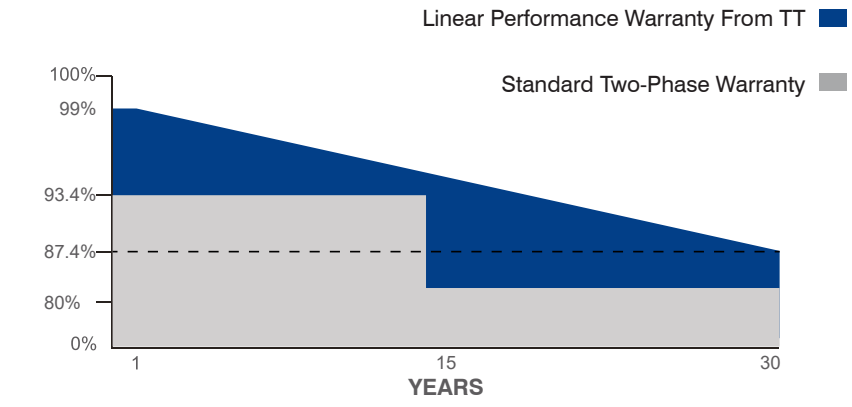
M10 TopCON Sealed Solar Panel

TommaTech TopCON Roof Tile Solar Panels are designed for use in both on-grid and off-grid solar energy systems. These next-generation solar modules, with their updated cell shapes and sizes, maximize energy production per unit area. Thanks to TopCON technology, the electron capture capability of the cells is optimized, increasing the efficiency of both the cells and the overall module.

Referred to as a “Roof Tile” model, this design features an interlocking panel frame system that allows the modules to be securely connected to each other. This not only enables the creation of practical structures such as garages or storage units through mounting on support frameworks, but also maintains excellent insulation with its sealed, leak-proof structure.

Product Features

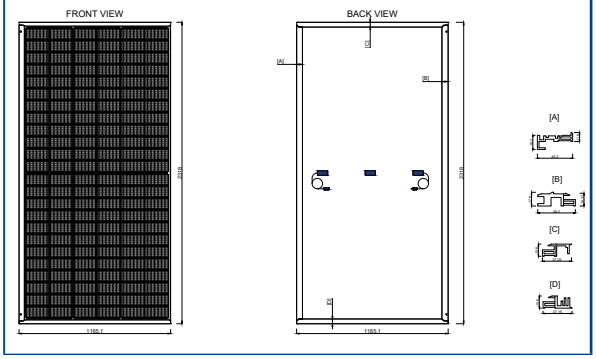
- **High Conversion Efficiency**
- **Self-Cleaning and Anti-Reflective Glass**
- **High Efficiency in Low Irradiance**
- **Excellent Durability**
- **Easy Installation**
- **0~+5W Positive Power Tolerance**
- **15-Year Product Warranty**
- **30-Year Performance Warranty**



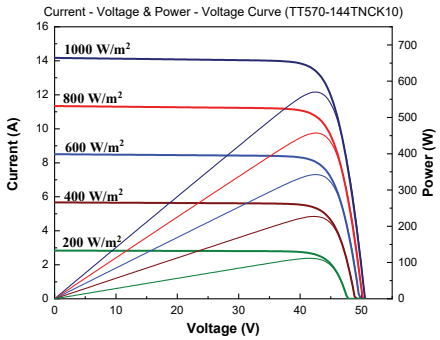
30-Year Performance Warranty **15-Year Product Warranty**

MODEL	TT570 144TNCK10	TT575 144TNCK10	TT580 144TNCK10	TT585 144TNCK10	TT590 144TNCK10	TT595 144TNCK10
Peak Power (Pmax)	570 Wp	575 Wp	580 Wp	585 Wp	590 Wp	595 Wp
Module Efficiency	22.07	22.26	22.45	22.65	22.84	23.03
Maximum Power Voltage (Vmp)	42.55	42.75	42.95	43.15	43.35	43.55
Maximum Power Current (Imp)	13.40	13.46	13.51	13.51	13.62	13.67
Open Circuit Voltage (Voc)	50.58	50.78	50.98	51.18	51.38	51.58
Short Circuit Current (Isc)	14.17	14.23	14.31	14.38	14.45	14.53
Power Tolerance	0~+5W					
Maximum System Voltage	1500V DC					
Operating Temperature	-40 ~ +85°C					
Protection Class	Class II					
Maximum Series Fuse Rating	25A					
MECHANICAL SPECIFICATIONS						
Cell Dimensions(mm)	182 x 91					
Cells per Module(pcs)	144 (6x24)					
Weight(kg)	35.6					
Panel Dimensions(mm)	2318x1165.1					
Max. Wind/Snow Load(Pa)	2400/5400					
Junction Box	IP68					
Junction Box Cable Length(mm)	350-1600					
Purlins Spacing(mm)	1122					
TEMPERATURE COEFFICIENT						
Temperature Coefficient (Isc)	0.050%/°C					
Temperature Coefficient (Voc)	-0.270%/°C					
Temperature Coefficient (Pmax)	-0.350%/°C					

PHYSICAL FEATURES



ELECTRICAL FEATURES



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* Solar panels should be mounted on fire-resistant surfaces suitable for applications such as rooftops, facades, and similar areas, ensuring sufficient ventilation space between the backsheet of the modules and the mounting surface. Improper installations may pose fire hazards and could lead to fires. Solar panels must not be installed on structures or products made of materials such as transparent plastic, PVC, or other plastic components that are not resistant or protected against fire risks. Installations and use that are not in accordance with the Installation Manual and Warranty Terms will void the product warranty. Please refer to the Installation Manual and Warranty Documents for details.

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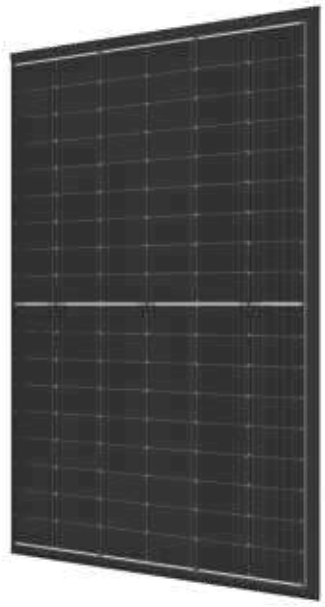
TOMMATECH M10 TOPCON FULL BLACK SEALED SOLAR PANEL

570 - 595 WP

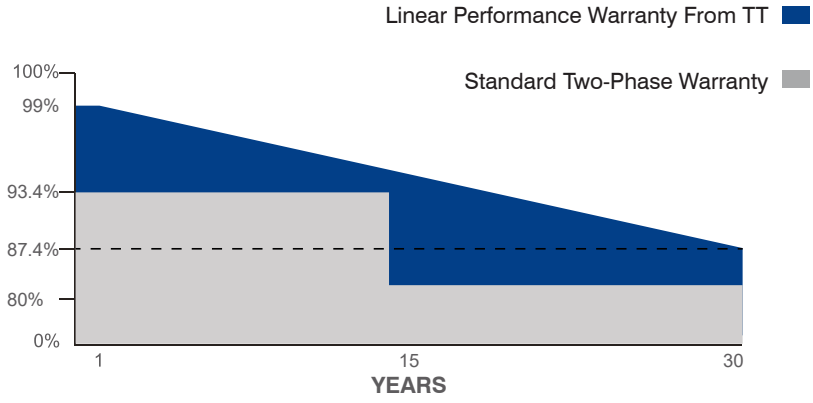


M10 TopCON Full Black Sealed Solar Panel

TommaTech TopCON Roof Tile Solar Panels are designed for use in both on-grid and off-grid solar energy systems. These next-generation solar modules, featuring updated cell shapes and dimensions, provide maximum energy yield per unit area.
With advanced TopCON technology, the electron capture efficiency of the cells is optimized, which significantly enhances the overall performance and energy output of the modules.
Referred to as the “Roof Tile” model, this panel features a specially engineered frame design that enables interlocking between modules. This allows for seamless installation on structural frameworks, making it possible to build functional spaces such as garages or storage units. At the same time, its sealed, waterproof design ensures excellent insulation without compromising durability.

Product Features

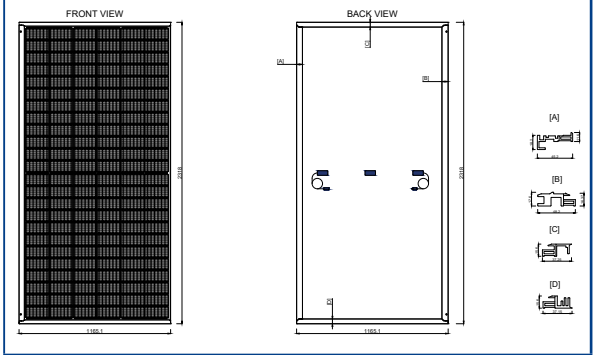
- **High Conversion Efficiency**
- **Self-Cleaning and Anti-Reflective Glass**
- **High Efficiency in Low Irradiance**
- **Excellent Durability**
- **Easy Installation**
- **0~+5W Positive Power Tolerance**
- **15-Year Product Warranty**
- **30-Year Performance Warranty**



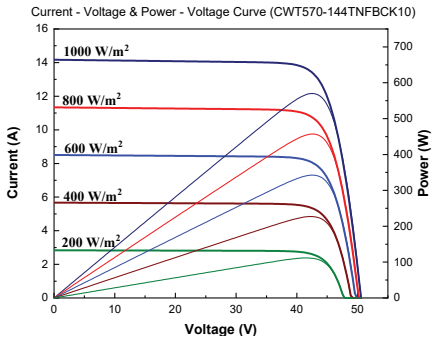
30-Year Performance Warranty **15-Year Product Warranty**

MODEL	TT570 144TNFBCK10	TT575 144TNFBCK10	TT580 144TNFBCK10	TT585 144TNFBCK10	TT590 144TNFBCK10	TT595 144TNFBCK10
Peak Power (Pmax)	570 Wp	575 Wp	580 Wp	585 Wp	590 Wp	595 Wp
Module Efficiency	22.07	22.26	22.45	22.65	22.84	23.03
Maximum Power Voltage (Vmp)	42.55	42.75	42.95	43.15	43.35	43.55
Maximum Power Current (Imp)	13.40	13.46	13.51	13.51	13.62	13.67
Open Circuit Voltage (Voc)	50.58	50.78	50.98	51.18	51.38	51.58
Short Circuit Current (Isc)	14.17	14.23	14.31	14.38	14.45	14.53
Power Tolerance	0~+5W					
Maximum System Voltage	1500V DC					
Operating Temperature	-40 ~ +85°C					
Protection Class	Class II					
Maximum Series Fuse Rating	25A					
MECHANICAL SPECIFICATIONS						
Cell Dimensions(mm)	182 x 91					
Cells per Module(pcs)	144 (6x24)					
Weight(kg)	35.6					
Panel Dimensions(mm)	2318x1165.1					
Max. Wind/Snow Load(Pa)	2400/5400					
Junction Box	IP68					
Junction Box Cable Length(mm)	300-1600					
Purlins Spacing(mm)	1122					
TEMPERATURE COEFFICIENT						
Temperature Coefficient (Isc)	0.040%/°C					
Temperature Coefficient (Voc)	-0.260%/°C					
Temperature Coefficient (Pmax)	-0.30%/°C					

PHYSICAL FEATURES



ELECTRICAL FEATURES



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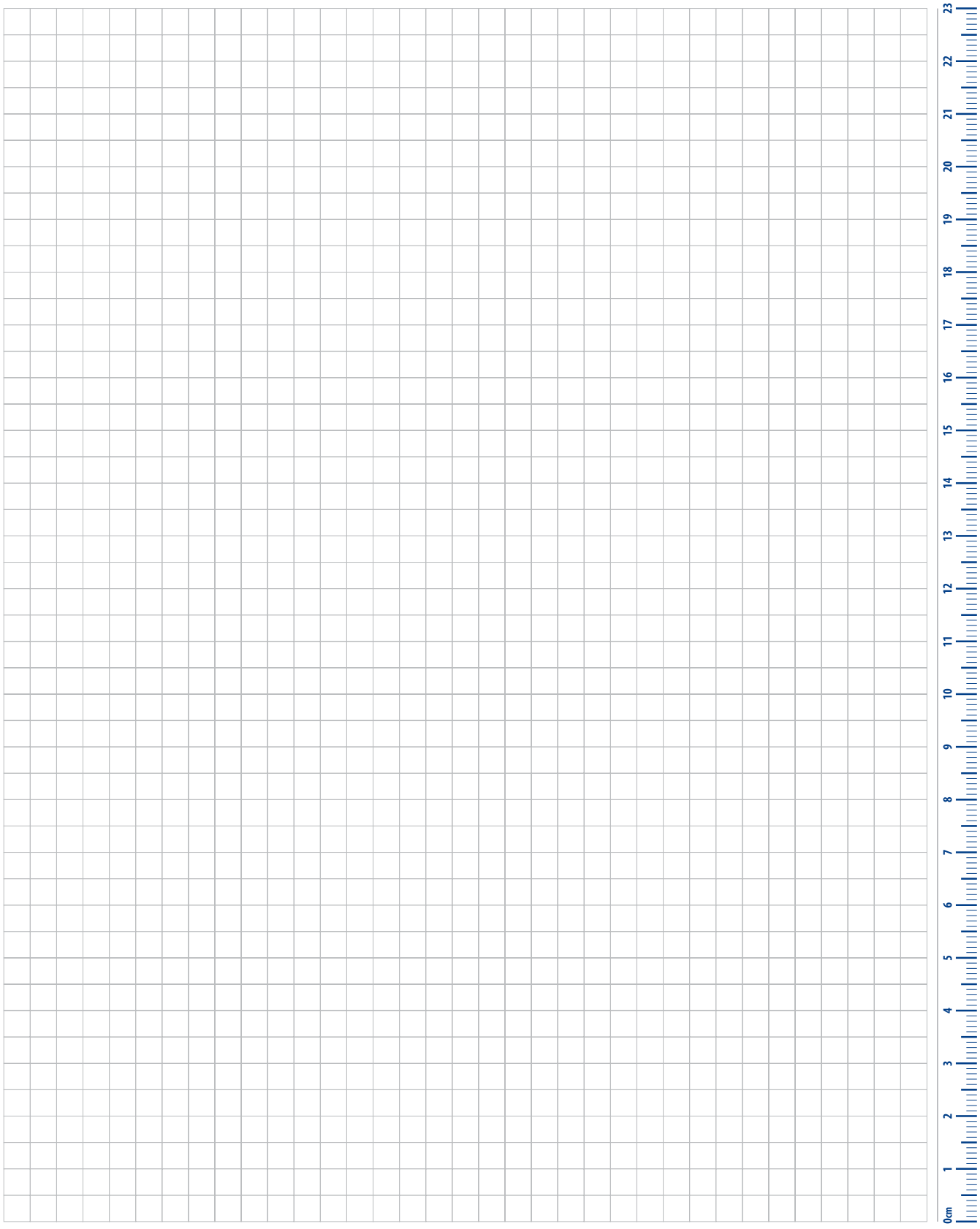
TOMMATECH GmbH

GERMAN-based company

Date :.....



mail@tommatech.de

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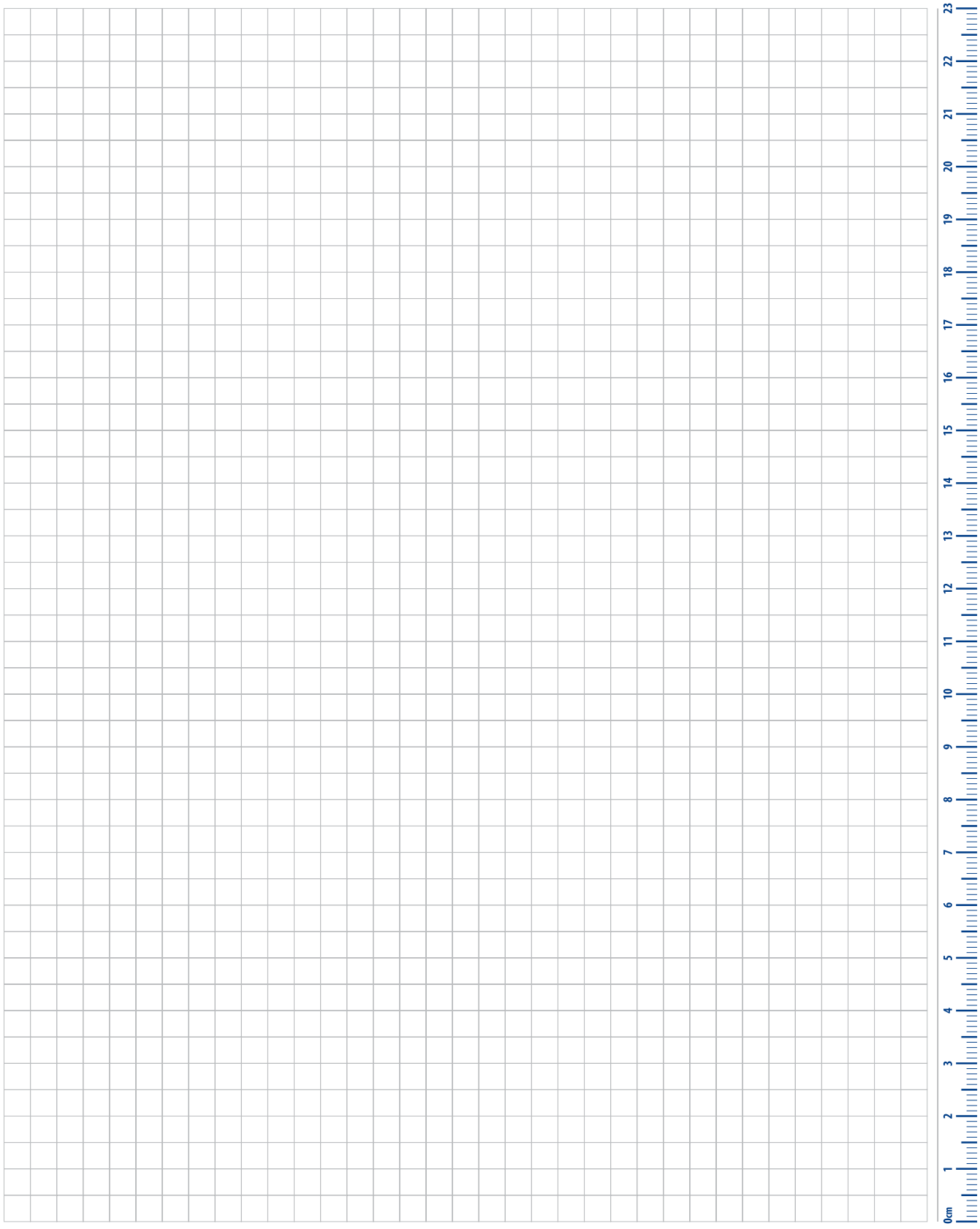
TOMMATECH GmbH

GERMAN-based company

Date :.....



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