

Air Solar

SOLUTIONS

Guide for
solar solutions



FRENCH
BRAND

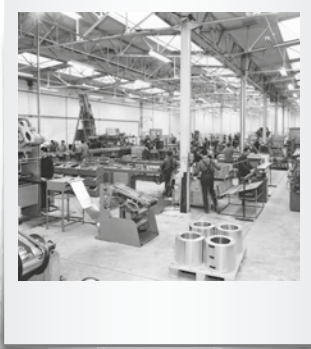
Entering
**the solar
revolution**

Airwell

Airwell

YOUR FRENCH REFERENCE

for over 75 years



Airwell, a French thermal equipment manufacturer committed to the energy transition

A French referenced brand for professionals

As an expert and creator of climate and thermal solutions, Airwell's mission is to create and cultivate well-being. Airwell is committed to:



Reinventing
uses

→ To limit our environmental footprint.



Optimising
consumption

→ To consume less and better.



Promoting
solar energy

→ To preserve natural resources.

Historical French manufacturer

- 1947 ● **Creation of the Airwell Group**, the French pioneer in heat pumps.
- 1970 ● Airwell becomes **the leading European** heat pump manufacturer. Leader in Europe and Africa.
- 2008 ● Industrial disengagement and restructuring of the Airwell Group.
- 2014 ● Launch of the **Airwell 2.0** strategic project (the transformation from a heat pump manufacturer to a solution provider).
- 2020 ● Launch of our offer for private customers: **Hybrid house**.
- 2021 ● **Airwell becomes Airwell Group** following the acquisition of Airwell Residential by Airwell Distribution.
- 2022 ● Integration of the **CSR approach** into the strategy and award of the **"Innovative Company"** label by BPI France. Launch of our Renewable Energy offer.
- 2023 ● Airwell Group acquires Amzair Industrie and sets up its **Airwell Industrie** production site in Brittany to enrich the Group's ecosystem in the design and manufacture of **100% French and connected heat pumps**.

GRUPE AIRWELL

INNOVATION • SERENITY • COMFORT LISTENING • COMMITMENT

Airwell manifesto

A vision for the future.

This is how Airwell was born in 1947. With the crazy idea of bringing innovative solutions from the United States that did not yet exist in Europe: air conditioning.

Today, innovation is more than ever at the heart of Airwell, as we have become leaders in the creation of thermal and climatic solutions. A deeply human innovation, listening to consumers.

Just like the family spirit that defines Airwell, based on wellbeing and respect for everyone's expectations.

Optimising our energy consumption, favouring solar energy to preserve our natural resources, reinventing consumer uses to limit our environmental footprint, cultivating the comfort of each interior...

At Airwell, we are committed to this for the well-being of everyone and the environment.

"What was our ambition became our mission."

Yes, energy solutions must be intuitive in their management and use.

Yes, they must reduce the ecological and economic impact of housing.

Yes, the world of tomorrow must be built around a single principle: the serenity of each individual.

"And we are convinced of this."

Our most beautiful energy story is you.

Want to invest and become a contributor in the energy transition?

A propitious context:



I become a shareholder

All the steps are detailed on our website:

groupe-airwell.com/en/become-a-shareholder/



110
employees



200+
business partners



70+
service partners



80
Airwell operates
in 80 countries



AFTER-SALES AND QUALITY SERVICE

Our hotline based in France is ready to support you and answer all your questions.

+33 (0)1 76 21 82 95

Monday to Friday 9 am-1230 pm / 2 pm-5 pm

TECHNICAL SUPPORT

sav@airwell.com

CERTIFICATIONS

→ *Evaluates innovations to guarantee product quality for the construction industry.*

→ *Directed by:*

ALPES SUD - EST
CONTRÔLES PREVENTION



STANDARD QUALITY
 IEC61215 & IEC61730

SOMMAIRE

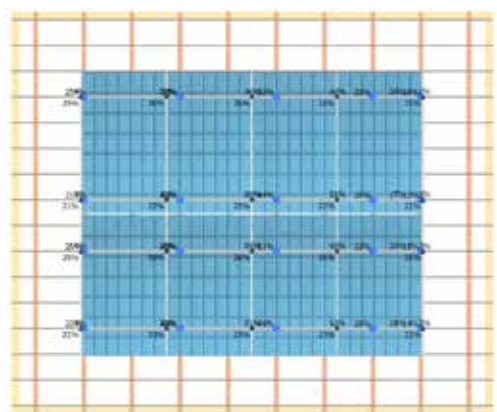
p.5	Tools
p.6	Some basic photovoltaic solar energy concepts
p.9	Typical schema for an AirSolar 3 kWp single-phase installation
p.12	Example of connecting an AirSolar 3 kWp single-phase installation
p.14	Solar panels
p.16	Electrical boxes
p.22	Micro-inverters and accessories NEW MODEL AVAILABLE
p.26	Communication and maintenance gateway
p.34	NEW Energy management systems
p.36	NEW Hybrid Inverter
p.38	NEW Lithium Batteries
p.40	NEW AirSolar "Plug and Play" cabinet
p.42	Pitched roof kits NOUVELLE GAMME DISPONIBLE: FS-PRO
p.54	Weather maps
p.56	AirHome APP
p.58	Photovoltaic kits
p.70	List of solar products
p.71	Prime Self-Consumption
p.72	Photovoltaic system selection assistance sheet

As an Airwell partner, we offer you a wide range of services to facilitate all phases of your installation project:



CONFIGURATOR

The configurator is free and easy to use, allowing you to study your mounting system online. You'll get a complete project file, including an installation plan, sizing calculations and a list of all the materials needed to install the solar panels. In addition, wind tunnel tests, mechanical tests and the Eurocode safety concept have been integrated into the calculation software. This means that all the components required for secure mounting can be reliably calculated. No more, no less. That saves costs and installation time.



PANEL TECHNICAL DATA

Manufacturer	GROUP AIRWELL
Name	PV/MW 375W-18
Length	2251 mm
Width	1038 mm
Height	35 mm
Weight	23 kg
Rated capacity	325 W _{max}

Ref	Article	Quantity	Unit	Weight/Piece	Weight
840523	VS+ Rail silver 41x35x2250mm	8	1	2.800 kg	22.040 kg
840533	VS+ Connector rail 41x35mm	4	1	0.151 kg	0.604 kg
842090-01	FS1 (block)	20	1	0.097 kg	1.940 kg
842073	FR1 roof hook (without screws)	20	1	0.654 kg	13.280 kg
890036	VS+ cap 41x35 (grey)	8	1	0.064 kg	0.512 kg
890028	Pi-Clip earthing	8	1	0.024 kg	0.192 kg
890038	100 Lenticu wood screws Ex80 51730	3	22	0.009 kg	0.567 kg
Total weight:					39.295 kg

<https://www.renusol.com/fr/configurateur/>



A SALES AND TECHNICAL TEAM READY TO LISTEN

Don't hesitate to get in touch with your sales contact if you need help sizing your installation.



SUPERVISION PORTAL

The Airwell EMA monitoring portal, accessible free of charge on all connected devices, monitors and reports energy production at the level of each photovoltaic panel. Linked to the microinverters, it provides this information to owners and end-users in a convenient, user-friendly format. The site also enables installers and contractors to reduce their maintenance costs by creating and managing their customers' PV installation accounts remotely.

<https://www.apsystemsema.com/ema/logininstallerairwell.action>



AIRHOME APP

Free application developed by Airwell for consumers. It allows you to view your electricity production and consumption on a daily, monthly or annual basis. By combining it with Airwell heat pumps

and other connected objects, you'll be able to create energy efficiency scenarios and take advantage of artificial intelligence for even greater comfort and energy savings.

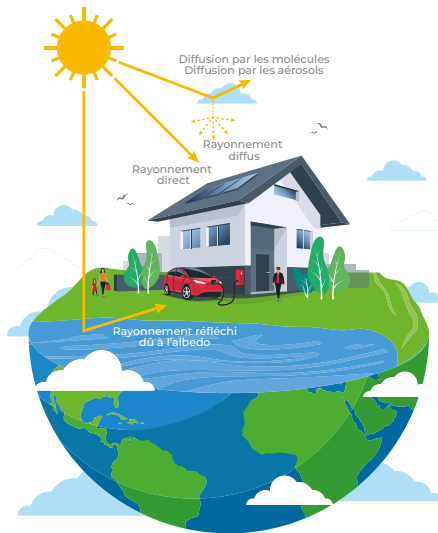


Some basic PHOTOVOLTAIC SOLAR ENERGY CONCEPTS

Photovoltaic solar energy consists in recovering some of the energy present in the sun's rays (photons), and then converting it into direct current. In contact with a semi-conductive material such as silicon*, a photon will mobilise electrons and thereby create electricity; this is the role of the panels, whose power is expressed in peak Watts.

- Peak Watts is the power produced by the panel with a received irradiance of 1000 W/m² facing due South.
- The inverter or micro-inverter is the device used to convert the direct current produced by the panels into alternating current meeting the standards in force.

THE MOLECULES IN THE ATMOSPHERE DIFFUSE THE SOLAR RADIATION (IRRADIANCE)

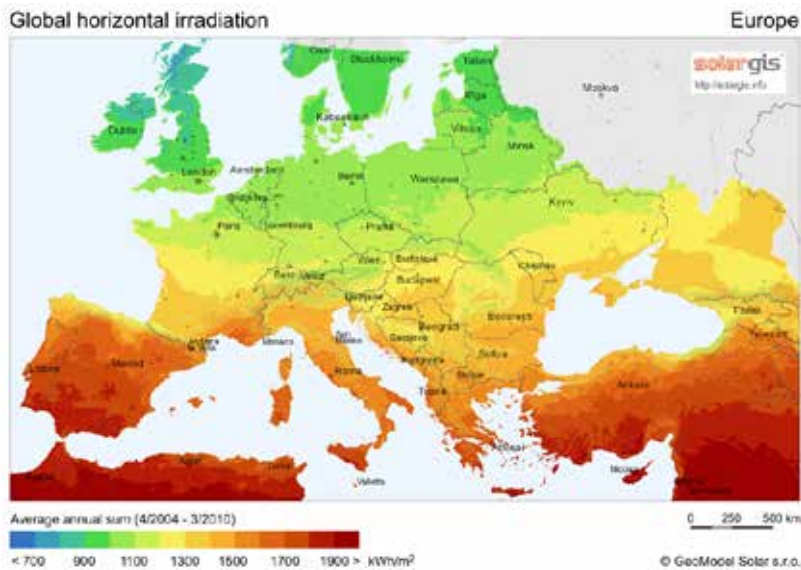


→ Extraterrestrial solar constant= 1367 W/m²

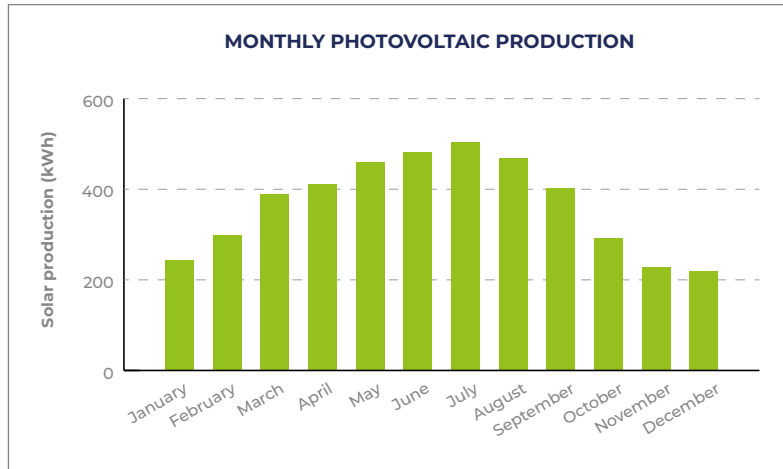
→ Terrestrial solar constant= 1000 W/m²

* Silicon is distinguished from the other metalloids primarily by its geological abundance. It is the 3rd most abundant element in the world, and the 2nd most abundant in the Earth's crust.

EXPECTED AVERAGE SOLAR RADIATION IN EUROPE



Example: Installing an AIRSOLAR 3 kWp photovoltaic system in Montpellier (FRANCE)



(Source PVGIS)

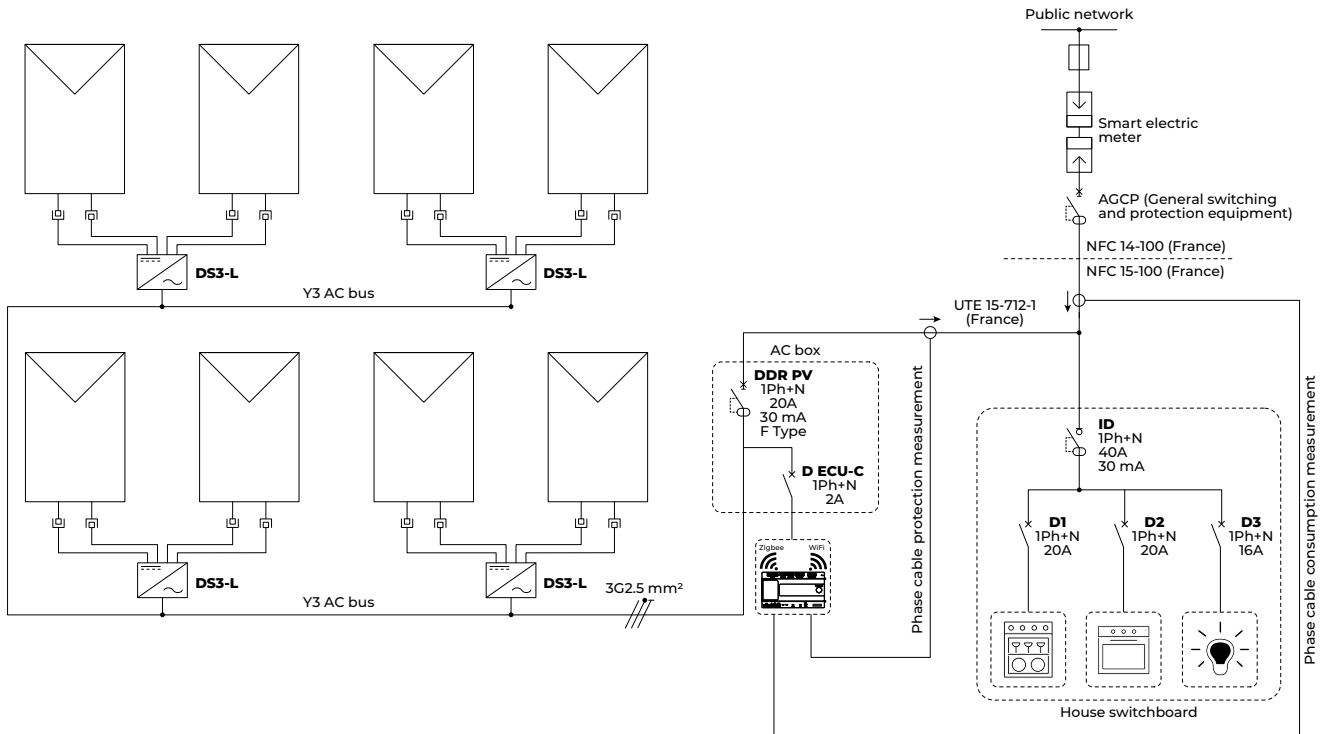
- Total annual production: 4 400 kWh
- Total annual irradiation: 1 907 kWh/m²

Example of RE kit: Close-up of photovoltaic installation



3 kWp single-phase with PVMX-375M-FB

→ Self-consumption installation, selling on the surplus



View all typical diagrams of an AirSolar installation

Click or flash

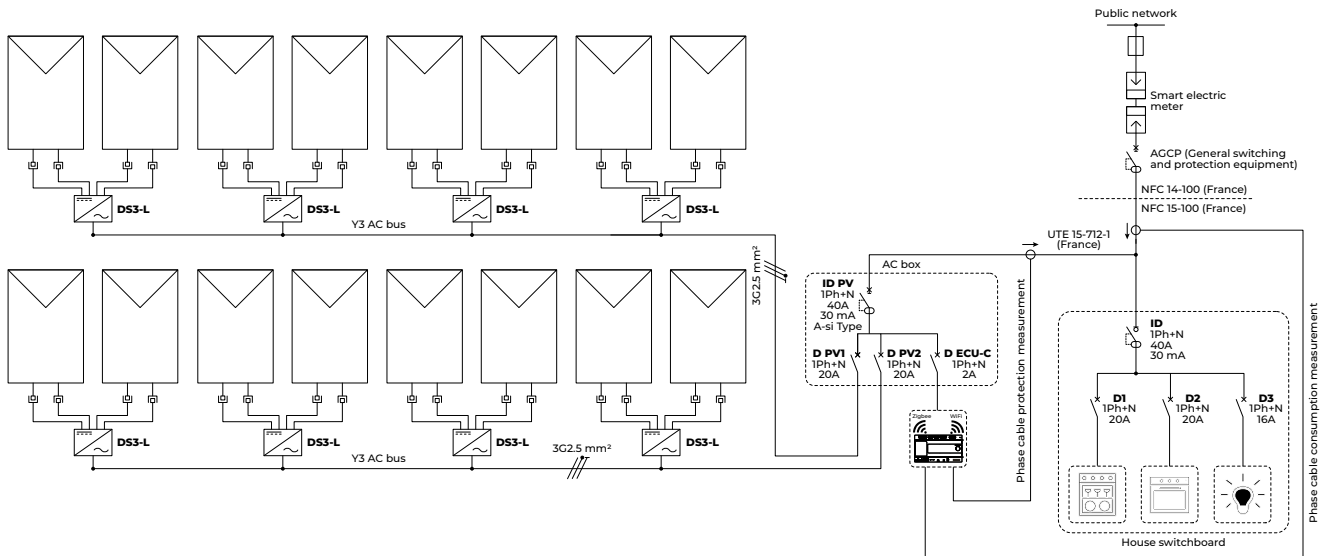


USEFUL INFORMATION

- The photovoltaic unit must be installed in accordance with the electrical standards in force in the country.
- A differential circuit breaker and/or an additional differential switch in the house's switchboard may be required, in accordance with the electrical standards in force.
- You may need to install an equipotential link between the panels frame and the micro-inverters, as well as the mounting rails.
- Please note that photovoltaic solar collectors generate low-intensity leakage currents in the frames, but these are sufficient to cause galvanic corrosion. The anodising or even the composition of the different conductors may be different. When two different metals are subjected to a current flow, one of the two metals will gradually be destroyed until the continuity of the connection is lost. To avoid this, it is essential to comply with the standards in force.
- * The AC cable cross-section must be determined in accordance with the electrical standards in force. To do so you can refer to the charts of available electrical cable cross-sections.

6 kWp single-phase with PVMX-375M-FB

→ Self-consumption installation, selling on the surplus



View all typical diagrams of an AirSolar installation

Click or flash

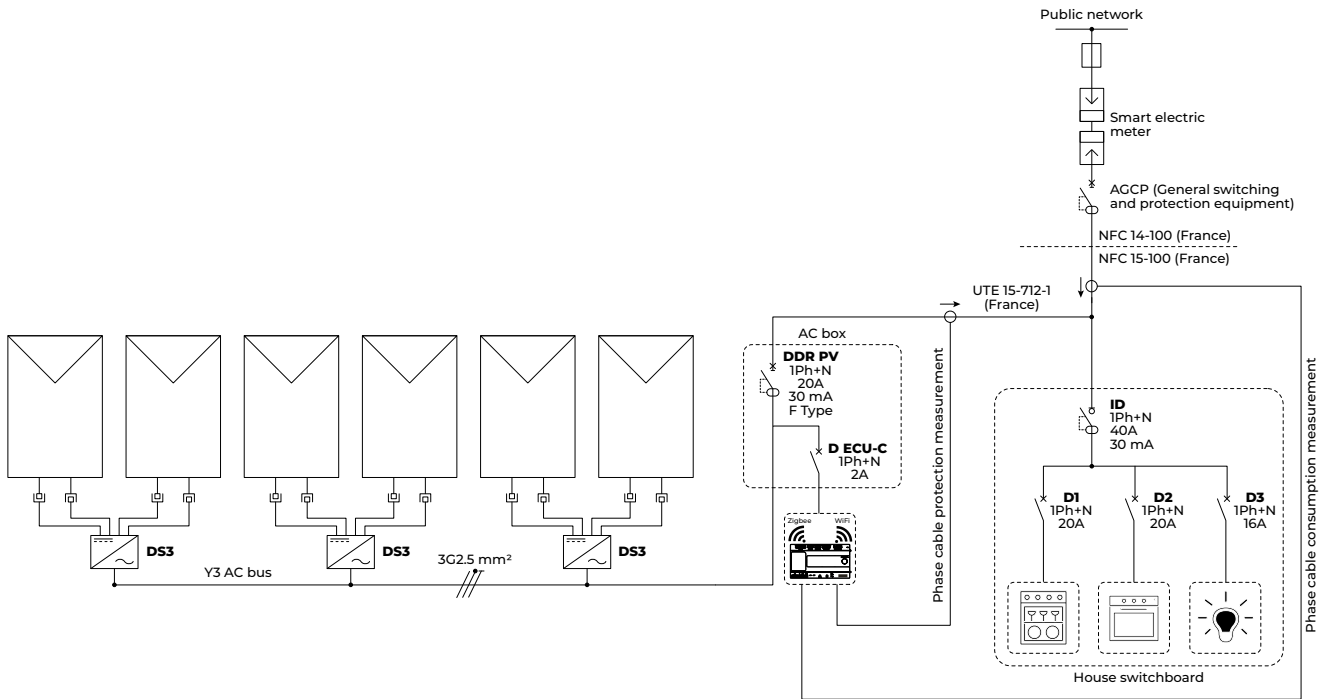


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3 kWp single-phase with PVMX-500M-FB

→ Self-consumption installation, selling on the surplus



View all typical diagrams of an AirSolar installation

Click or Flash

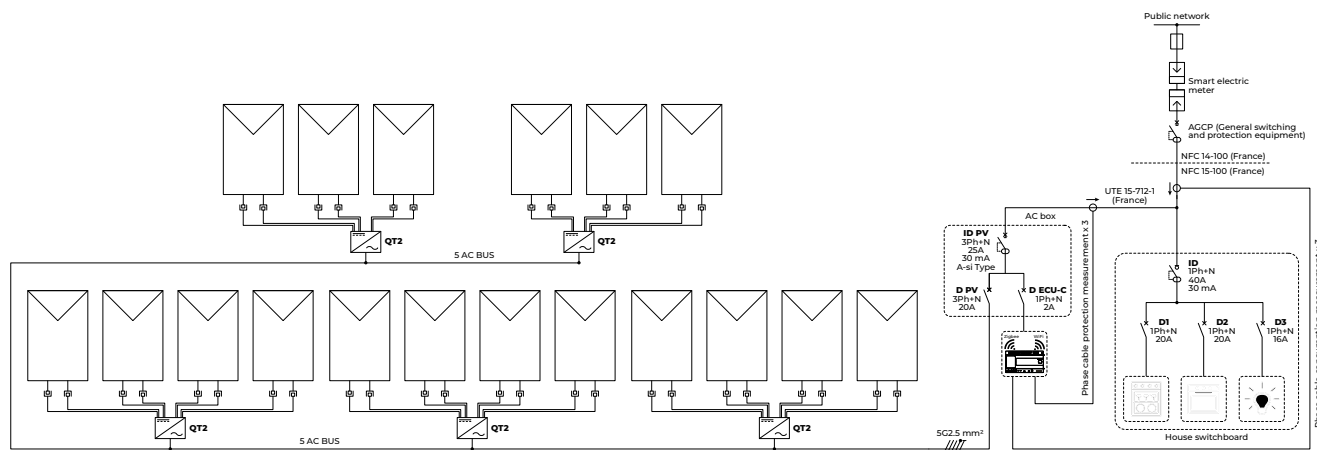


USEFUL INFORMATION

- The photovoltaic unit must be installed in accordance with the electrical standards in force in the country.
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9 kWp three-phase with PVMX-500M-FB

→ Self-consumption installation, selling on the surplus



View all typical diagrams of an AirSolar installation

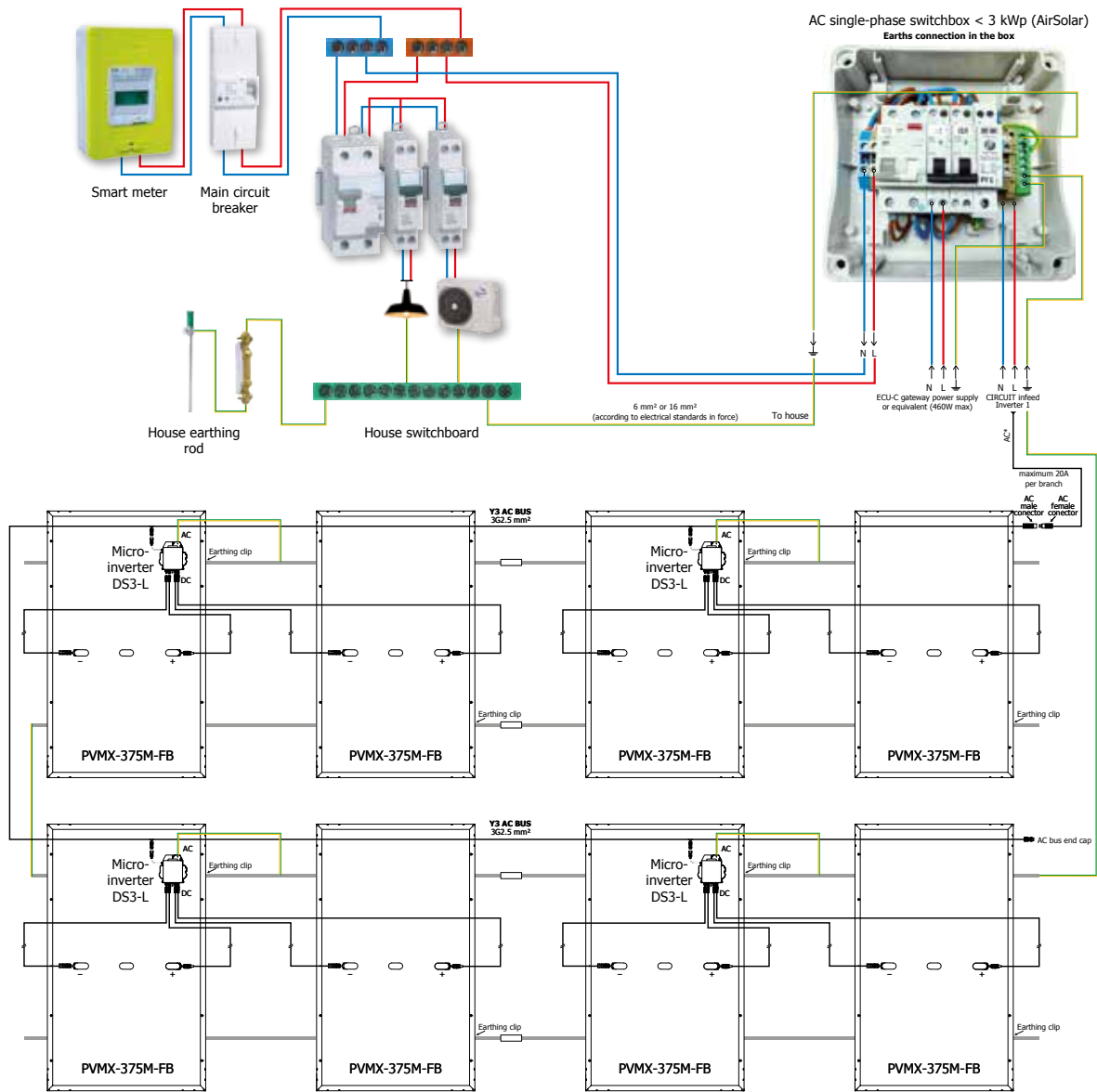
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USEFUL INFORMATION

- The photovoltaic unit must be installed in accordance with the electrical standards in force in the country.
- A differential circuit breaker and/or an additional differential switch in the house's switchboard may be required, in accordance with the electrical standards in force.
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3 kWp single-phase



USEFUL INFORMATION

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- A differential circuit breaker and/or an additional differential switch in the house's switchboard may be required, in accordance with the electrical standards in force.
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- * The AC cable cross-section must be determined in accordance with the electrical standards in force. To do so you can refer to the charts of available electrical cable cross-sections.

View all typical diagrams of an AirSolar installation

Click or flash



+ PRODUCT

- High-performance monocrystalline cells
- Ideal for self-consumption
- Anti-reflective glass
- Half cell for reduced resistive losses
- Full-black design
- Compatible with all roof installation systems

QUALITY & SECURITY



IEC61215 & IEC61730
STANDARD QUALITY



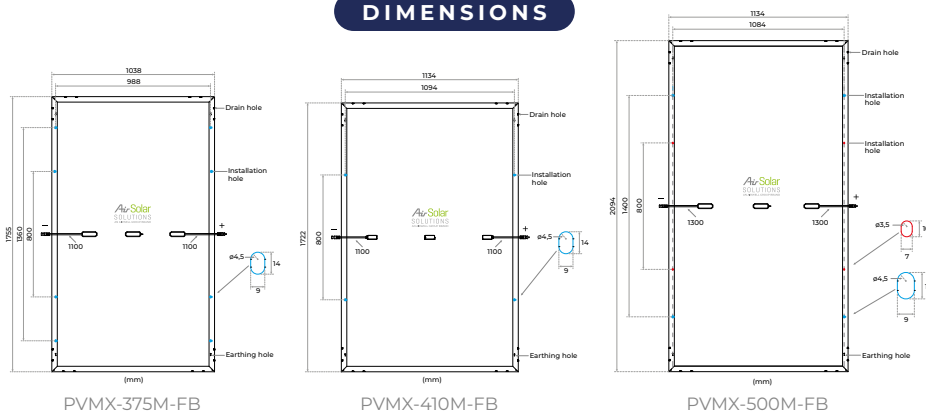
PVMX-375M-FB, PVMX-410M-FB & PVMX-500M-FB

Air Solar
SOLUTIONS
AN AIRWELL GROUP BRAND



- A reliable photovoltaic panel range, able to withstand various climate conditions.
- High-performance, with low linear power loss after 25 years.
- Blends in discreetly on the roof with an all-black finish.

DIMENSIONS

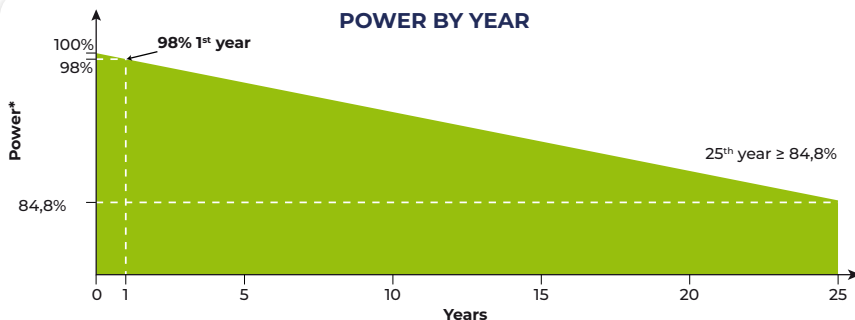


INSTALLATION MANUAL

• PVMX:
Click or flash



POWER BY YEAR



* Measurements are carried out in accordance with IEC 61215 (STC conditions).

TECHNICAL DATA

MODEL		PVMX-375M-FB	PVMX-410M-FB	PVMX-500M-FB
Part number		2EN230004	2EN230005	2EN230006

PHOTOVOLTAIC CHARACTERISTICS (STC: 1000 W/M², AM 1.5, 25°C)

Maximum power (Pmax)	Wc	375	410	500
Maximum power voltage (Vmpp)	V	34.10	31.09	37.84
Intensity at maximum power (Impp)	A	11.01	13.20	13.22
Open circuit voltage (Voc)	V	41.89	37.33	45.60
Short-circuit current (Isc)	A	11.43	14.06	14.07
Pmax output power tolerance	%	0 / +3	0 / +3	-1 / +3
PV panel efficiency	%	20.59	21.00	21.06

PHYSICAL CHARACTERISTICS

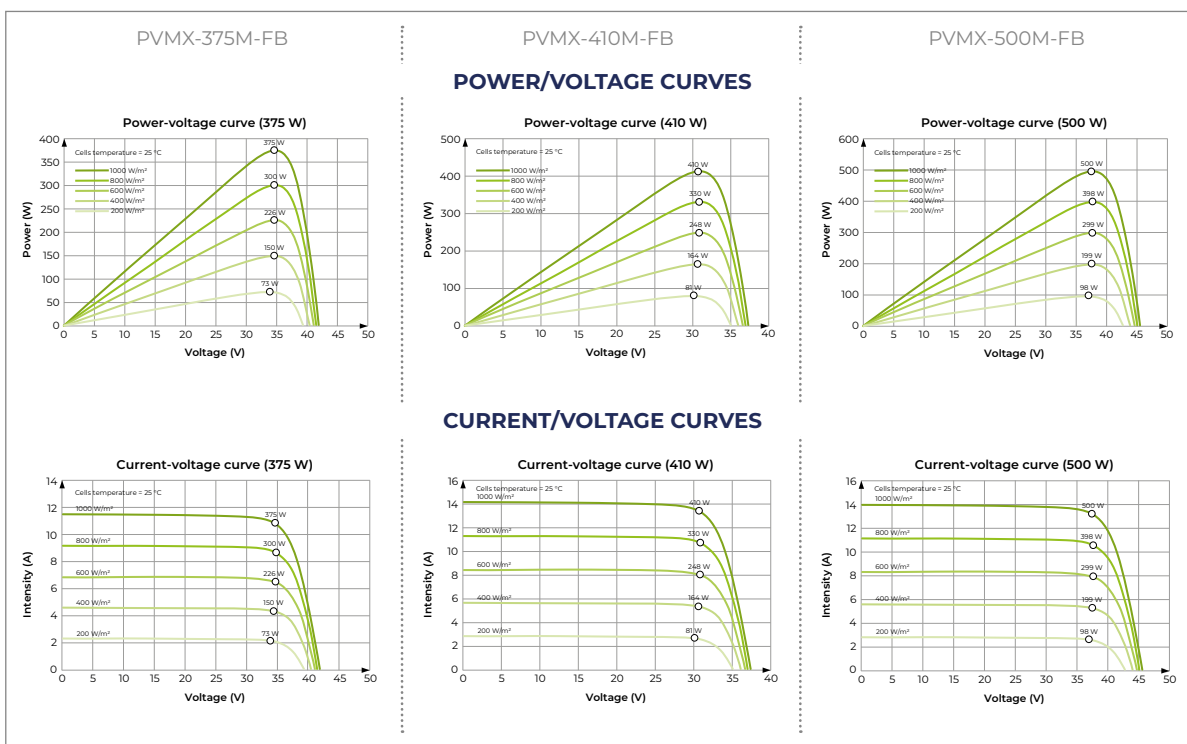
Length x Width x Thickness	mm	1755x1038x35	1722x1134x30	2094x1134x35
Weight	kg	21	21.2	26
Diameter / Cable length	mm ² / mm	4 / 1100	4 / 1100	4 / 1300
Connector type		MC4-Evo 2 (STÄUBLI)	MC4-Evo 2 (STÄUBLI)	MC4-Evo 2 (STÄUBLI)
Cell type		Monocrystallin PERC	Monocrystallin PERC	Monocrystallin PERC
Number of cells		120 (6x20)	108 (6x18)	132 (6x22)
Application class		II	II	II
Junction box (3 diodes)		IP68	IP68	IP68

OPERATIONAL CHARACTERISTICS

Operating temperature	°C	-40 / 85	-40 / 85	-40 / 85
Fire reaction class	Class	C	C	C
Maximum load (snow / wind)	Pa	5400 / 2400	5400 / 2400	5400 / 2400
Maximum system voltage	V	1500	1500	1500
Courant maximal inverse	A	20	25	25

TEMPERATURE COEFFICIENTS

Nominal panel operating temperature (NMOT)	°C	42 ± 3	42 ± 3	42 ± 3
Current temperature coefficient (Isc)	% / °C	0.0487	0.0448	0.0448
Voltage temperature coefficient (Voc)	% / °C	-0.256	-0.246	-0.246
Power temperature coefficient (Pmax)	% / °C	-0.328	-0.330	-0.330



WHILE STOCKS LAST

Part number: 2ACEL0002

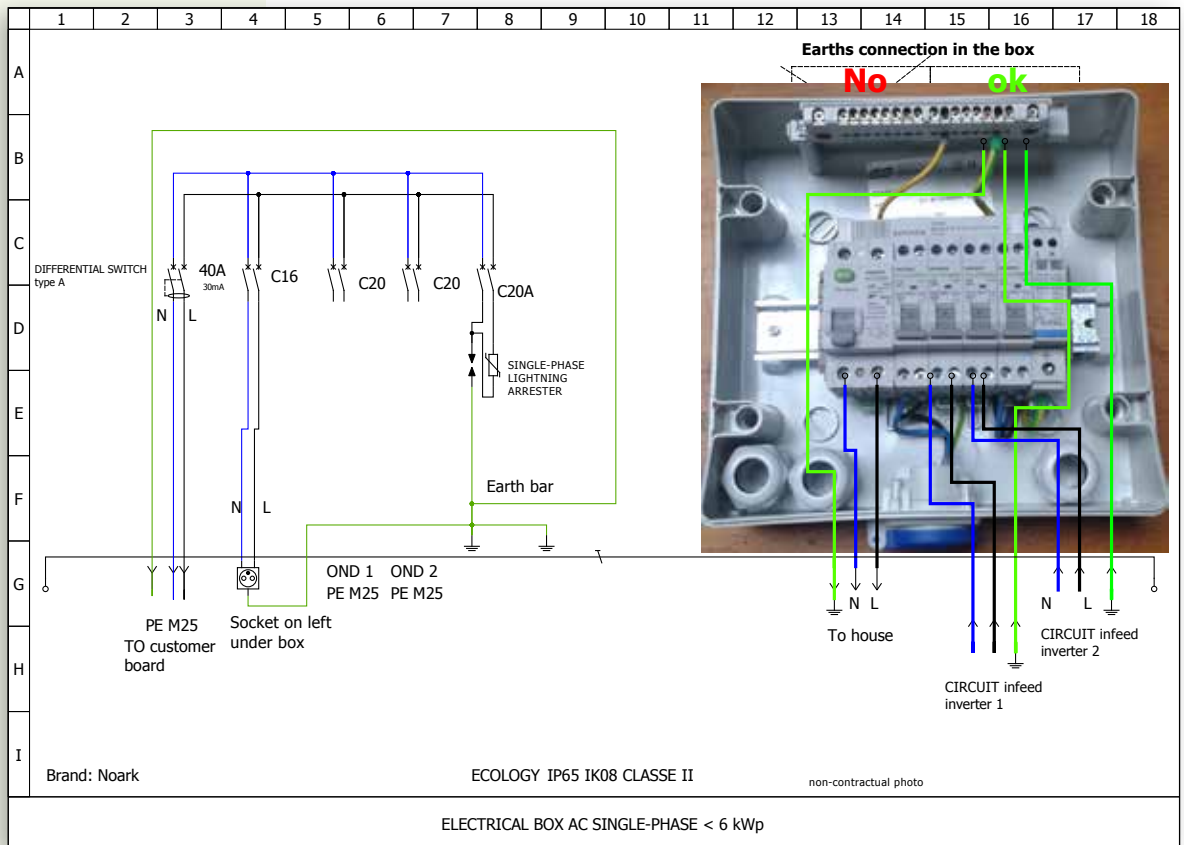
AC 6 KW SINGLE-PHASE

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TECHNICAL DATA

ELECTRICAL BOX AC SINGLE-PHASE < 6 KWP



AC 3 KW SINGLE-PHASE

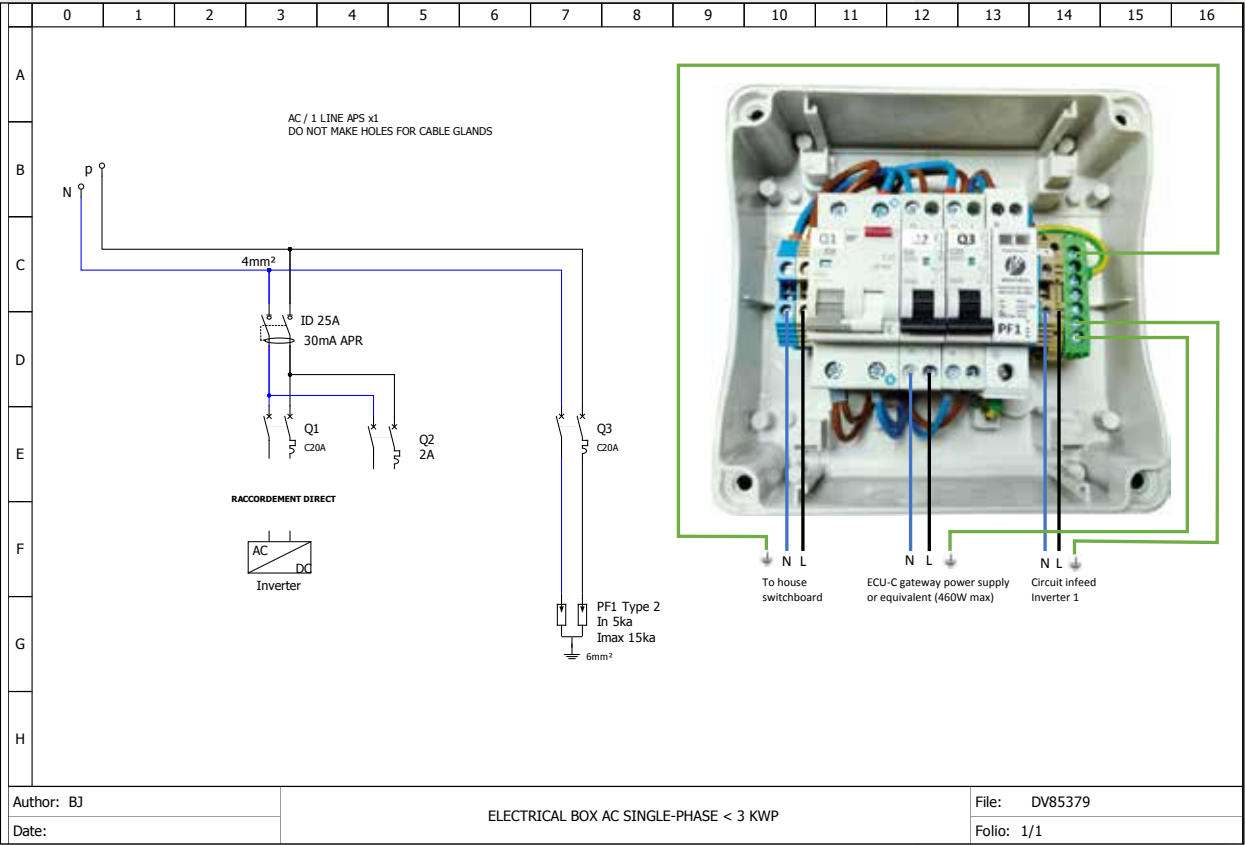
Part number: 2ACEL0009

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TECHNICAL DATA

ELECTRICAL BOX AC SINGLE-PHASE < 3 kWp



WHILE STOCKS LAST

Part number: 2ACEL0007

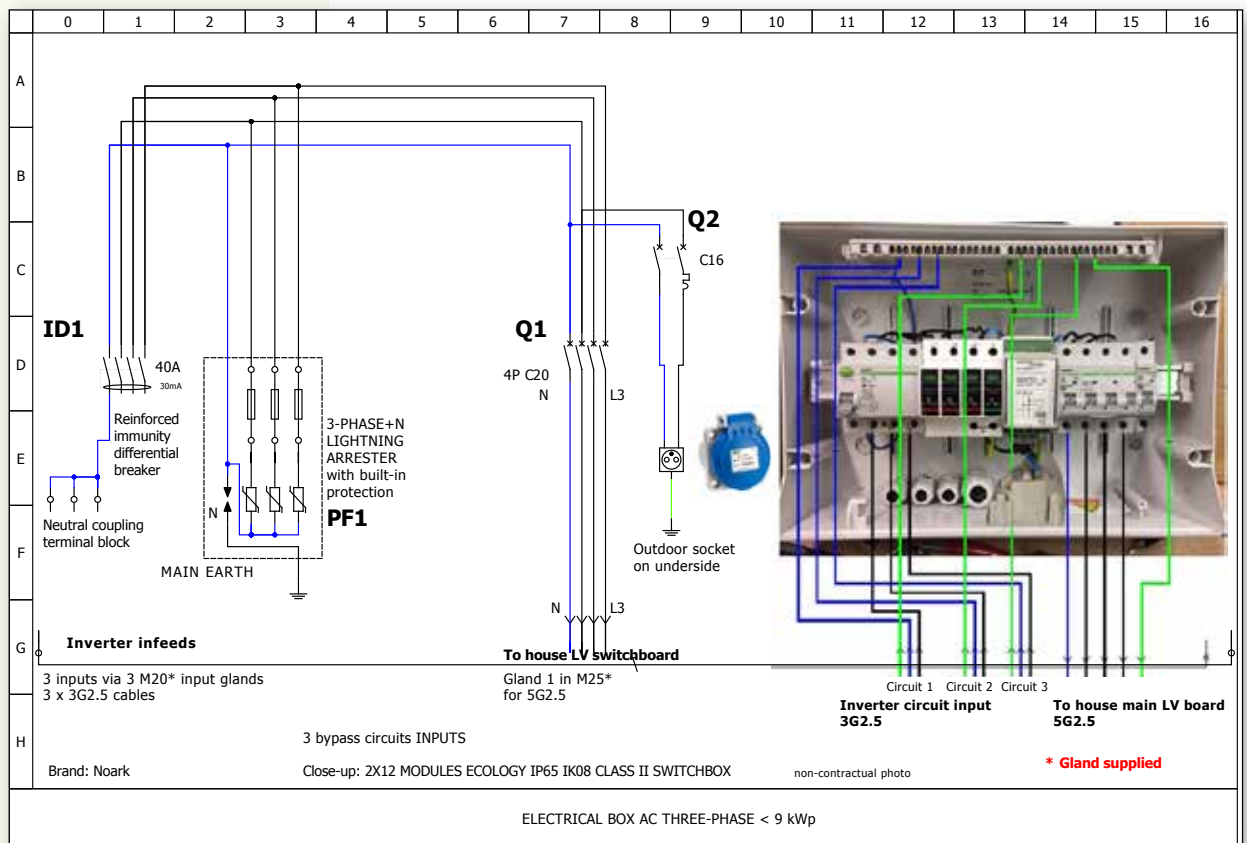
AC 9 KW THREE-PHASE

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TECHNICAL DATA

ELECTRICAL BOX AC THREE-PHASE < 9 KWP



AC 6 KW SINGLE-PHASE

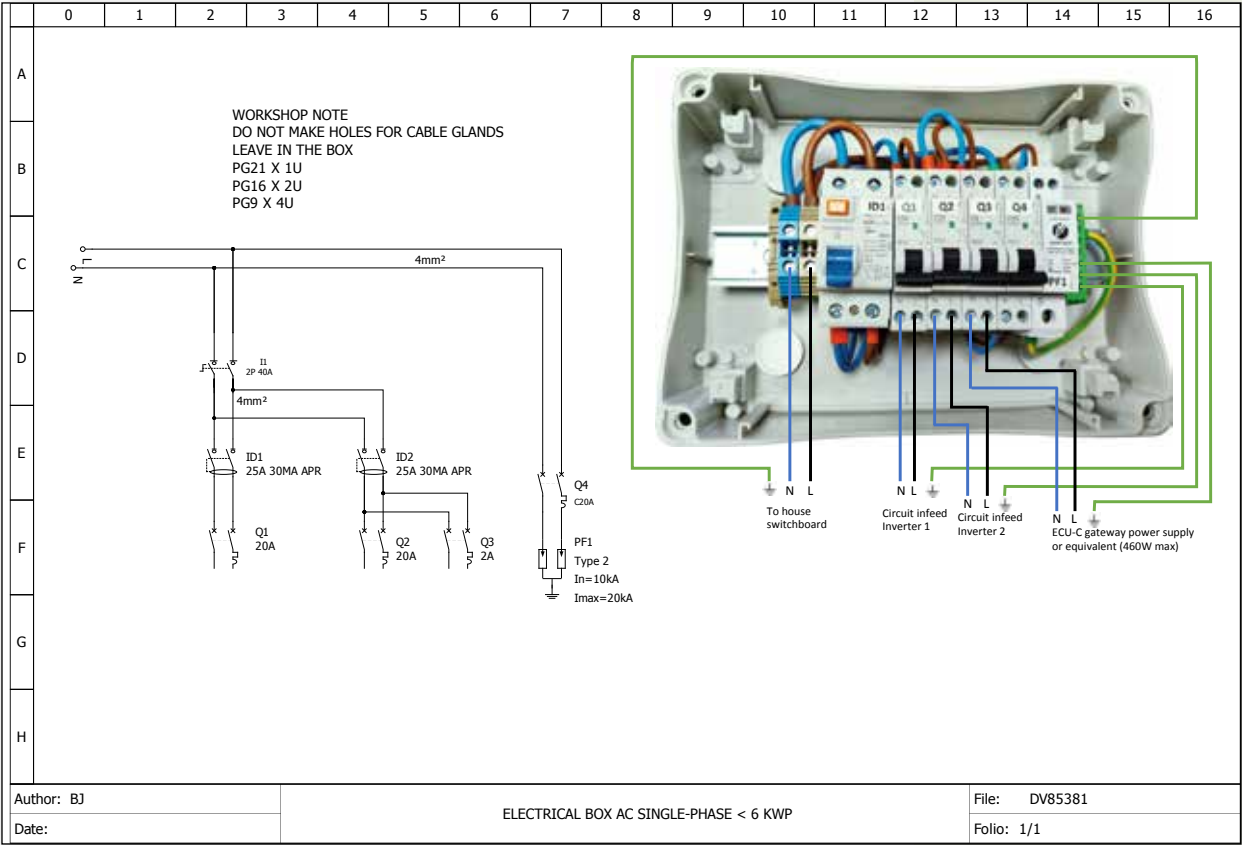
Part number: 2ACEL0010

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TECHNICAL DATA

ELECTRICAL BOX AC SINGLE-PHASE < 6 kWp



Part number: 2ACEL0011

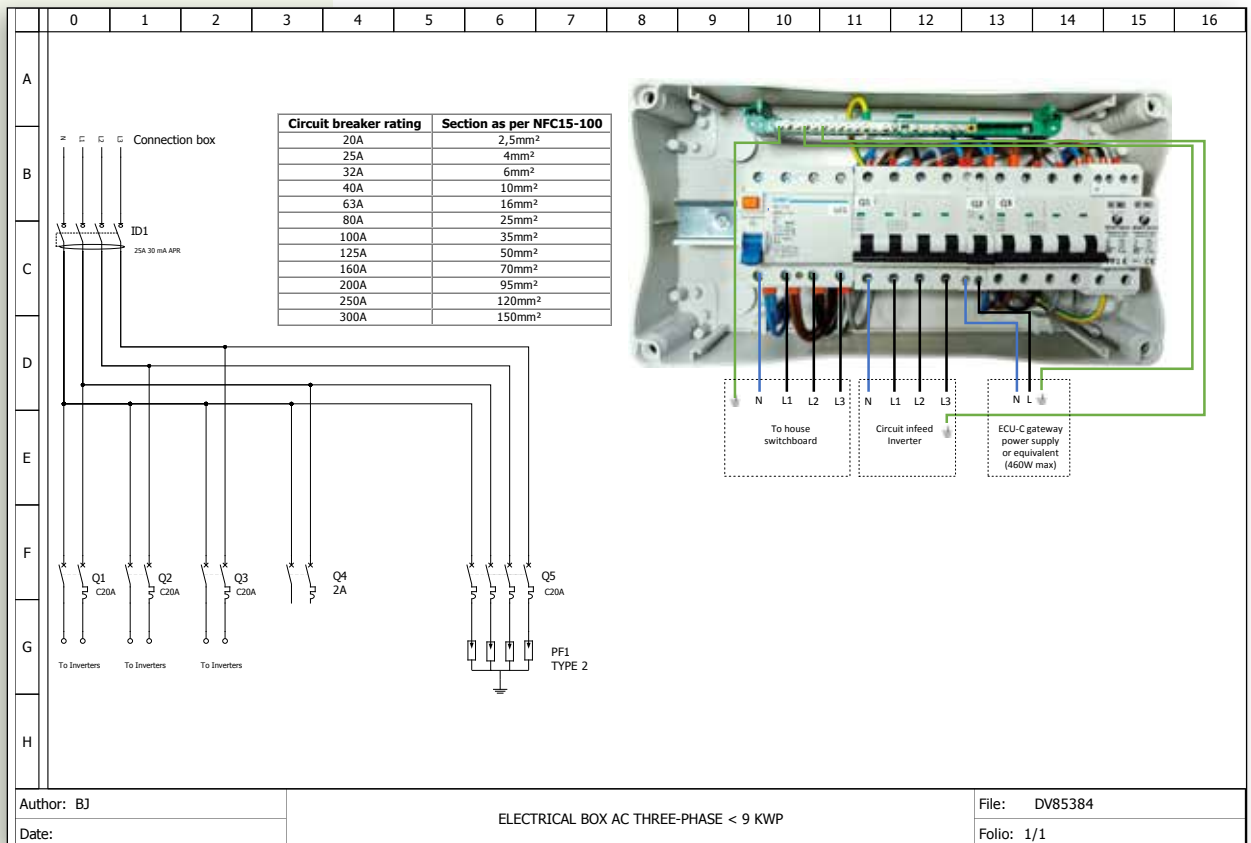
AC 9 KW THREE-PHASE

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TECHNICAL DATA

Electrical box AC three-phase < 9 kWp



Author: BJ

Date:

ELECTRICAL BOX AC THREE-PHASE < 9 KWP

File: DV85384

Folio: 1/1



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+ PRODUCT

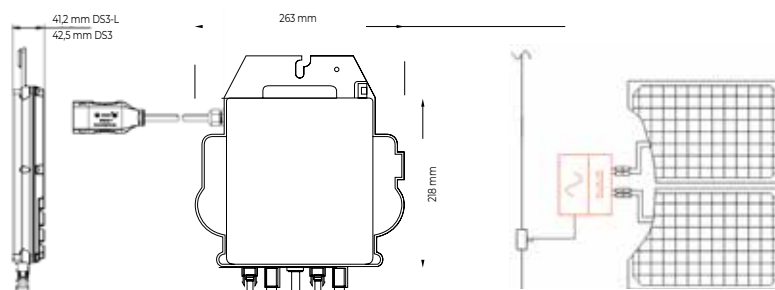
- Connection up to 2 PV panels
- Compact design
- 97% efficiency
- 2 MPPT for each panel
- Maximum output power 730 and 880 VA
- Built-in VDE relays
- Adjustable power factor



DS3-L & DS3

- Better performance with 97% efficiency and unique integration with 20% fewer components.
- DS3-L and DS3 are innovative grid-connected micro-inverters with power factor management features (RPC: Reactive Power Control).
- They use the latest communication technologies, enabling intelligent management and monitoring of the installation by adjusting the power factor and thus meet the needs of energy suppliers by facilitating the integration of solar energy into the electricity grid.
- They are compatible with the AirHome application, thanks to the ECU-R, ECU-B or ECU-C monitoring gateway.
- Combining high reliability and high efficiency, the DS3-L and the DS3 have 2 independent MPPTs for an output power of 730 VA, 880 VA.
- Real savings for residential and tertiary installations, both on equipment and installation costs.
- The DS3-L and DS3 micro-inverters use the same AC cables and accessories, which means that they can be combined to provide great flexibility on the same installation.

DS3-L & DS3 DIMENSIONS AND WIRING DIAGRAMS



WIRING ACCESSORIES

ACCESSORY	PART NUMBER	PICTURE	DESCRIPTION
Y3 standalone cable (1 m)	2334076132		• 1 metre AC bus cable (2.5 mm ²). Used for electrical connection between the micro-inverter and the switchbox.
Y3 AC bus (2 m)	2322304903		• 2 metre AC bus cable (2.5 mm ²). Used for electrical connection between the micro-inverter(s) and the switchbox.
Y3 AC bus (4 m)	2322404903		• 4 metre AC bus cable (2.5 mm ²). Used for electrical connection between the micro-inverter(s) and the switchbox.
AC male connector	2300531032		• 25A AC male connector for AC bus cable.
AC female connector	2300532032		• 25A AC female connector for AC bus cable.
AC bus end cap	2060700017		• AC bus cable end cap. Ensures waterproofing (equivalent to old part number 2060700007).
AC Bus Y-CONN Cap	2061702007		• AC connection cap. Protects the unused connections on the AC bus cable.
DC extension cable	2310360214		• DC extension cable (2 m). Used to extend the distance between the panels and the micro-inverter. Sold individually.
MC4 Male caps	2060401006		• Sealing caps for MC4 Male / Female connectors.
MC4 Female caps	2060402006		
Y unlock tool	2352000001		• Unlocking tool between the micro-inverter and the AC bus cable.

INSTALLATION MANUAL

• DS3-L & DS3:

Click or flash



TECHNICAL DATA

MICRO-INVERTER		DS3-L	DS3
Part number		2EN250001	2EN250002
INPUT DATA (DC)			
MPPT Voltage Range	V	28-45	
Operating voltage range	V	16-60	
Maximum DC input voltage	V	60	
Maximum DC input current	A	18 x 2	20 x 2
Icc PV	A	22.5	22.5
OUTPUT DATA (AC)			
Maximum output power	VA	730	880
Rated output voltage ⁽¹⁾	V	230/184-253	
Rated output current	A	3.2	3.8
Maximum frequency variation range ⁽¹⁾		50Hz/48Hz-51Hz	
Power factor (Default / Adjustable)		0.99/0.8 advance ... 0.8 delay	
Maximum number of units per 2.5 mm ² branch		6	5
EFFICIENCY			
Maximum efficiency	%	97.3	
Rated MPPT efficiency	%	99.5	
Night-time electrical consumption	mW	20	
PHYSICAL CHARACTERISTICS			
Ambient operating temperature range ⁽²⁾	°C	-40 to +65	
Internal operating temperature range	°C	-40 to +85	
Dimensions (WxHxD)	mm	263 x 218 x 41.2	263 x 218 x 42.5
Weight	kg	2.7	3.1
AC cable section	mm ²	2.5	
Connector type		Stäubli MC4	
Cooling system		Convection - No fan	
Protection index		IP67	
CHARACTERISTICS AND COMPLIANCE⁽³⁾			
Protocol and communication (between micro-inverters and ECU) ⁽³⁾		Zigbee encrypted	
Transformer type		High frequency transformer, galvanically isolated	
COMPLIANCE			
Compliance, Security and EMS		EN 62109-1/-2, EN 61000-1/-2/-3/-4, EN 50549-1, PN-EN 50549-1, DIN V VDE V 0126-1-1, VFR 2019, UTE C15-712-1, CEI 0-21, UNE 217002, NTS, RD647, VDE-AR-N 4105, G98, G99, G98/NI, G99/NI	

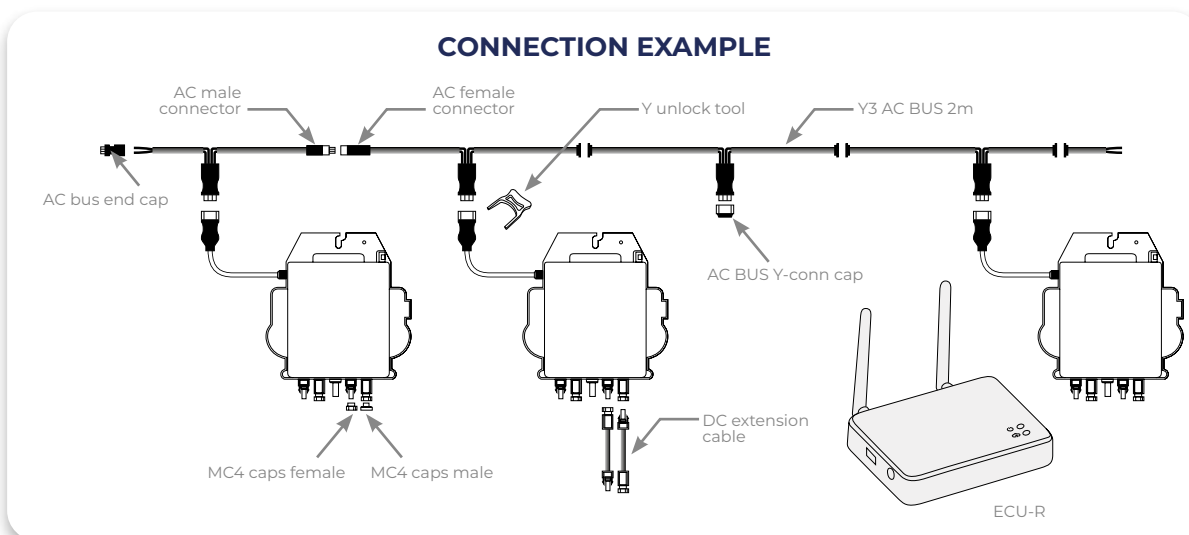
(1) The voltage frequency range can be extended further if requested by the energy supplier.

(2) The micro-inverter may enter degraded production mode if the installation does not allow proper ventilation or heat dissipation.

(3) A recommended maximum of 80 micro-inverters can be connected to an ECU gateway, to ensure stable communication.



The characteristics may be modified without notice, so make sure that you are in possession of the most recent version, available online from our document library.



NEW

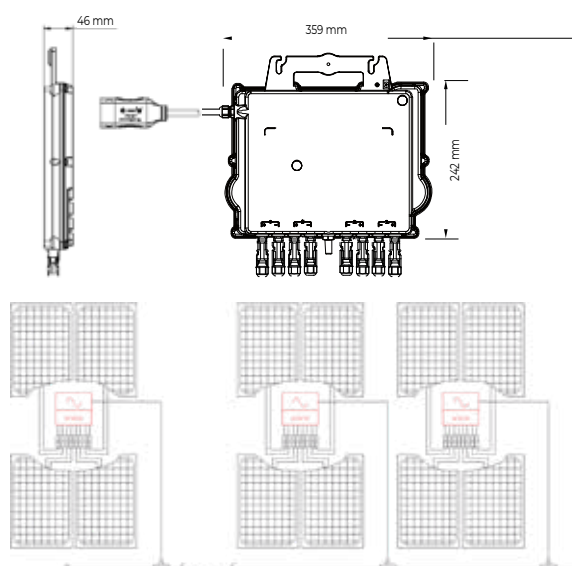
QT2

+ PRODUCT

- Designed for connection to a three-phase grid
- 4 low-voltage DC input channels, 2 MPPTs
- A micro-inverter can be connected to 4 PV panels
- Max. continuous AC output power 2000 VA
- Ideal for high-power PV panels (maximum input current 20A)
- Built-in safety protection relay
- Adjustable power factor
- Three-phase output balancing

- The 2nd-generation native 3-phase quad micro-inverters provide an unprecedented output power of 2000 VA to adapt to the current needs of high-power PV panels. With a balanced three-phase output, 4 DC inputs, and encrypted ZigBee signals, QT2 has an all-new architecture.
- The innovative design makes the product unique, while maximising energy production. The components are silicone-encased to reduce the stresses on the electronics, facilitate heat dissipation, improve the sealing properties and ensure maximum system reliability via rigorous test methods, including accelerated service life tests. 24/7 energy access via apps or a web portal facilitates diagnostics and remote maintenance.
- The new QT2 interacts with electrical grids, thanks to a new power factor management feature (RPC), for better management of the photovoltaics and grid power peaks. In addition, it provides 97 % efficiency with 20 % fewer components compared to the previous-generation product. The QT2 is a game-changer in three-phase installations for residential and industrial or tertiary photovoltaic roofs.

QT2 DIMENSIONS AND WIRING DIAGRAMS



WIRING ACCESSORIES

ACCESSORY	PART NUMBER	PICTURE	DESCRIPTION
5C AC bus (2,4m) for QT2	2322604802		• 2,4 metre three-phase AC bus cable (2.5 mm ²). Used for electrical connection between the micro-inverter and the switchbox.
5C AC bus end cap	2062050005		• Three-phase AC bus cable end cap. Ensures waterproofing.
5C AC Bus Y-CONN Cap	2061252032		• Three-phase AC connection cap. Protects the unused connections on the three-phase AC bus cable.
25 A AC male connector for 5C AC bus	2300711032		• 25A AC male connector for three-phase AC bus cable.
25 AC female connector for 5C AC bus	2300812032		• 25A AC female connector for three-phase AC bus cable.
DC extension cable	2310360214		• DC extension cable (2 m). Used to extend the distance between the panels and the micro-inverter. Sold individually.
MC4 Male caps	2060401006		• Sealing caps for MC4 Male / Female connectors.
MC4 Female caps	2060402006		
Y unlock tool	2352000001		• Unlocking tool between the micro-inverter and the AC bus cable.

INSTALLATION MANUAL

• QT2:


Click or Flash

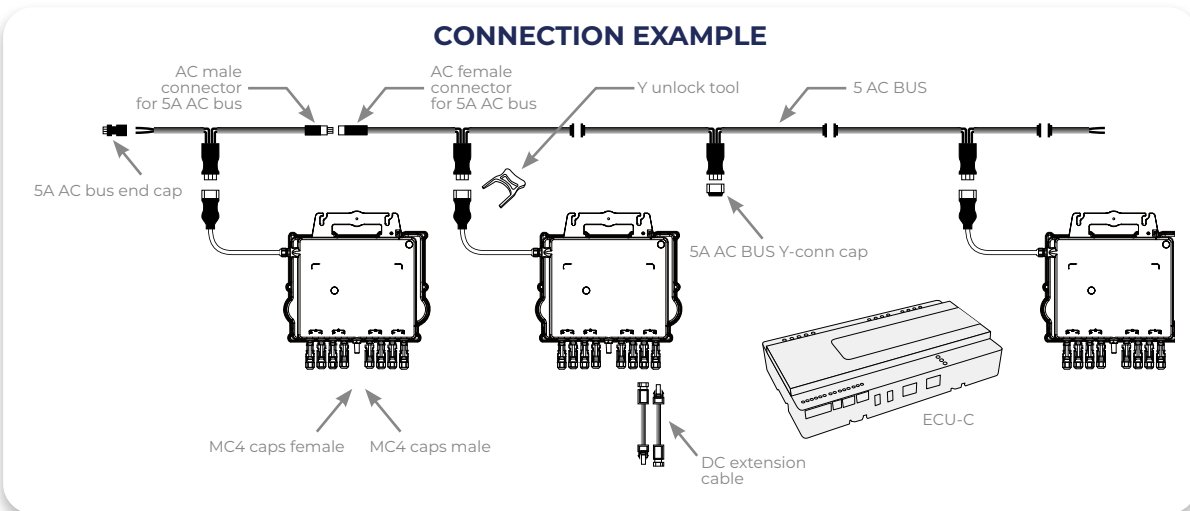


TECHNICAL DATA

		NEW	
MICRO-INVERTER		QT2	
Part number		2EN250003	
INPUT DATA (DC)			
MPPT Voltage Range	V	28-45	
Operating voltage range	V	26-60	
Maximum DC input voltage	V	60	
Maximum DC input current	A	20 x 4	
Icc PV	A	25 x 4	
OUTPUT DATA (AC)			
Maximum output power	VA	2 000	
Rated output voltage ⁽¹⁾	V	3/N/PE 400V/319V-438V	
Output voltage range	V	277V-478V	
Rated output current	A	2.9Ax3	
Maximum frequency variation range ⁽¹⁾	Hz	50Hz/48-51Hz	
Output frequency range	Hz	45Hz-55Hz	
Power factor (Ajustable)		0.99/0.8 advance... 0.8 delay	
Maximum number of units per 2.5 mm ² branch		6	
EFFICIENCY			
Maximum efficiency	%	97.3	
Rated MPPT efficiency	%	99.5	
Night-time electrical consumption	mW	40	
PHYSICAL CHARACTERISTICS			
Ambient operating temperature range ⁽²⁾	°C	-40 to +65	
Internal operating temperature range	°C	-40 to +85	
Dimensions (LxHxP)	mm	359 x 242 x 46	
Weight	kg	6	
AC cable section	mm ²	2.5	
Connector type		Stäubli MC4	
Cooling system		Convection - No fan	
Protection index		IP67	
CHARACTERISTICS			
Protocol and communication (between micro-inverters and ECU) ⁽³⁾		Zigbee encrypted	
Transformer type		High frequency transformer, galvanically isolated	
COMPLIANCE			
Compliance, Security and EMS		EN 62109-1, EN 62109-2, EN 61000-6-1, EN 61000-6-3, UNE217002, UNE206007-1, RD647, RD1699, RD413, CEI 0-21, VDE0126-1-1, VFR2019, UTE C15-712-1, ERDF-NOI-RES_13E, EN 50549-1, VDE-AR-N 4105	

(1) The voltage frequency range can be extended further if requested by the energy supplier.
 (2) The micro-inverter may enter degraded production mode if the installation does not allow proper ventilation or heat dissipation.
 (3) A recommended maximum of 80 micro-inverters can be connected to an ECU gateway, to ensure stable communication.

 **The characteristics may be modified without notice, so make sure that you are in possession of the most recent version, available online from our document library.**



+ PRODUCT

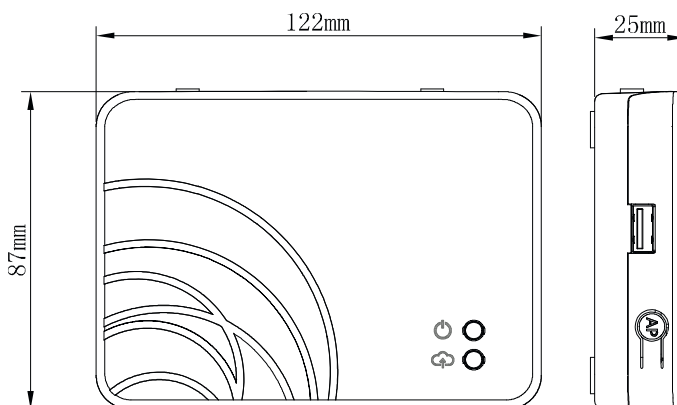
- Collects and transmits the production of each photovoltaic panel
- Real-time monitoring of each micro-inverter
- Built-in WiFi
- Optimised size, flexible installation



ECU-R

- The new ECU-R communication gateway is packed with technologies operating with our micro-inverters.
- It is able to collect and transfer each panel's production data in real time via ZigBee, a fast and robust communication protocol.
- Its detailed monitoring provides you with a comprehensive view, and enables you to check on every panel's operation to ensure optimal performance of your solar installation.

DIMENSIONS



INSTALLATION MANUAL

• ECU-R:

Click or Flash



INSTALLATION GUIDE

• EMA supervision portal:

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COMMISSIONING

In order to activate the warranty extension and take advantage of our AirHome app's features:

- 1.** Airwell must create an access code so that you can access the supervision portal. To do so **click here**, and fill out the e-mail, entering the requested information, or send your contact details (Surname, forename, e-mail address, phone, company, corp. registration number) to: info@ma-maison-hybride.com After this step, you will be sent an e-mail with your codes as soon as possible.
- 2.** Download the EMA Manager app for free on AppStore or Google play. This app acts as the ECU-B, ECU-R and ECU-C interface, enabling quick configuration and set-up of the installation, and facilitating the commissioning process.



Please use the mobile device's browser to scan the QR codes and download EMA Manager (using the AIRWELL EMA login):



IOS



ANDROÏD



Once commissioning is complete, you need only download the AirHome app and register your installation by following the instructions.



IOS



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TECHNICAL DATA

MODEL		ECU-R
Part number		209018.

COMMUNICATION TO THE MICRO-INVERTER

Communication		ZigBee 2.4 GHz
Maximum number of micro-inverters per ECU*		100

COMMUNICATION TO THE SUPERVISION PORTAL

Ethernet		10/100M Auto-detection. Auto-negotiation
Wireless		WiFi 802.11 g/n /Cellular GSM
Wireless security		WEP. WPA2-PSK
USB interface		5 VDC - Output 0.5 A x 2

POWER SUPPLY DATA

Power supply		5 V. 2 A
Consumption	W	1.7

PRODUCT CHARACTERISTICS

Frequency range		2412 MHz-2472 MHz (WiFi). 2405 MHz-2480 MHz (ZigBee)
RF output power (EIRP)		16.56 dbm (WiFi). 9.50 dbm (ZigBee)
Aerial type		Outdoor aerial. SMA connector
Modulation		DSSS. OFDM
Operating mode (Simplex/Duplex)		Duplex

MECHANICAL DATA

Dimensions (WxHxD)	mm	122x87x25
Weight	g	150
Ambient operating temperature range		-20 to +65
Cooling		Natural convection. no fans
Degree of protection		Indoor - NEMA 1 (IP20)

OTHER FEATURES

Grid type		Single-phase
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COMPLIANCE

Compliance		IEC 60950-1, EN60950-1, IEC 60529, EN 60529, ANSI/UL 60950-1, CAN/CSA C22.2 No.60950-1, UL50E, FCC part 15, EN61000-6-1, EN61000-6-3, ICES-003, AS NZS 60950-1, GB/T17799
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*The maximum number of micro-inverters per ECU may vary according to the size and layout of the PV panel, the maximum distance between the ECU and the grid micro-inverters, or any obstacles (thick concrete wall, metal roof).



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+ PRODUCT

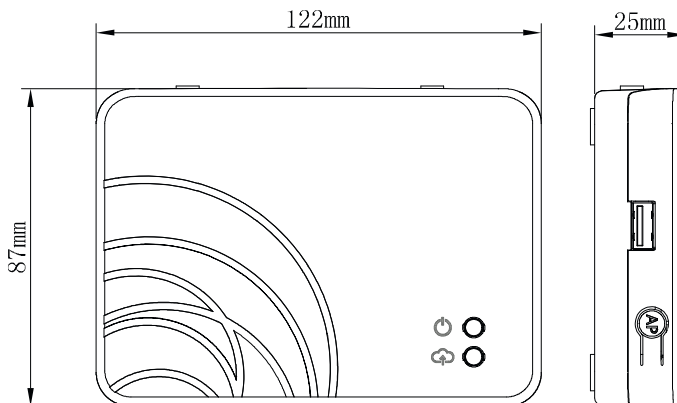
- Collects and transmits the production of up to 4 photovoltaic panels
- Real-time monitoring of each micro-inverter
- Built-in WiFi
- Optimised size, flexible installation
- Monitors up to 4 panels



ECU-B

- The new ECU-B communication gateway works with our micro-inverters.
- It is able to collect and transfer each panel's production data in real time, for up to 4 photovoltaic panels.
- Using ZigBee as a fast and robust communication protocol, its detailed monitoring provides you with a comprehensive view, and enables you to check on every panel's operation to ensure optimal performance of your solar installation.

DIMENSIONS



INSTALLATION MANUAL

• ECU-B:

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INSTALLATION GUIDE

• EMA supervision portal:

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COMMISSIONING

In order to activate the warranty extension and take advantage of our AirHome app's features:

- 1.** Airwell must create an access code so that you can access the supervision portal. To do so [click here](#), and fill out the e-mail, entering the requested information, or send your contact details (Surname, forename, e-mail address, phone, company, corp. registration number) to: info@ma-maison-hybride.com After this step, you will be sent an e-mail with your codes as soon as possible.
- 2.** Download the EMA Manager app for free on AppStore or Google play. This app acts as the ECU-B, ECU-R and ECU-C interface, enabling quick configuration and set-up of the installation, and facilitating the commissioning process.



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IOS



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TECHNICAL DATA

MODEL		ECU-B
Part number		211018

COMMUNICATION TO THE MICRO-INVERTER

Communication		ZigBee 2.4 GHz
Maximum number of micro-inverters per ECU*		4

COMMUNICATION TO THE SUPERVISION PORTAL

Wireless		Wi-Fi 802.11g/n /Cellular GSM
Wireless security		WEP, WPA2-PSK
USB interface		5 Vdc - Output 0.5 A

POWER SUPPLY DATA

Power supply		5 V, 2 A
Consumption	W	1.7

PRODUCT CHARACTERISTICS

Frequency range		2412MHZ-2472MHZ (WIFI), 2405mhz-2480mhz (ZigBee)
RF output power (EIRP)		16.56 dbm (WIFI), 9.50 dbm (ZigBee)
Aerial type		Outdoor aerial
Modulation		DSSS, OFDM
Operating mode (Simplex/Duplex)		Duplex

MECHANICAL DATA

Dimensions (WxHxD)	mm	122x87x25
Weight	g	150
Ambient operating temperature range		-20 to +65
Cooling		Natural convection, no fans
Degree of protection		Indoor - NEMA 1 (IP20)

OTHER FEATURES

Grid type		Single-phase
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COMPLIANCE

Compliance		IEC 60950-1, EN60950-1, IEC 60529, EN 60529, ANSI/UL 60950-1, CAN/CSA C22.2 No.60950-1, UL50E, FCC part 15, EN61000-6-1, EN61000-6-3, ICES-003, AS NZS 60950-1, GB/T17799
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*The maximum number of micro-inverters per ECU may vary according to the size and layout of the PV panel, the maximum distance between the ECU and the grid micro-inverters, or any obstacles (thick concrete wall, metal roof).



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+ PRODUCT

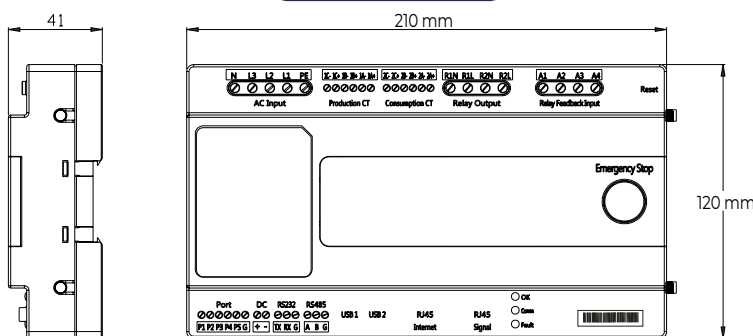
- Monitoring of AC & DC electrical data
- Communication with centralised supervision system
- Grid zero injection check
- Built-in WiFi
- Suitable for single-phase or three-phase systems
- Panel monitoring



ECU-C

- The new ECU-C communication gateway is packed with technologies operating with our micro-inverters.
- It is able to collect and transfer each panel's production data in real time via ZigBee, a fast and robust communication protocol.
- This communication gateway also enables you to retrieve consumption data by means of the transformers.
- Its detailed monitoring provides you with a comprehensive view, and enables you to check on every panel's operation to ensure optimal performance of your solar installation.

DIMENSIONS



INSTALLATION MANUAL

• ECU-C:

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INSTALLATION GUIDE

• EMA supervision portal:

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COMMISSIONING

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- 1.** Airwell must create an access code so that you can access the supervision portal. To do so [click here](#), and fill out the e-mail, entering the requested information, or send your contact details (Surname, forename, e-mail address, phone, company, corp. registration number) to: info@ma-maison-hybride.com After this step, you will be sent an e-mail with your codes as soon as possible.
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TECHNICAL DATA

MODEL	ECU-C	
Part number	205018	

COMMUNICATION TO THE MICRO-INVERTER

Communication	ZigBee 2.4 GHz	
Maximum number of micro-inverters per ECU*	100	

COMMUNICATION TO THE SUPERVISION PORTAL

Ethernet	10/100M Auto-detection, Auto-negotiation	
Wireless	Wi-Fi 802.11g/n /Cellular GSM	
USB interface	5Vdc - Output 0.5A x 2	
RS232	Standard	
RS485	Standard	
RJ45	Standard	

POWER SUPPLY DATA

AC Power supply	110-277VAC, 50-60Hz Single-phase – (Three-phase optional)	
DC Power supply	V	12~16
Consumption	W	3

PRODUCT CHARACTERISTICS

Frequency range	2412mhz-2472mhz (WIFI), 2405mhz-2480mhz (ZigBee)	
RF output power (EIRP)	16.56 dbm (WIFI), 9.50 dbm (ZigBee)	
Aerial type	Outdoor aerial, SMA connector type	
Modulation	DSSS, OFDM	
Operating mode (Simplex/Duplex)	Duplex	

MECHANICAL DATA

Dimensions (WxHxD)	mm	210x120x41
Weight	g	500
Ambient operating temperature range	-40 to +65	
Cooling	Natural convection, no fans	
Degree of protection	IP20 (NEMA 1)	

OTHER FEATURES

Grid type	Single-phase / Three-phase	
Relay driver	Control an external AC contact or relay	
Digital input	For connecting an external control device	
CT sensor (Tores)	Metering of production and consumption	
Measurement accuracy	Integrated metering of PV production (+/- 0,5 % via CT) and optional consumption monitoring (+/- 2,5 % via CT)	

COMPLIANCE

Compliance	EC/EN 61010-1, AS 61010-1, ANSI/UL/CSA 62368-1, CSA C22.2 NO.62368-1-19, Pending:EN 300328, EN 301489-1, EN 301489-17, EN IEC 61000-6-1/-2/-3/-4, EN 62311, FCC Part 15, ICES-003	
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MANDATORY ACCESSORIES	PICTURE	PART NUMBER
Mandatory transformer with ECU-C		
80A transformer for ECU-C		18083020112
200A transformer for ECU-C		18083020012
One transformer per phase on production and consumption side.		

RECAP OF COMMUNICATION GATEWAYS



MODEL	ECU-C	ECU-R	ECU-B
Part number	205018	209018.	211018
Communication with micro-inverters	Zigbee	Zigbee	Zigbee
Internet connection: Ethernet RJ45	✓	✓	✗
Internet connection: WiFi	✓	✓	✓
Built-in measurements with current sensors (TI) (photovoltaic production, household consumption, grid import/export)	✓	✗	✗
Grid zero injection check	✓	✗	✗
Relays: energy surplus use	✓	✗	✗
Commissioned with EMA Manager or the supervision portal	✓	✓	✓
Local interface	✓	✗	✗

INSTALLATION GUIDE

- EMA supervision portal:

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COMMISSIONING

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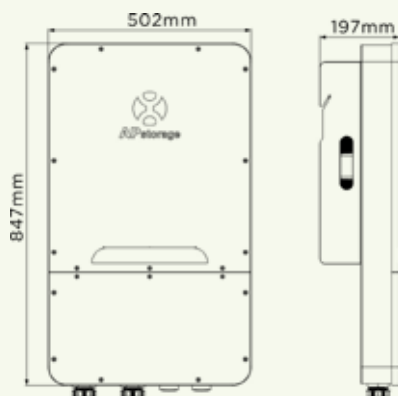




+ PRODUCT

- Energy management system
- Rated output power up to 5000 VA.
- Maximum power up to 7500 VA.
- Maximum efficiency of up to 96.5%.
- Connects to low-voltage batteries (48 V).

DIMENSIONS



ELS-5K



- APStorage presents its 1st generation of intelligent power conversion systems (PCS) with the ELS-5K battery charger solution. With compatible low-voltage batteries connected, it becomes the ideal AC coupling storage solution for residential photovoltaic applications.
- With intelligent software-based automatic power management and monitoring features, system owners can choose between standby, self-consumption and other advanced modes to secure critical loads during power outages and maximise energy savings for their homes.

TECHNICAL DATA

MODEL	
Part number	611018
Dimensions WxHxD	847x502x197mm
Weight	29kg
Maximum yield	96.5%
Operating temperature range	-25°C-65°C
Protection class	IP65
Relative humidity	10%-90%
Ventilation	Natural convection
Communication ports	Ethernet/ Wireless/RS485/CAN
Zigbee frequency range	2405MHz - 2480MHz
Maximum Zigbee power	8.94 dBm
Wi-Fi frequency range	2412MHz - 2472MHz
Maximum Wi-Fi power	16.97 dBm
Parallel function	Yes
Network compliance	VDE-AR-N 4105; TOR Erzeuger; OVE_Richtlinie_R_25; XP C15-712-3; VFR; DIN VDE 0126-1-1; CEI 0-21 being processed
Security	IEC/EN 62477-1
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

BATTERY INPUT/OUTPUT

Battery input voltage DC	40-60VDC
Battery capacity	50-800Ah
Charging strategy for the lithium-ion battery	Self-adapting to the battery management system (BMS)
Maximum load current	100A/96A(1)
Maximum discharge current	100A/96A(1)

AC OUTPUT (MAINS CONNECTED)

Rated output power	5000VA/4600VA(1)
Rated output current	21.7A/20A(1)
Maximum AC mains output current	43.4A/40A(1)
Rated output voltage	230V
Adjustable output voltage range	184-264.5V(2)
Nominal output frequency range	50Hz/47.5-51.5Hz(2), 60Hz/55Hz-62.5Hz(2)
Power factor	0.99/ 0.8 early... 0.8 delay
THD	<3%
Network connection	Single-phase

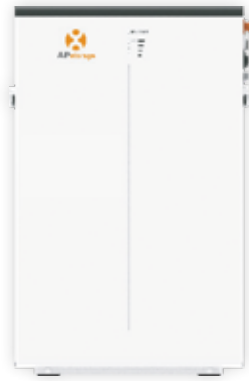
AC OUTPUT (EMERGENCY)

Nominal apparent output power	5000VA/4600VA(1)
Maximum apparent output power	7500VA/6900VA(1) (10s)
Maximum output current	21.7A/20A(1)
Rated output voltage	230V
Nominal output frequency	50Hz/60Hz

(1) This value applies to the VDE AR-N 4105 standard in force in Germany.
 (2) the voltage/frequency range may be adjusted if required by local utilities.

NEW

AP BATTERIE



- The AP battery features high charge and discharge performance and a long life cycle.
- The integrated BMS monitors the battery's operating status and alarms to prevent out-of-limits operation.
- A maximum of 8 batteries can be connected in parallel to increase the energy and power of the energy storage system.
- The battery AP establishes communication with the PCS via the CAN network port itself.

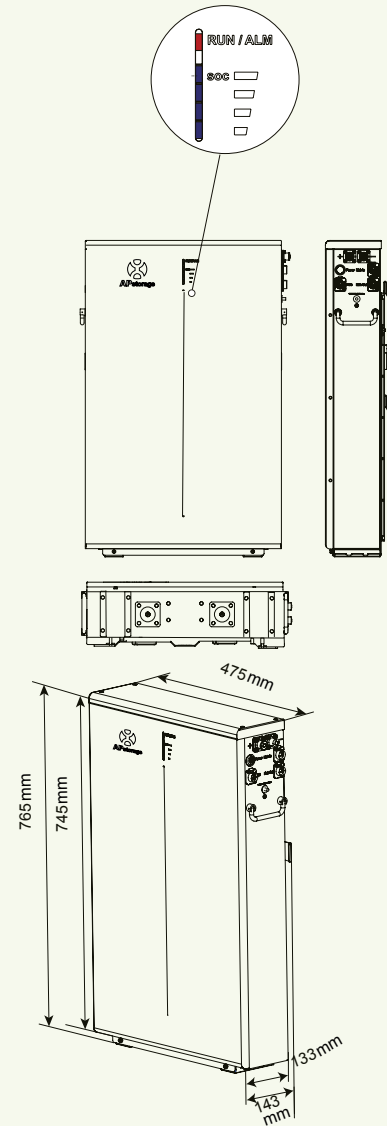
TECHNICAL DATA

MODEL	AP BATTERIE - 51,2V/6,5kWh
Part number	58404000003
GENERAL SPECIFICATIONS	
Total capacity	128Ah
Total energy	6,5kWh
Nominal/Usable capacity	118Ah/1
Nominal/usable energy	6,0kWh/1
Rated voltage	51,2V
Operating voltage	48V~57,6V
Maximum load current (cell surface temperature)	-10 °C≤T<0 °C: 21,3A 0 °C≤T<5 °C: 32A 5 °C≤T<15 °C: 64A 15 °C≤T<45 °C: 104,2A 45 °C≤T<50 °C: 64A 50 °C≤T<55 °C: 32A
Maximum discharge current (cell surface temperature)	-10 °C≤T<0 °C: 21,3A 0 °C≤T<45 °C: 104,2A 45 °C≤T<50 °C: 85,3A 50 °C≤T<55 °C: 32A
Maximum charge/discharge current	125A/3s
Maximum load power	5kW (15 °C~45 °C)
Maximum discharge power	5kW (0 °C~45 °C)
Maximum charge/discharge power	6.9kW/3s (SOC≥20%, 25 °C)
Operating temperature range	-10 °C~50 °C
Recommended operating temperature	15 °C~30 °C
Storage conditions	-30 °C~-20 °C & 45 °C~60 °C, within 7 days ; -20 °C ~ 45 °C, within 6 months; Humidity: 5%-95%RH Within 6 months of each charge
RTE	94%, 0.2C charge/discharge 25°C
DOD	94.50%
Guarantee	10 years standard
Cooling	Natural cooling
Dimension	W475 x D133 x H745 mm
Weight	56kg±1kg
Installation	Wall/floor installation
Protection class	IP55
Maximum operating altitude	≤2000m
Cellular safety certification	IEC62619/UL1973
PACK safety certification	IEC62619/CE/UL1973
UN transport test standard	UN38.3+PI965(Sea)
Environmental protection certification	RoHS, REACH
Communication	CAN
Parallel connection	Max. 8 batteries

+ PRODUCT

- The battery is a 6.5 kWh (51.2 V) LiFePO4 pack.
- It coordinates with the PV, the power conversion system (PCS), the grid, the DC circuit breaker and the loads in the residential energy storage system.

DIMENSIONS

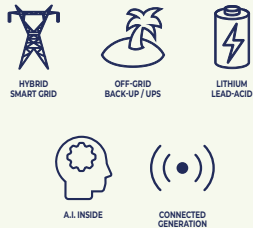


NEW

IMEON



FEATURES



CERTIFICATONS



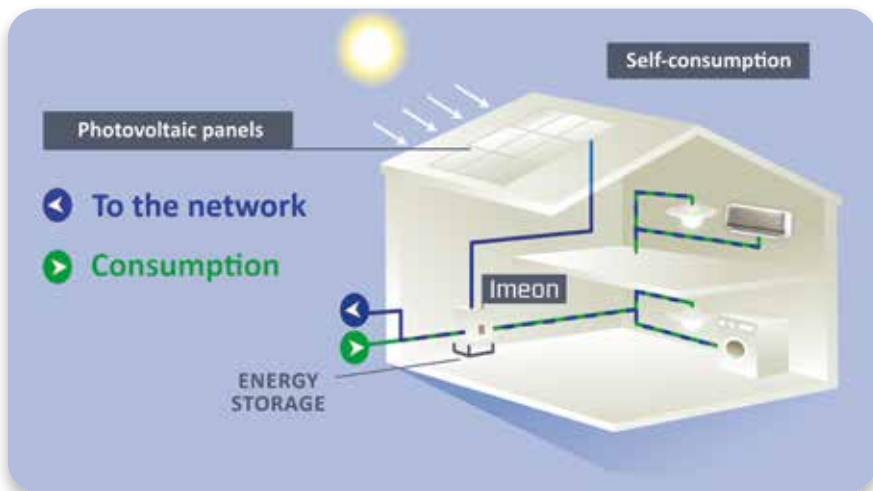
THE SMART-GRID REVOLUTION

- With intelligent management and multi-energy coupling, IMEON 3.6 and IMEON 9.12 optimise yield by choosing the best mode of use: direct consumption, storage of surplus, use of the grid, and/or sale of any surplus electricity. IMEON inverters adapt to the configuration without any specific programming, and take over in the event of a power cut for optimised comfort.
- The IMEON ONLINE monitoring platform allows you to follow the performance of your solar installation from any digital media while IMEON OS.ONE, the inverter's operating system, using artificial intelligence, manages the exchange of information between the IMEON and various peripherals, intelligently controlling the flow of energy according to your needs.

INSTALLATION MANUAL

• IMEON:

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TECHNICAL DATA

MODEL		IMEON 3.6	IMEON 9.12
Part number		2EN270001	2EN270002
AC NETWORK (ON-GRID AND OFF-GRID)			
Rated output power	W	3000	9000
Maximum power output (3sec)	V	6000	12000
AC Voltage / Frequency (input & output)		230 Vac (±15 %) / 50 Hz , 60 Hz (±5 Hz)	3/N/PE; 230/400 Vac (±15 %) / 50 Hz, 60 Hz (±5 Hz)
Rated output current	A	13	13 / phase
Maximum input current	A	25	17,5 / phase
Network injection		Configurable (yes by default)	
Energy source priorities		Configurable (PV / Storage / Network)	
SOLAR INSTALLATION			
PV input power		Up to 4,000 Wp (1)	Up to 12,000 Wp (1)
Number of MPPT inputs		1	2
MPPT range (Vmpp)	V	120 - 480	380 - 750
Maximum input current (Impp)	A	18	2 x 18
Maximum short-circuit current (Isc)	A	18	2 x 23
Maximum input voltage (Voc)	V	560	850
Maximum yield		DC to AC: >95.5% (95.2% EU)	
BATTERIES AND CHARGING			
Rated voltage DC	Vdc	48	
DC voltage range	Vdc	42 - 62	
Maximum discharge current	A	80	200
Maximum load current (PV/Grid)	A	60 / 60	160 / 120
Battery type		Lead-acid, Lithium(2)	
Load curve		3-phase (Bulk / Absorption / Float)	
Maximum yield		PV -> battery: >94% / Battery <--> AC: >93%	
Battery charge		Configurable (thresholds / multiple time slots via AC Grid)	
Battery discharge		Configurable (2 thresholds depending on network availability)	
GENERAL SPECIFICATIONS			
Dimensions (W x H x D)	mm	440 x 580 x 165	580 x 800 x 240
Protection class		IP 20 (covered installation)	
Weight	kg	19	51
Technology		TL	
Operating mode		Smart grid / Back up - UPS / Off grid / On grid / VPP Ready	
OS / Processor		OS: Linux Debian - CPU: ARM Cortex (Texas Instrument) 32-bit RAM: 8 GB storage - Embedded Artificial Intelligence - IOT Ready	
Communication - Monitoring - I/O		Wifi 802.11 b/g/n 2.4 GHz - 2 USB 2 - 1 Ethernet IP - OTA(4) technology - 1 CAN bus - 2 RS485 - 1 230V 16A relay 4 analogue inputs: 1 temperature sensor - 3 current measurements	
Terms and conditions of use		Humidity: 0 to 90% non-condensing, T°C: -20 to + 50°C, degraded power >40°C (15W/°C)	
Compliance		EN 62109-2 / EN 62109-1 / EN 62040-1 / DIN V VDE V 0126-1-1(+VFR2019) / VDE-AR-N 4105 / EN 50549 / DIN VDE V 0124-100 / TF3.2.1 / CEI- 0 21 / RD 1699 (5)	

(1) Taking all technical specifications into account.
 (2) Only for IMEON-compatible manufacturers.
 (3) The Internet connection must be operational for at least 95% of the system's operating time.
 (4) Over-The-Air.

NEW

IMEON LITHIUM BATTERIES

FRENCH BRAND

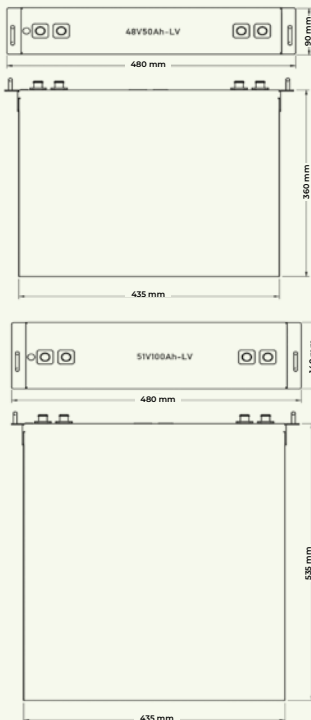
FEATURES



CERTIFICATIONS



DIMENSIONS



- The IMEON inverter and battery pair intelligently manages the different energy flows and is positioned as the most efficient storage system on the market.
- The battery panels are made up of latest-generation lithium iron phosphate cells.
- Each battery incorporates a BMS (battery management system) that balances the cells in the battery and sends instructions to the inverter regarding the charging currents and voltages to be respected. What's more, these panels can be recycled and are made up of LiFePO₄ (lithium iron phosphate) cells, ensuring optimum safety for users.
- Up to 36 panels can be installed in parallel without additional accessories. This modularity makes it possible to create installations with between 2.4 and 184.3 kWh of stored energy.
- The system can be integrated into most solar self-consumption, back-up or grid service projects.



BACK-UP

Connected to an Imeon inverter, the batteries will store energy that you can re-use when you need it most, so that in the event of a power cut, you can keep your electronic devices running without interruption.

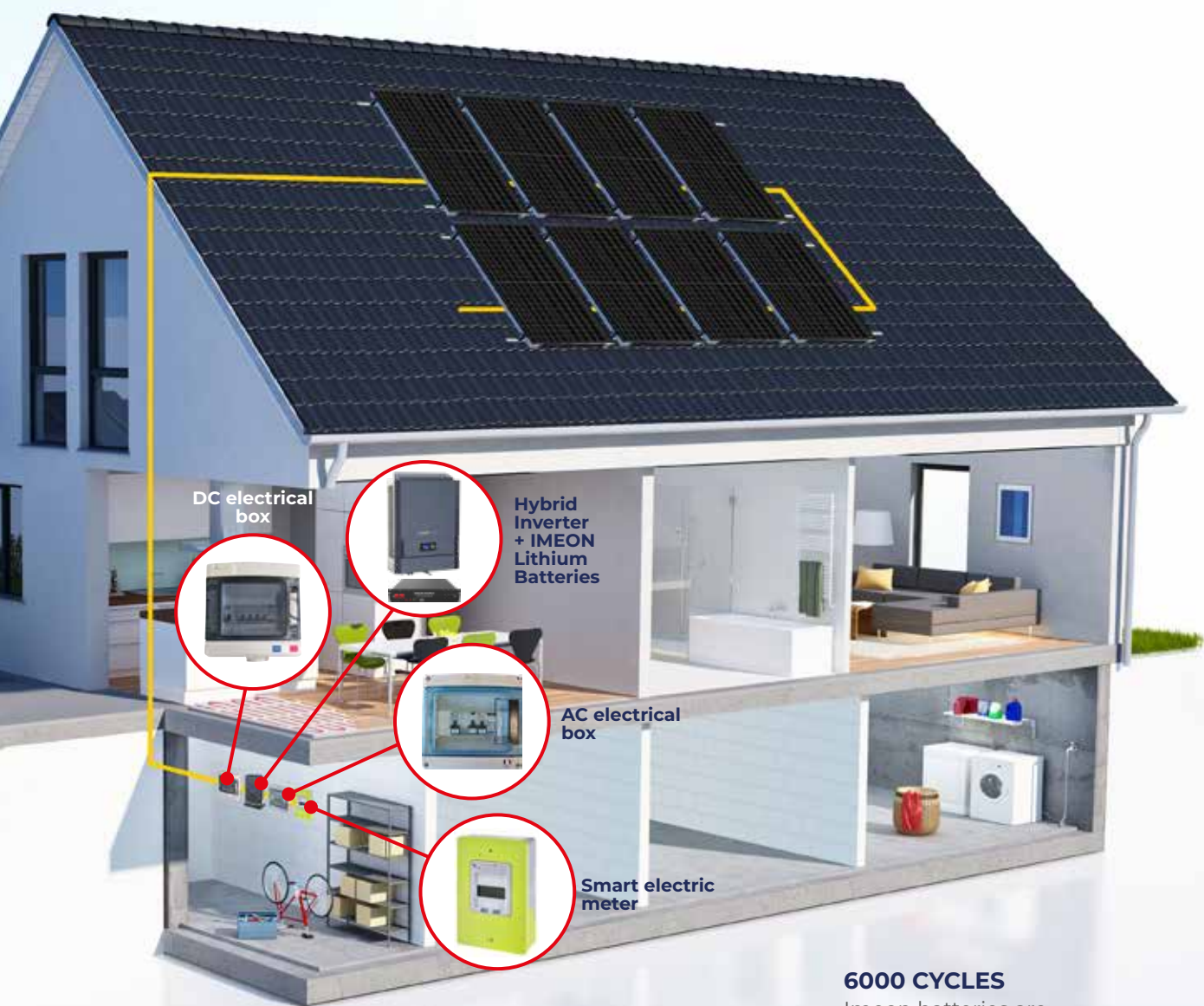
EASE OF INSTALLATION

Fixed to the ground and connected to your hybrid inverter, its standardised design makes it easy to parallelise to give you the best experience of solar energy with storage.



TECHNICAL DATA

MODEL		PANEL 48V50AH-LV	PANEL 51V100AH-LV
Part number		2EN290001	2EN290002
Total energy	Wh	2400	5120
Capacity	Ah	50	100
Rated voltage	V	48	51
Voltage range	V	45 - 54	45 - 57
Rated charge/discharge current	A	25	50
Maximum charge/discharge current	A	50	100
Number of cycles at 80% DOD		6000	
Parallel operation		Up to 36 panels	
Dimensions (W x D x H)	mm	480 x 360 x 90	480 x 535 x 140
Weight	kg	24	44
Communication ports		CAN, RS485	
Cell type		LFP (lithium iron phosphate)	
Management		Integrated BMS (Battery Management System)	
Humidity	%	5 to 85	
Operating temperature range	°C	+10 to +40	
Storage temperature range	°C	-20 to +60	
Altitude	m	< 4000	
Certifications		CE / IEC62619 / UN38.3	



PARALLEL CONNECTION

Up to 36 batteries can be connected in parallel!

REMOTE MONITORING

Thanks to the on-board technology of your Imeon inverter, you can monitor and control the filling of your batteries in detail.

6000 CYCLES

Imeon batteries are designed to handle a maximum number of cycles. You can customise your battery settings to use your stored energy when you really need it.

+ PRODUCT

- Self-consumption of electricity from the sun and storage of the surplus in batteries are now mature technologies.
- By combining solar panels with the AirSolar cabinet, you can produce, consume and store energy completely independently!



FEATURES



CERTIFICATONS



AIRSOLAR "PLUG AND PLAY" CABINET



INCLUDES:

- > IMEON 3.6 Hybrid Inverter



- > 1 or 2 panel batteries 48V50Ah-LV



- > AC protection with lightning arrester
- > DC protection with lightning arrester
- > Bipolar battery switch

THE ENERGY STORAGE SOLUTION

- The AirSolar "Plug & Play" cabinet converts the energy produced by the solar panels into electricity for direct consumption. The cabinet will automatically store excess production in built-in batteries for use at night or in the event of a power cut.



Production and consumption data are centralised: you can consult them in real time



A HYBRID INVERTER

- Solar yield optimisation
- Autonomous intelligence and multi-energy coupling
- Self-consumption, storage and/or network

A DEDICATED INTERFACE

- Remote connection
- Real-time visualisation of the installation
- Data history and analysis

NO MORE CUTS

- Maintaining vital systems
- Immediate relay in the event of a power cut
- Autonomy for everyday use

TECHNICAL DATA

MODEL	AHOB-3000-24 (with 1 batterie)	AHOB-3000-48 (with 2 batteries)
Part number	2EN280001	2EN280002
BILLY CABINET WITH INTEGRATED BATTERY		
Output power	3000 W	
Use of production	Configurable (PV / storage / network)	
Smartgrid inverter	10-year guarantee	
Storage (up to 2 batteries)	2.4 kWh Lithium-FePo panels	
Battery life (90% DOD)	Over 10 years (+6000 cycles)	
PHOTOVOLTAIC PANELS		
PV field power	From 1.5 to 4 kWp (150V start-up)	
MPPT voltage range	120 - 480 V (max. voltage: 560 V)	

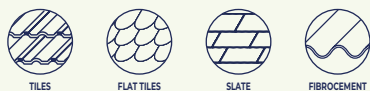
• The panels capture the sun's energy and convert it into electricity



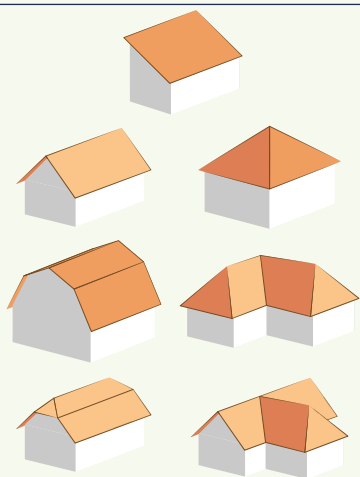
+ PRODUCT

→ Universal fixing for pitched roofs

FEATURES



Pitched roofs



INSTALLATION MANUAL

• VS+ range:

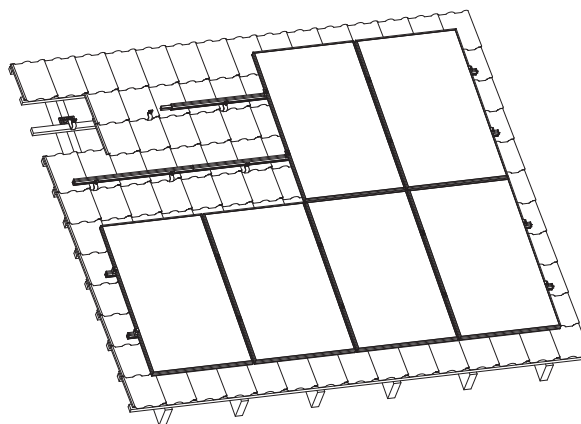
Click or flash



VS+ RANGE



- The **VS+ range** is suitable for almost all types of pitched roof in Europe.
- A judicious selection of hooks allows installation on roofs with different frameworks and coverings.
- Clamps for different frame heights.
- A patented flange for central or end clamping.



VS+ SYSTEM DATA

GENERAL

System	On-roof mounting system for pitched roofs.
Components	Connection of roof substructure (wood, steel, concrete), fastening material, mounting profiles, panel clamps.
Application	Pitched roofs on commercial, industrial, agricultural (except for exposure to hydrogen sulphide) and residential buildings.
Type of roof	Tile, slate, sheet metal (trapezoidal, corrugated), sandwich, fibre cement.
Roof pitch	min. 5°/max. 70°.

SYSTEM FEATURES

Panel tilt	Parallel roof.
Hardware	Stainless steel, aluminium.

CERTIFICATIONS

TÜV	ID1111212485 par 2PFG.
Building authority approval	Aluminium roof hook (Z-14-4-515). Fasteners (solar fastener, double-threaded screw, wooden screw).
MCS012	IK0197/03, IK0197/04, IK0197/05.

ACCESSORIES

DESIGNATION	PART NR	PICTURE	DESCRIPTION
VS+ Rail 41x35x2250mm silver	400523		• Silver-coloured 41x35x2250mm aluminium rail.
VS+ Rail 41x35x3300mm silver	400524		• 41x35x3300mm silver aluminium rail.
VS+ Connector rail 41x35mm	400531		• 41x35mm connector rail for 41x35x2250mm or 41x35x3300mm aluminium rails. Used to connect two rails.
Single flange+ (black)	420081-BE		• Simple black flange. Placed at the ends of the layout, it connects the panel to the rail.
Double clamp+ (black)	420082-BE		• Black double flange. Placed between two panels, it connects the panel to the rail.
Simple flange+	420081		• Single silver-coloured flange. Placed at the ends of the layout, it connects the panel to the rail.
Double+ flange	420082		• Silver-coloured double flange. Placed between two panels, it connects the panel to the rail.
RS1 Black universal clamp	420080-BE		• Black universal flange. Used to connect the panel to the rail, either between two panels or at the ends of the layout.
RS1 Universal silver clamp	420080		• Silver universal clamp. Used to connect the panel to the rail, either between two panels or at the ends of the layout.
Flat tile hook (without screws)	420153		• Flat tile hook for connecting the roof to the rail (refer to the tile hook compatibility table). Screws (ref. 900318.) must be ordered separately.
Slate hook (without screws)	420155		• Slate hook for connecting the roof to the rail. Screws (ref. 900013.) must be ordered separately.
ECO Basic hook (screwless)	420165		• Standard tile hook for connecting the roof to the rail (refer to the tile hook compatibility table). Screws (part no. 900318.) must be ordered separately.
RH1 roof hook (without screws)	420171		• Standard tile hook for connecting the roof to the rail (refer to the tile hook compatibility table). Screws (part no. 900318.) must be ordered separately. • Not only does it increase flexibility thanks to its adjustment options, it also enhances static stability. The benefits: shorter installation time and lower overall cost.

DESIGNATION	PART NR	PICTURE	DESCRIPTION
RH flat roof hook (without screws)	420172		• Hook for flat roof tiles and slate to connect the roof to the rail. • Screws (part no. 900318.) must be ordered separately. • Not only does it increase flexibility thanks to its adjustment options, it also enhances static stability. The benefits: shorter installation time and lower overall cost.
M10 x 200 double-threaded screw	860006		• M10 x 200 double-threaded screw for wood. Used for fibre cement or sealed tile roofs, it connects the roof to the rail. Supplied with 1 fixing bracket and a seal.
M12 x 250 double-threaded screw	860007		• M12 x 250 double-threaded screw for wood. Used for fibre cement or sealed tile roofs, it connects the roof to the rail. Supplied with 1 fixing bracket and a seal.
100 Countersunk wood screws 6x80	900013.		• Countersunk wood screws 6 x 80 for slate hooks. Supplied in bags of 100 screws.
100 Lenticu 6x80 SIT30** wood screws	900318.		• Lenticular head wood screws 6 x 80 SIT30 for tile hooks. Supplied in bags of 100 screws.
VS+ cap 41x35 (black)	900245		• VS+ black cap for 41x35 mounting rail.
VS+ cap 41x35 (grey)	900246		• VS+ grey cap for 41x35 mounting rail.
P-Clip earthing	900268		• P-Clip for earthing. Provides equipotential bonding between the rail and the panel.
100 Hammer head screws M8 x 25	900007		• M8 x 25 hammerhead screw, used to secure the microinverter to the 41x35mm aluminium rail. • It must be ordered with reference 900001. • Supplied in bags of 100 screws.
100 M8 nut	900001		• M8 nut. Used to secure the microinverter to the 41x35mm aluminium rail. • It must be ordered with reference 900007. • Supplied in bags of 100 nuts.
Spacer plate 2mm	400350		• 2 mm high spacer plate. Used to raise a hook.
5mm spacer plate	400351		• 5 mm high spacer plate. Used to raise a hook.

COMPATIBILITY OF TUIL HOOKS

TILES			RH1 420171	Plain tile 420153	ECO Basic 420165
Brands	Models	Picture			
Terreal	Double Canal Languedoc (DCL) 1DL		✓	✓ (1)	✓
Monier	Bee		✓	✓ (1)	✓
Edilians Koramic Terreal	Pressed flat tile 17x27 Plate 301 Elysée		x	✓ (2)	x
Edilians Koramic Terreal	OMEGA 13 Kanal 10 Romanée		✓	✓ (1)	✓

TILES			RH1 420171	Plain tile 420153	ECO Basic 420165
Brands	Models	Picture			
Edilians Koramic	Losangée Huguenot Losangée		✓	✓ (1)	✓
Edilians Koramic Terreal	Alpha 10 Actua Volnay PV		✓	✓ (1)	✓ (1)
Edilians	Delta 10		✓	x	✓
Benders	Mecklenburger		x	✓ (1)	✓

✓ : compatibility checked - x: compatibility not guaranteed
 (1) Height adjustment required: 5 mm spacer plate part no. 400350; 2 mm spacer plate part no. 400350;
 (2) Due to its design, this tile may require larger cut-outs, as well as the use of additional sealing elements.

+ PRODUCT

→ Fixing for corrugated and NERVURED STEEL metal roofs

FEATURES



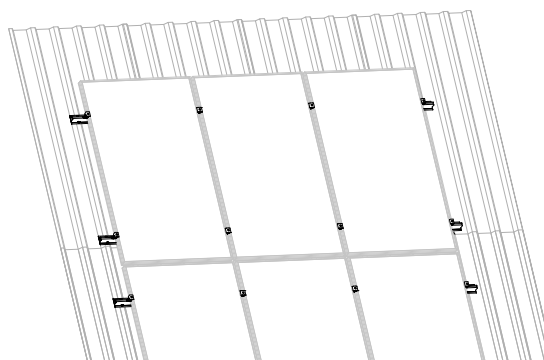
Metal roof



MS+ RANGE



- Material-saving installation on corrugated and ribbed steel sheets.
- Without continuous rails.



MS+P SYSTEM DATA

GENERAL

System	Solar and photovoltaic mounting system for roofs with trapezoidal sheet metal.
Components	Mounting rail, fixing materials, flanges.
Application	Sloping roofs with metal cladding (trapezoidal) (except for exposure to hydrogen sulphide).
Type of roof	Steel and aluminium trapezoidal sheet roof. Sandwich trapezoidal sheet according to manufacturer's specifications.
Sheet metal thickness	Steel: 0.4-1.25mm / Aluminium: 0.5-1.5mm.
Rib distance	350 mm.
Roof pitch	min. 5°/max. 45°.

SYSTEM FEATURES

Panel tilt	Parallel roof.
Hardware	Stainless steel, aluminium and EPDM.

CERTIFICATIONS

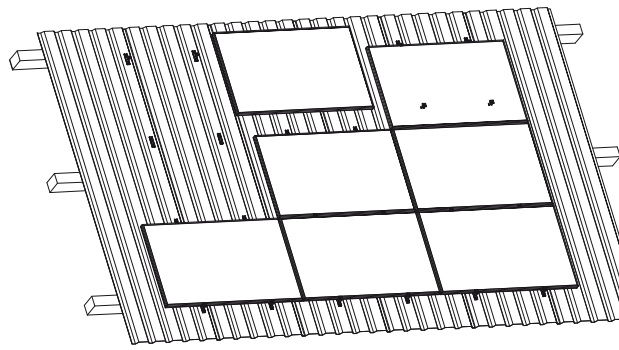
TÜV	ID1111212485 by 2PfG.
Building authority approval	Z-14.1-4, Z-14.1-537 (fastening material).
MCS012	IK0197/02.

INSTALLATION MANUAL

• MS+ range:

Click or flash





MS+ SYSTEM DATA CRUISED AND CORRUPED SHEET

GENERAL

System	Solar and photovoltaic mounting system for roofs with trapezoidal and wheel steel metal.
Components	Mounting rail, fixing materials, flanges.
Application	Sloping roofs with metal cladding (trapezoidal) (except for exposure to hydrogen sulphide).
Type of roof	Steel and aluminium trapezoidal sheet roof. Sandwich trapezoidal sheet according to manufacturer's specifications.
Types of roof	Trapezoidal sheet metal roof and corrugated steel and aluminium roof. Sandwich plate in accordance with manufacturer's approval.
Sheet metal thickness	Steel: 0.4-1.25mm / Aluminium: 0.5-2 mm.
Roof pitch	min. 5°/max. 45°.

SYSTEM FEATURES

Panel tilt	Parallel roof.
Hardware	Stainless steel, aluminium and EPDM.

CERTIFICATIONS

TÜV	ID1111212485 by 2PfG.
Building authority approval	Z-14.1-4, Z-14.1-537 (fastening material).
MCS012	IK0197/02 Issue: 04.

ACCESSORIES

DESIGNATION	PART NR	PICTURE	DESCRIPTION
MS+ Portrait 400 mm	420421		<ul style="list-style-type: none"> Rail for portrait installation on NERVURED STEEL metal (4 self-drilling screws per rail). Provides a link between the roof and the flange. Supplied with rails and self-drilling screws.
MS+ aci0.4-1.25mm alu0.5-2.0mm	420402		<ul style="list-style-type: none"> Rail for installation on landscape NERVURED STEEL metal (2 self-drilling screws per rail). Provides a link between the roof and the flange. Supplied with rails and self-drilling screws.
MS+ wheel steel metal, radius 24	420411		<ul style="list-style-type: none"> Rail for installation on corrugated metal sheet with radius 24 in portrait or landscape (2 self-drilling screws per rail). Provides a link between the roof and the flange. Supplied with rails and self-drilling screws.
Single flange+ (black)	420081-BE		<ul style="list-style-type: none"> Simple black flange. Placed at the ends of the layout, it connects the panel to the rail.
Double clamp+ (black)	420082-BE		<ul style="list-style-type: none"> Black double flange. Placed between two panels, it connects the panel to the rail.
Simple flange+	420081		<ul style="list-style-type: none"> Single silver-coloured flange. Placed at the ends of the layout, it connects the panel to the rail.
Double+ flange	420082		<ul style="list-style-type: none"> Silver-coloured double flange. Placed between two panels, it connects the panel to the rail.
RS1 Black universal clamp	420080-BE		<ul style="list-style-type: none"> Black universal flange. Used to connect the panel to the rail, either between two panels or at the ends of the layout.
RS1 Universal silver clamp	420080		<ul style="list-style-type: none"> Silver universal clamp. Used to connect the panel to the rail, either between two panels or at the ends of the layout.
P-Clip earthing	900268		<ul style="list-style-type: none"> P-Clip for earthing. Provides equipotential bonding between the rail and the panel.
100 Hammer head screws M8 x 25	900007		<ul style="list-style-type: none"> M8 x 25 hammerhead screw, used to secure the microinverter to the 41x35mm aluminium rail. It must be ordered with reference 900007. Supplied in bags of 100 screws.
100 M8 nut	900001		<ul style="list-style-type: none"> M8 nut. Used to secure the microinverter to the 41x35mm aluminium rail. It must be ordered with reference 900007. Supplied in bags of 100 nuts.

For steel roofs, provide an additional fixing for each microinverter to secure it with the hammer-head screw.

+ PRODUCT

→ A classic for flat roofs

FEATURES



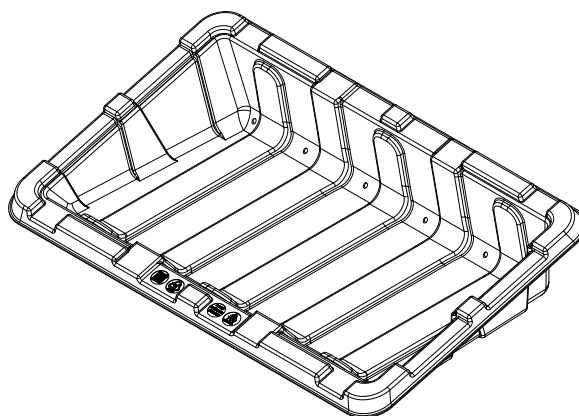
Roof terrace / ground



CS+ RANGE



- Lay the trays, fill with ballast material and screw on the photovoltaic panels. That's all there is to it. The system has been tried and tested for almost 20 years - simply, quickly and safely.
- HDPE trays distribute the weight evenly over the media.
- Ballast calculation in the online configurator.



CS+ SYSTEM DATA

GENERAL

System	Self-supporting ballasted photovoltaic mounting system
Scope of delivery	CS+ tub, mounting profiles and fixing materials
Application	Flat roofs, landfill sites, open spaces, green areas (excluding exposure to hydrogen sulphide)
Aspects	Width: 1,730 mm, depth: 1,100 mm, height: 390 mm
Roof pitch	max. 5° without additional measures
Ambient temperature range	-30°C to +50°C

SYSTEM FEATURES

Orientation	East-West, South
Hardware	HDPE, aluminium and stainless steel
Panel tilt	15°
Weight (approx.)	≈ 7.9 kg
Coefficient of friction	$\mu = 0.5$ must be determined and ensured on the installation surface
Minimum distance from edge	1,5 m
Maximum snow load on the roof	2.5 kN/m ²

CERTIFICATIONS

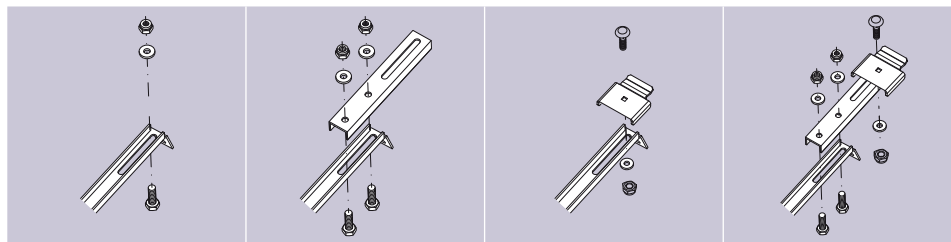
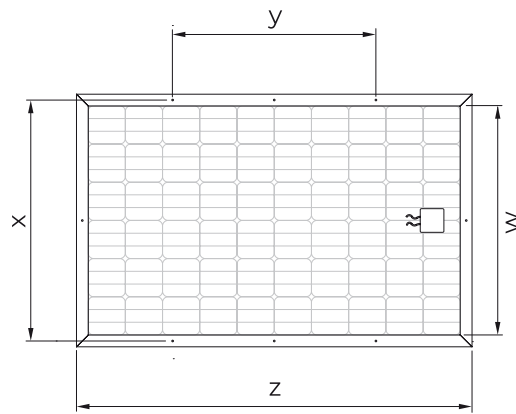
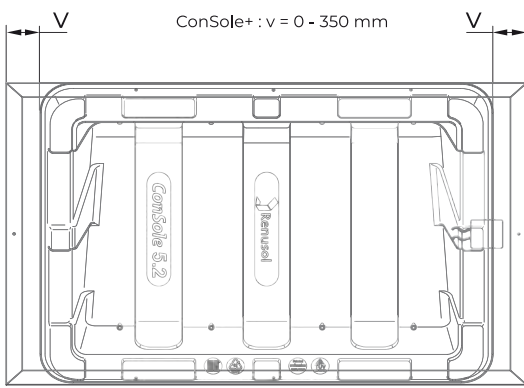
TÜV	ID1111212485 by 2PFG
Wind loads	To be determined using the configurator
Behaviour at traffic lights	MPA Dresden
UV resistance	KIMW Kunststoff Institut Lüdenscheid

INSTALLATION MANUAL

• CS+ range:

Click or flash





OPTION	R520075-K	R520075-K + R460196	R520075-K + R420023	R520075-K + R460196 + R420023
Panel min. - max. w:	-	-	920 mm - 995 mm	996 mm - 1110 mm
Panel min. - max. x:	895 mm - 1015 mm	1016 mm - 1110 mm	-	-
Panel min. - max. y:	690 mm - 1180 mm	690 mm - 1180 mm	-	-
Panel min. - max. z:	1550 mm - 2400 mm	1550 mm - 2400 mm	1550 mm - 2400 mm	1550 mm - 2400 mm

ACCESSORIES

DESIGNATION	PART NUMBER	PICTURE	DESCRIPTION
ConSole+ (incl. U-Profile)	520075-K		• Ballast tray. Supplied with all necessary fixing accessories (excluding options and ballast).
Streamliner+ (wind protection)	520076		• Wind protection. It can be removed if 25% of the load calculated on the configurator is added.
Extension rails for ConSole	460196		• Extension rails for console when the panel is too large. Option: refer to the table above.
Rear gripper for CS+	420023		• Rear gripper for console. Option: see table above.

NEW

ON REQUEST

FS-PRO-10°-S RANGE

+ PRODUCT

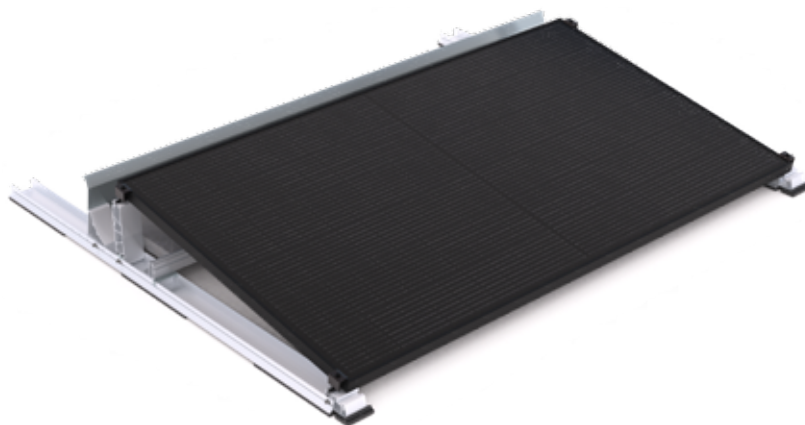
→ For flat roofs with optimised dimensions (on request)

FEATURES

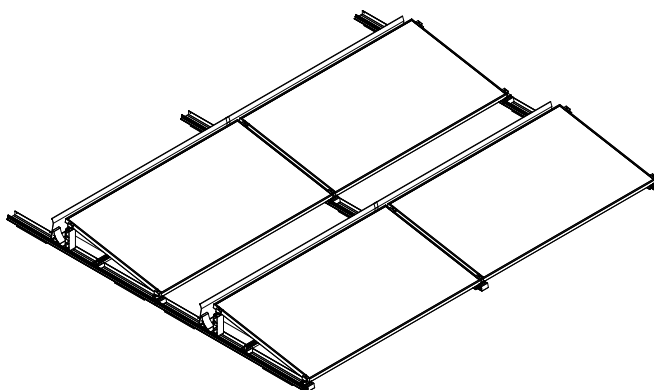


ROOF TERRACE / GROUND

Roof terrace / ground



- The FS-PRO-10°-S system is particularly suitable for larger roof areas with limited overloading thanks to a rail system and aerodynamic optimisation.
- It is fixed by ballast and mechanically guaranteed by wind tunnel tests.



FS-PRO-10°-S SYSTEM DATA

GENERAL

System	Ballasted photovoltaic mounting system
Components	Ground rail with pre-assembled construction protection and eave support, ridge support, panel clamps
Application	Flat roofs (except when exposed to hydrogen sulphide)
Type of roof	Bitumen, concrete, synthetic membranes, gravel, trapezoidal sheet metal
Roof pitch	max. 5° without additional measures

SYSTEM FEATURES

Orientation	South
Panel tilt	10°
Weight (approx.)	1.15 kg/m ² plus ballast (specific project)
Weight including pv panel	11.8 kg/m ² plus ballast (specific project)
Coefficient of friction (approx.)	μ = 0.5 must be determined and ensured on the installation surface
Hardware	Aluminium, stainless steel, galvanised sheet steel, PC, PE
Minimum distance from edge	0,6 m
Max. wind pressure	· qp=1.5 kN/m ² (with a simultaneous snow load of sk=1.5 kN/m ²) · qp=1.0 kN/m ² (with a simultaneous snow load of sk=2.5 kN/m ²)
Maximum snow load	· sd=2.3 kN/m ² for 2 ground rails · sd=3.7 kN/m ² for 3 ground rails

PANELS

Panel width	· R520222 : 990-1.070 mm, R520223: 1.071-1.150 mm · R500236: 1 851 - 2 250 mm (graph 1). Maximum 2300 mm (chart 2) · R500240: panel length < 1,800 mm (graph 1)
Orientation	Horizontal

CERTIFICATIONS & SERVICES

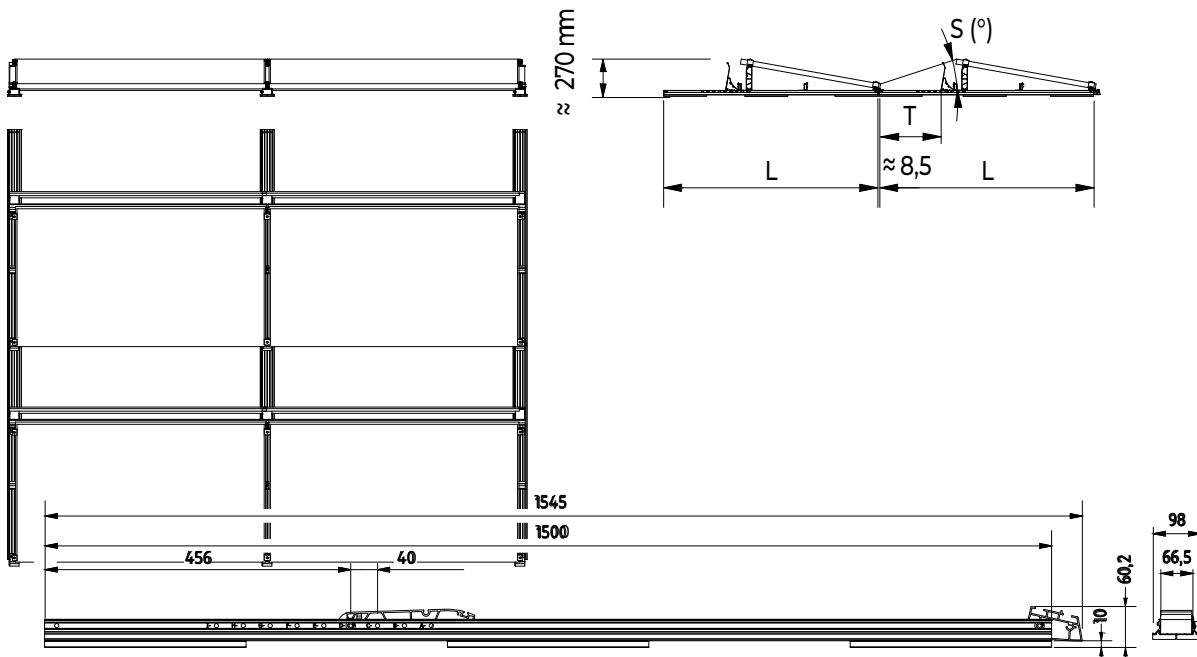
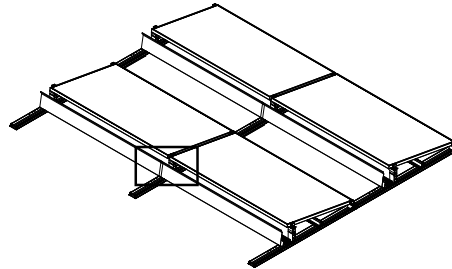
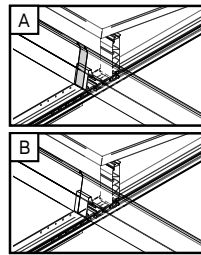
Wind loads	Determined in wind tunnel tests by I.F.I Institut für Industrieaerodynamik GmbH
Reaction to fire	Classification: E (DIN EN 13 501-1) / Identification No. 0672

INSTALLATION MANUAL

• FS Pro 10-S range:

Click or flash





RAIL LENGTH (L) : R520221 - 1900 MM (short side)	
Row spacing	1508 mm
Spacing T	Position D: 400 mm Position I: 200 mm
System width	Panel length + 49 mm
Shading angle S(X)	≈ 17,2 ° (A)

NEW

ON REQUEST

FS-PRO-18°-S RANGE

+ PRODUCT

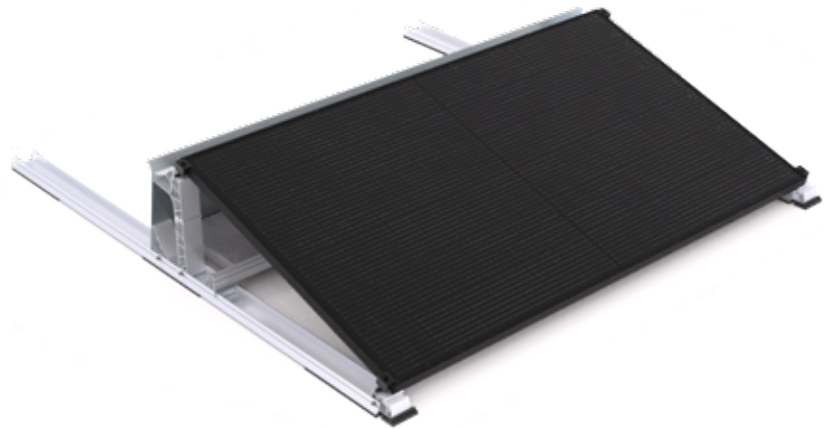
→ For flat roofs with optimised dimensions (on request)

FEATURES

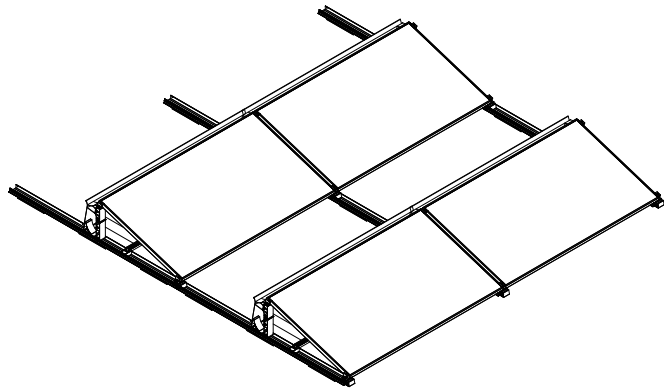


ROOF TERRACE / GROUND

Roof terrace / ground



- The FS-PRO-18°-S system is particularly suitable for larger roof areas with limited overloading thanks to a rail system and aerodynamic optimisation.
- It is fixed by ballast and mechanically guaranteed by wind tunnel tests.



FS-PRO-18°-S SYSTEM DATA

GENERAL

System	Ballasted photovoltaic mounting system
Components	Ground rail with pre-assembled construction protection and eave support, ridge support, panel clamps
Application	Flat roofs (except when exposed to hydrogen sulphide)
Type of roof	Bitumen, concrete, synthetic membranes, gravel, trapezoidal sheet metal
Roof pitch	max. 5° without additional measures

SYSTEM FEATURES

Orientation	South
Panel tilt	18°
Weight (approx.)	1.15 kg/m ² plus ballast (specific project)
Weight including pv panel	11.8 kg/m ² plus ballast (specific project)
Coefficient of friction (approx.)	μ =0.5 must be determined and ensured on the installation surface
Hardware	Aluminium, stainless steel, galvanised sheet steel, PC, PE
Minimum distance from edge	0,6 m
Max. wind pressure	· qp=1.5 kN/m ² (with a simultaneous snow load of sk=1.5 kN/m ²) · qp=1.0 kN/m ² (with a simultaneous snow load of sk=2.5 kN/m ²)
Maximum snow load	· sd=2.0 kN/m ² for 2 floor rails · sd=2.45 kN/m ² for 3 ground rails

PANELS

Panel width	R520221: 990-1.230 mm
Panel length	· R500237: 1 851 - 2 250 mm (graph 1). Maximum 2300 mm (graph 2) · R500242: panel length < 1,800 mm (graph 1)
Orientation	Horizontal

CERTIFICATIONS & SERVICES

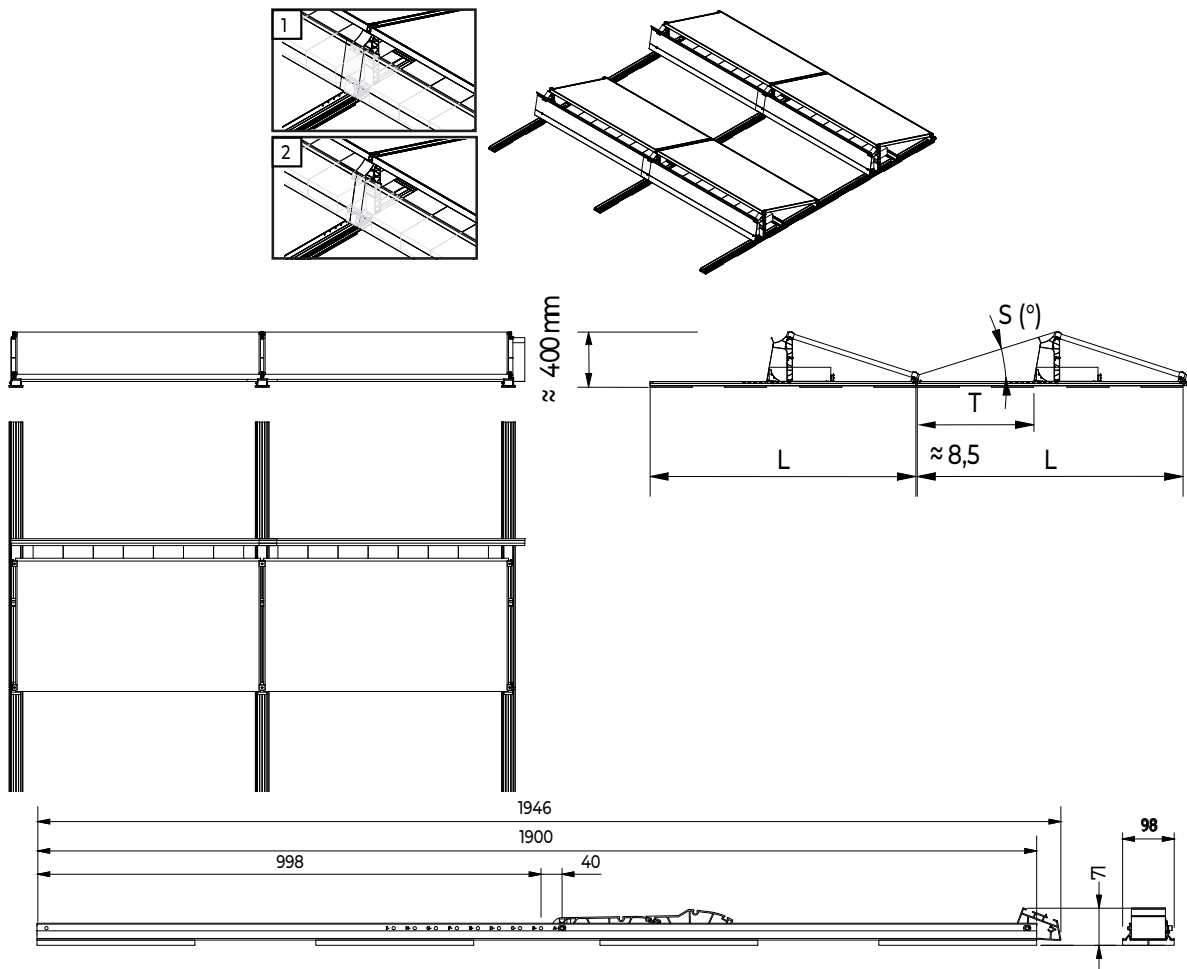
Wind loads	Determined in wind tunnel tests by I.F.I Institut für Industrieaerodynamik GmbH
Reaction to fire	Classification: E (DIN EN 13 501-1) / Identification No. 0672

INSTALLATION MANUAL

• FS-PRO-18°-S range:

Click or flash





RAIL LENGTH (L) : R520221 - 1900 MM (short side)	
Row spacing	1954 mm
Spacing T	Position D: 820 mm Position I: 660 mm
System width	Panel length + 49 mm
Shading angle S(X)	$\approx 17,2^{\circ}$ (A)

NEW

ON REQUEST

+ PRODUCT

→ For flat roofs with optimised dimensions (on request)

FEATURES

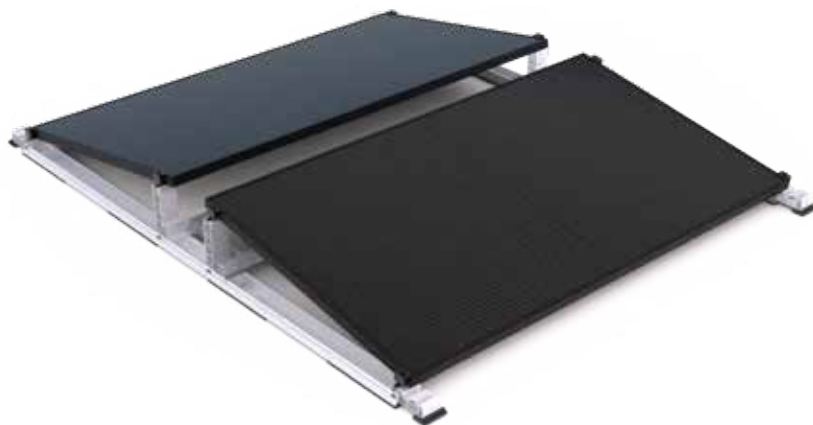


ROOF TERRACE / GROUND

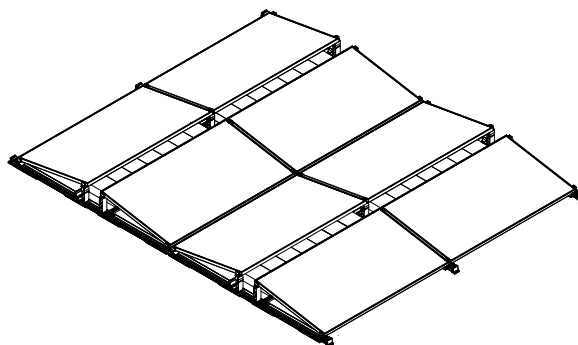
Roof terrace / ground



FS-PRO-10°-EW RANGE



- The FS-PRO-10°-EW system is particularly suitable for larger roof areas with limited overloading thanks to a rail system and aerodynamic optimisation.
- It is fixed by ballast and mechanically guaranteed by wind tunnel tests.



FS-PRO-10°-EW SYSTEM DATA

GENERAL

System	Ballasted photovoltaic mounting system
Components	Ground rail with pre-assembled construction protection, gutter support and ridge support, gutter support, panel clamps
Application	Flat roofs (except when exposed to hydrogen sulphide)
Type of roof	Bitumen, concrete, synthetic membranes, gravel, trapezoidal sheet metal
Roof pitch	max. 5° without additional measures

SYSTEM FEATURES

Orientation	East-West
Panel tilt	10°
Weight (approx.)	1.15 kg/m ² plus ballast (specific project)
Weight including pv panel	11.8 kg/m ² plus ballast (specific project)
Coefficient of friction (approx.)	μ =0.5 must be determined and ensured on the installation surface
Hardware	Aluminium, stainless steel, galvanised sheet steel, PC, PE
Minimum distance from edge	0,6 m
Max. wind pressure	qp=1.5 kN/m ² (with a simultaneous snow load of sk=1.5 kN/m ²)
Dynamic wind pressure Max.	qp=1.0 kN/m ² (with a simultaneous snow load of sk=2.5 kN/m ²)
Maximum snow load	·sd=2.0 kN/m ² for 2 floor rails ·sd=3.0 kN/m ² for 3 ground rails

PANELS

Panel width	R520222: 990-1.070 mm, R520223: 1.071-1.150 mm, R520229: 1.180-1.310 mm
Orientation	Horizontal

CERTIFICATIONS & SERVICES

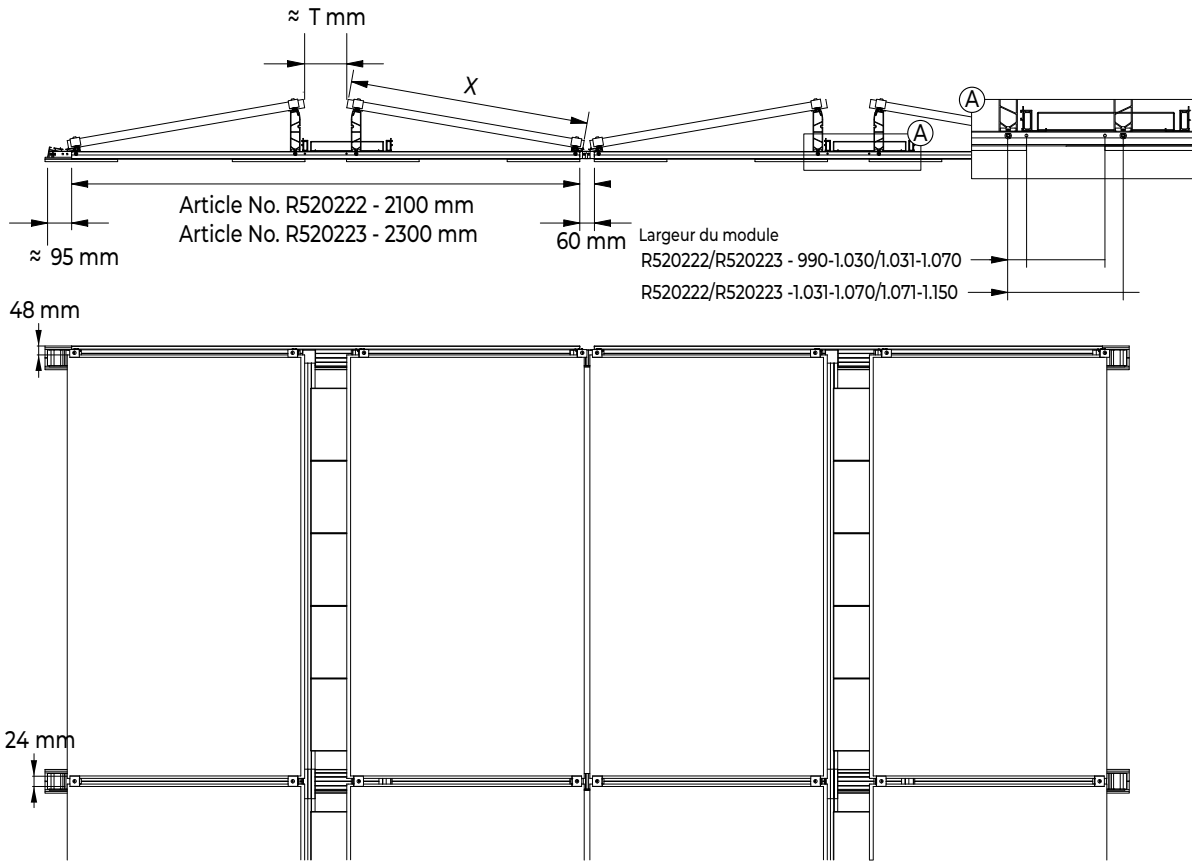
Wind loads	Determined in wind tunnel tests by I.F.I Institut für Industrieaerodynamik GmbH
Reaction to fire	Classification: E (DIN EN 13 501-1) / Identification No. 0672

INSTALLATION MANUAL

• FS-PRO-10°-EW range:

Click or flash



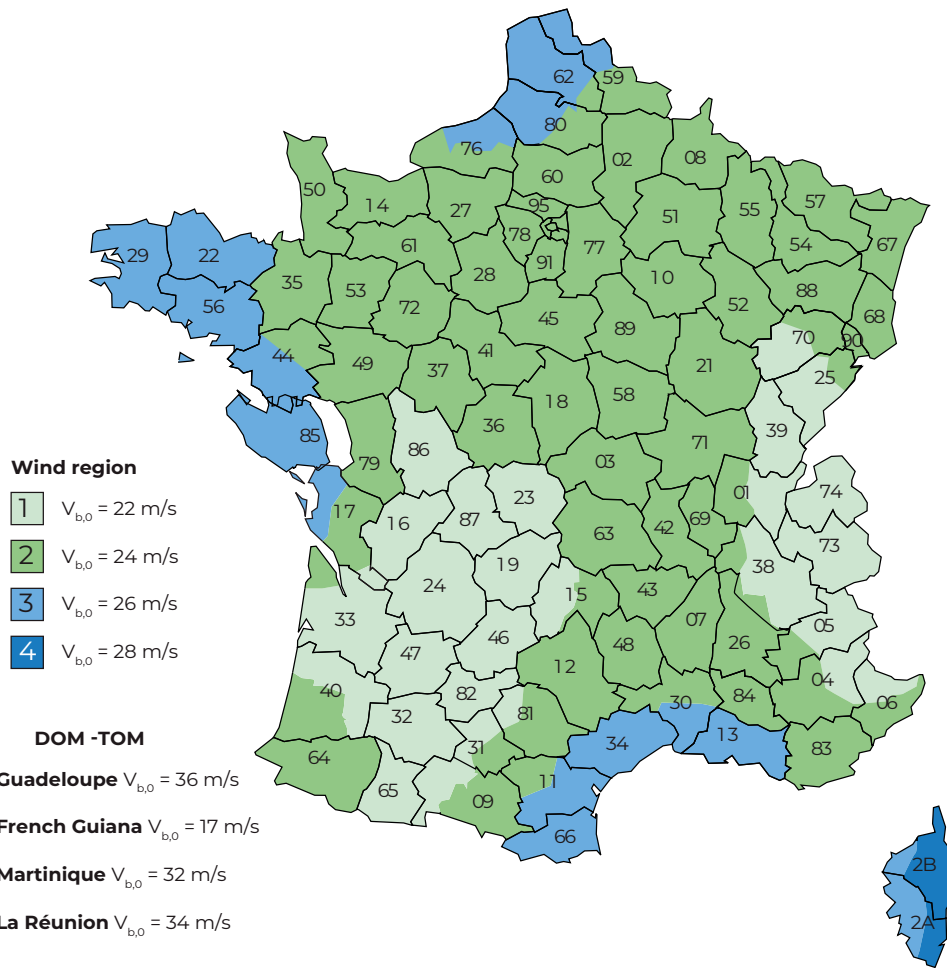


RAIL LENGTH: R520222 - 2100 mm	
Row spacing	2160 mm
Panel width X	Min: 990 mm Max: 1070 mm
Spacing T	Min: 17 mm Max: 187 mm
System width	panel length + 65 mm
Shading angle S(X)	≈ Min: 8,7°

RAIL LENGTH: R520223 - 2300 mm	
Row spacing	2360 mm
Panel width X	Min: 1071 mm Max: 1150 mm
Spacing T	Min: 17 mm Max: 187 mm
System width	panel length + 65 mm
Shading angle S(X)	≈ Min: 8,7°

FRENCH MAP OF WIND REGIONS

According to Eurocode EN 1991-1-4 (National Annex)



REFERENCE WIND PRESSURE QP AT ELS (daN/M ²)						
Situation	Less than 10 m	10 to 15 m	15 to 20 m	20 to 30 m	30 to 50 m	
REGION 1	0	86	93	98	106	116
	II	70	77	83	91	103
	III a	54	62	68	77	88
	III b	42	50	55	64	75
	IV	38	38	44	52	63
REGION 2	0	102	111	117	126	138
	II	83	92	99	109	122
	III a	65	74	81	91	105
	III b	50	59	66	76	90
	IV	46	46	52	62	75
REGION 3	0	120	130	137	148	162
	II	97	108	116	128	143
	III a	76	87	95	107	123
	III b	58	69	77	89	105
	IV	53	53	61	73	88
REGION 4	0	139	151	159	172	187
	II	113	125	135	148	166
	III a	88	101	110	124	143
	III b	68	80	90	103	122
	IV	62	62	71	84	102



Land category 0 (sea)



Terrain category II (open country, airport)



Site category IIIa (countryside with hedges, hedged farmland)



Site category IIIb (dense hedged farmland, industrial zone)

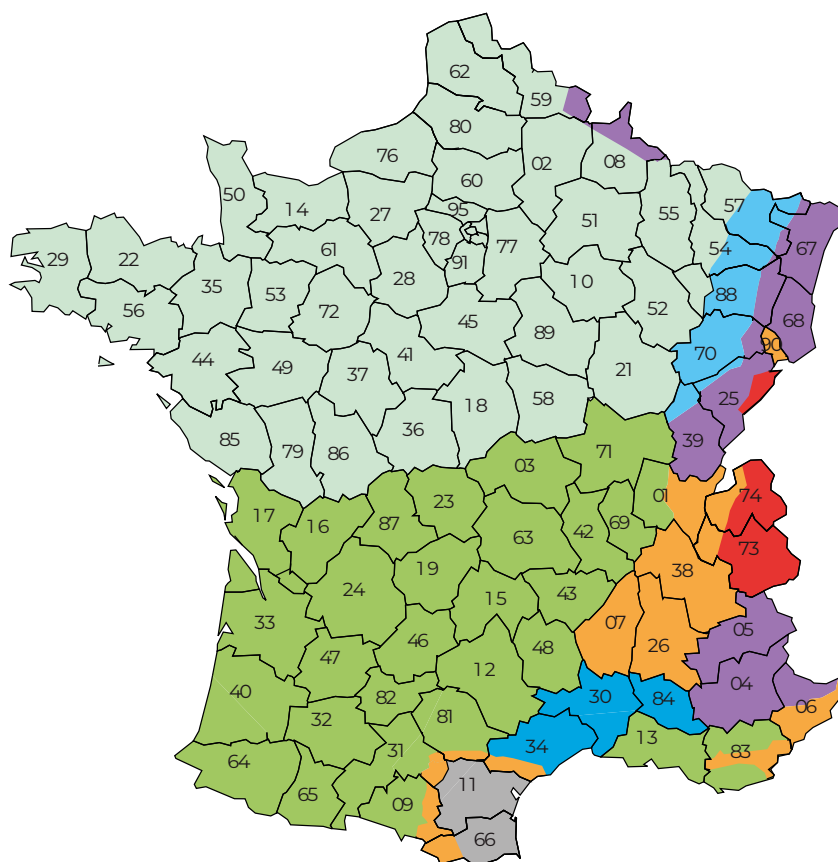


Land category IV (city)

The basic value of the reference wind speed $V_{b,0}$ is the average speed over a period of 10 minutes at a height of 10 m above the ground in open country, terrain category II.

FRENCH MAP OF SNOW REGIONS

According to Eurocode EN 1991-1-3 (National Annex)



	A1	A2	B1	B2	C1	C2	D	E
Characteristic value S_k snow load on the ground at an altitude of less than 200 m	45	45	55	55	65	65	90	140
Calculation value S_{Ad} of the exceptional snow load on the ground	-	100	100	135	-	135	180	-
Law of variation of the characteristic load for an altitude above 200 m	Δs_1						Δs_2	

Load in daN/m².

ALTITUDE	ΔS_1	ΔS_2
200 m \leq A < 500 m	$(A/10) - 20$	1.5. (A/10) - 30
500 m \leq A < 1000 m	1.5. (A/10) - 45	3.5. (A/10) - 130
1000 m \leq A < 2000 m	3.5. (A/10) - 245	7. (A/10) - 480

• Snow load calculation

Snow loads on roofs are written as:

$S = \mu_1 \times C_e \times C_t \times S_k$ for sustainable/transitional project situations

$S = \mu_1 \times C_e \times C_t \times S_{Ad}$ for accidental project situations.

μ_1 is the shape coefficient (depends on the type of roof, the slope of the slope and the redistribution of snow by the wind).

C_e is the exposure coefficient, which is assumed to be equal to 1.

C_t is the thermal coefficient, which is assumed to be equal to 1.

The additional load s_l (for gentle slopes) is assumed to be zero, hence its absence from the previous formula.



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CONNECTIVITY

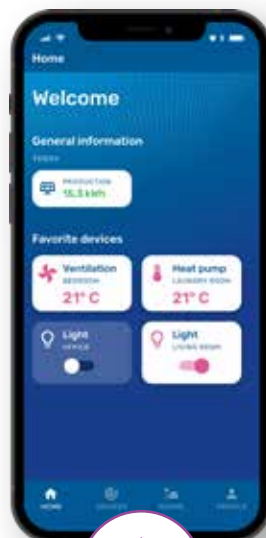
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* Under development for 2024.



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FOLLOW THE STEPS BELOW TO PUT TOGETHER YOUR KIT

1 Choose the power you want for your photovoltaic system

2 Select the fastening system best suited to your needs

1 POWER REQUIRED

COMPOSITION OF THE KIT POWER 0,75 kWp

Kit composition (1)	Part number	Quantity
PVMX-375M-FB	2EN230004	2
DS3-L 2-input microinverter	2EN250001	1
ECU-B (production metering for 4 PV)	211018	1
AC 3 kW single-phase electrical box***	2ACEL0009	1
Y3 standalone cable (1m)	2334076132	1
AC bus end cap	2060700017	0
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 0,75 kWp (1x2)

Layout:	Part Nr	Qty
TILE* Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	2
VS+ Connector rail 41x35mm	400531	0
RS1 Black universal clamp	420080-BE	6
RH1 roof hook (without screws)	420171	6
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
100 Lenticu 6x80 SIT30 wood screws**	900318	18
OU		
FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	2
VS+ Connector rail 41x35mm	400531	0
RS1 Black universal clamp	420080-BE	6
RH Flat roof hook (without screws)	420172	6
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
100 Lenticu 6x80 SIT30 wood screws**	900318	18
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	2
VS+ Connector rail 41x35mm	400531	0
RS1 Black universal clamp	420080-BE	6
M10 x 200 double-threaded screw	860006	6
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	6
MS+ Portrait 400 mm	420421	6
P-Clip earthing	900268	2
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	8
MS+ wheel steel radius 24	420411	8
P-Clip earthing	900268	2

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.

(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.



Please note: The kits have been determined for a given altitude and wind and snow conditions.

They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 0,75 kWp (1x2)

Layout:	Part Nr	Qty
TILE* Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	4
VS+ Connector rail 41x35mm	400531	2
RS1 Black universal clamp	420080-BE	6
RH1 roof hook (without screws)	420171	10
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
100 Lenticu 6x80 SIT30 wood screws**	900318	30
OU		
SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	4
VS+ Connector rail 41x35mm	400531	2
RS1 Black universal clamp	420080-BE	6
RH Flat roof hook (without screws)	420172	6
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
100 Lenticu 6x80 SIT30 wood screws**	900318	18
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	2
VS+ Connector rail 41x35mm	400531	0
RS1 Black universal clamp	420080-BE	8
M10 x 200 double-threaded screw	860006	8
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	2
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	8
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	8
P-Clip earthing	900268	2
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	8
MS+ wheel steel radius 24	420411	8
P-Clip earthing	900268	2
OU		
ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	2
Streamliner+ (wind protection)	520076	2
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	0



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER 3,00 kWp

Kit composition (1)	Part number	Quantity
PVMX-375M-FB	2EN230004	8
DS3-L 2-input microinverter	2EN250001	4
ECU-R (production metering)	209018.	1
AC 3 kW single-phase electrical box***	2ACEL0009	1
Y3 AC bus (2m)	2322304903	4
AC bus end cap	2060700017	1
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 3,00 kWp (2x4)

Layout:	Part Nr	Qty



TILE [†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	8
VS+ Connector rail 41x35mm	400531	4
RS1 Black universal clamp	420080-BE	20
RH1 roof hook (without screws)	420171	12
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	8
100 Lenticu 6x80 SIT30 wood screws**	900318.	36

OU



FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	8
VS+ Connector rail 41x35mm	400531	4
RS1 Black universal clamp	420080-BE	20
RH Flat roof hook (without screws)	420172	16
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	8
100 Lenticu 6x80 SIT30 wood screws**	900318.	48

OU



FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	8
VS+ Connector rail 41x35mm	400531	4
RS1 Black universal clamp	420080-BE	20
M10 x 200 double-threaded screw	860006	20
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	8

OU



NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	20
MS+ Portrait 400 mm	420421	20
P-Clip earthing	900268	8

OU



WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	24
MS+ wheel steel radius 24	420411	24
P-Clip earthing	900268	8

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 3,00 kWp (2x4)

Layout:	Part Nr	Qty

OU

TILE [†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	14
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	20
RH1 roof hook (without screws)	420171	20
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	8
100 Lenticu 6x80 SIT30 wood screws	900318.	60

OU

SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	14
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	20
RH Flat roof hook (without screws)	420172	20
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	8
100 Lenticu 6x80 SIT30 wood screws**	900318.	60

OU

FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	8
VS+ Connector rail 41x35mm	400531	0
RS1 Black universal clamp	420080-BE	24
M10 x 200 double-threaded screw	860006	24
VS+ cap 41x35 (grey)	900246	16
P-Clip earthing	900268	8

OU

NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	24
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	24
P-Clip earthing	900268	8

OU

WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	24
MS+ wheel steel radius 24	420411	24
P-Clip earthing	900268	8

OU



ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	8
Streamliner+ (wind protection)	520076	8
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	0



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER 4,50 kWp

Kit composition (1)	Part number	Quantity
PVMX-375M-FB	2EN230004	12
DS3-L 2-input microinverter	2EN250001	6
ECU-R (production metering)	209018.	1
Electrical box AC 6 kW single-phase***	2ACELO010	1
Y3 AC bus (2m)	2322304903	6
AC bus end cap	2060700017	2
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 3-P 4,50 kWp (2x8)

Layout:	Part Nr	Qty
TILE[†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	8
RS1 Black universal clamp	420080-BE	28
RH1 roof hook (without screws)	420171	20
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	60
OU		
FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	8
RS1 Black universal clamp	420080-BE	28
RH Flat roof hook (without screws)	420172	30
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	90
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	8
RS1 Black universal clamp	420080-BE	28
M10 x 200 double-threaded screw	860006	28
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	12
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	28
MS+ Portrait 400 mm	420421	28
P-Clip earthing	900268	12
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	36
MS+ wheel steel radius 24	420411	36
P-Clip earthing	900268	12

[†] Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator. For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 3-P 4,50 kWp (2x8)

Layout:	Part Nr	Qty
TILE[†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	20
VS+ Connector rail 41x35mm	400531	16
RS1 Black universal clamp	420080-BE	28
RH1 roof hook (without screws)	420171	28
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	84
OU		
SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	20
VS+ Connector rail 41x35mm	400531	16
RS1 Black universal clamp	420080-BE	28
RH Flat roof hook (without screws)	420172	28
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	84
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	0
RS1 Black universal clamp	420080-BE	36
M10 x 200 double-threaded screw	860006	29
VS+ cap 41x35 (grey)	900246	24
P-Clip earthing	900268	12
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	36
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	36
P-Clip earthing	900268	12
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	36
MS+ wheel steel radius 24	420411	36
P-Clip earthing	900268	12
OU		
ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	12
Streamliner+ (wind protection)	520076	12
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	0



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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER 6,00 kWp

Kit composition (1)	Part number	Quantity
PVMX-375M-FB	2EN230004	16
DS3-L 2-input microinverter	2EN250001	8
ECU-R (production metering)	209018.	1
Electrical box AC 6 kW single-phase***	2ACEL0010	1
Y3 AC bus (2m)	2322304903	8
AC bus end cap	2060700017	2
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 6,00 kWp (2x8)

Layout:	Part Nr	Qty



TILE [*] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	36
RH1 roof hook (without screws)	420171	24
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16
100 Lenticu 6x80 SIT30 wood screws**	900318.	72

OU



FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	36
RH Flat roof hook (without screws)	420172	38
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16
100 Lenticu 6x80 SIT30 wood screws**	900318.	114



OU



FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	36
M10 x 200 double-threaded screw	860006	36
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16

OU



NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	36
MS+ Portrait 400 mm	420421	36
P-Clip earthing	900268	16

OU



WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	48
MS+ wheel steel radius 24	420411	48
P-Clip earthing	900268	16

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 6,00 kWp (2x8)

Layout:	Part Nr	Qty

OU

TILE [*] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	26
VS+ Connector rail 41x35mm	400531	24
RS1 Black universal clamp	420080-BE	36
RH1 roof hook (without screws)	420171	36
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16
100 Lenticu 6x80 SIT30 wood screws**	900318.	108

OU

SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	26
VS+ Connector rail 41x35mm	400531	24
RS1 Black universal clamp	420080-BE	36
RH Flat roof hook (without screws)	420172	40
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16
100 Lenticu 6x80 SIT30 wood screws**	900318.	120

OU

FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	0
RS1 Black universal clamp	420080-BE	48
M10 x 200 double-threaded screw	860006	48
VS+ cap 41x35 (grey)	900246	32
P-Clip earthing	900268	16

OU

NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	50
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	50
P-Clip earthing	900268	16

OU

WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	50
MS+ wheel steel radius 24	420411	50
P-Clip earthing	900268	16

OU



ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	16
Streamliner+ (wind protection)	520076	16
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	0



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER THREE-PHASE 6,00 kWp

Kit composition (1)	Part number	Quantity
PVMX-375M-FB	2EN230004	16
QT2-EU three-phase 4-input microinverter	2EN250003	4
ECU-R (production metering)	209018.	1
Electrical box AC 9 kW three-phase***	2ACEL0011	1
5C AC bus (2,4m) pour QT2	2322604802	4
5C AC bus end cap	2062050005	1
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 3-P 6,00 kWp (2x8)

Layout:	Part Nr	Qty
TILE[†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	36
RH1 roof hook (without screws)	420171	24
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16
100 Lenticu 6x80 SIT30 wood screws**	900318.	72
OU		
FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	36
RH Flat roof hook (without screws)	420172	38
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16
100 Lenticu 6x80 SIT30 wood screws**	900318.	114
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	36
M10 x 200 double-threaded screw	860006	36
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	36
MS+ Portrait 400 mm	420421	36
P-Clip earthing	900268	16
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	48
MS+ wheel steel radius 24	420411	48
P-Clip earthing	900268	16

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 3-P 6,00 kWp (2x8)

Layout:	Part Nr	Qty
TILE[†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	26
VS+ Connector rail 41x35mm	400531	24
RS1 Black universal clamp	420080-BE	36
RH1 roof hook (without screws)	420171	36
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16
100 Lenticu 6x80 SIT30 wood screws**	900318.	108
OU		
SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	26
VS+ Connector rail 41x35mm	400531	24
RS1 Black universal clamp	420080-BE	36
RH Flat roof hook (without screws)	420172	40
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	16
100 Lenticu 6x80 SIT30 wood screws**	900318.	120
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	0
RS1 Black universal clamp	420080-BE	48
M10 x 200 double-threaded screw	860006	48
VS+ cap 41x35 (grey)	900246	32
P-Clip earthing	900268	16
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	50
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	50
P-Clip earthing	900268	16
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	50
MS+ wheel steel radius 24	420411	50
P-Clip earthing	900268	16
OU		
ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	16
Streamliner+ (wind protection)	520076	16
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	0



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER THREE-PHASE 9,00 kWp

Kit composition (1)	Part number	Quantity
PVMX-375M-FB	2EN230004	24
QT2-EU three-phase 4-input microinverter	2EN250003	6
ECU-R (production metering)	209018.	1
Electrical box AC 9 kW three-phase***	2ACEL0011	1
5C AC bus (2,4m) pour QT2	2322604802	6
5C AC bus end cap	2062050005	1
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 3-P 9,00 kWp (4x6)

Layout:	Part Nr	Qty



TILE* Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	24
VS+ Connector rail 41x35mm	400531	16
RS1 Black universal clamp	420080-BE	56
RH1 roof hook (without screws)	420171	48
VS+ cap 41x35 (grey)	900246	16
P-Clip earthing	900268	24
100 Lenticu 6x80 SIT30 wood screws**	900318.	144

OU



FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	24
VS+ Connector rail 41x35mm	400531	16
RS1 Black universal clamp	420080-BE	56
RH Flat roof hook (without screws)	420172	48
VS+ cap 41x35 (grey)	900246	16
P-Clip earthing	900268	24
100 Lenticu 6x80 SIT30 wood screws**	900318.	144

OU



FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	24
VS+ Connector rail 41x35mm	400531	16
RS1 Black universal clamp	420080-BE	56
M10 x 200 double-threaded screw	860006	56
VS+ cap 41x35 (grey)	900246	16
P-Clip earthing	900268	24

OU



NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	56
MS+ Portrait 400 mm	420421	56
P-Clip earthing	900268	24

OU



WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	60
MS+ wheel steel radius 24	420411	60
P-Clip earthing	900268	24

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.

(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.



Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 3-P 9,00 kWp (4x6)

Layout:	Part Nr	Qty

OU

TILE* Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	40
VS+ Connector rail 41x35mm	400531	32
RS1 Black universal clamp	420080-BE	56
RH1 roof hook (without screws)	420171	56
VS+ cap 41x35 (grey)	900246	16
P-Clip earthing	900268	24
100 Lenticu 6x80 SIT30 wood screws**	900318.	168

OU

SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	40
VS+ Connector rail 41x35mm	400531	32
RS1 Black universal clamp	420080-BE	56
RH Flat roof hook (without screws)	420172	56
VS+ cap 41x35 (grey)	900246	16
P-Clip earthing	900268	24
100 Lenticu 6x80 SIT30 wood screws**	900318.	168

OU

FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	24
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	60
M10 x 200 double-threaded screw	860006	36
VS+ cap 41x35 (grey)	900246	24
P-Clip earthing	900268	24

OU

NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	60
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	60
P-Clip earthing	900268	24

OU

WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	60
MS+ wheel steel radius 24	420411	60
P-Clip earthing	900268	24

OU



ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	24
Streamliner+ (wind protection)	520076	24
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	0



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER 1,00 kWp

Kit composition (1)	Part number	Quantity
PVMX-500M-FB	2EN230006	2
DS3 2-input microinverter	2EN250002	1
ECU-B (production metering for 4 PV)	211018	1
AC 3 kW single-phase electrical box***	2ACEL0009	1
Y3 standalone cable (1m)	2334076132	1
AC bus end cap	2060700017	0
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 1,00 kWp (1x2)

Layout:	Part Nr	Qty
TILE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	3
VS+ Connector rail 41x35mm	400531	2
RS1 Black universal clamp	420080-BE	6
RH1 roof hook (without screws)	420171	6
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
100 Lenticu 6x80 SIT30 wood screws**	900318.	18
OU		
FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	3
VS+ Connector rail 41x35mm	400531	2
RS1 Black universal clamp	420080-BE	6
RH Flat roof hook (without screws)	420172	6
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
100 Lenticu 6x80 SIT30 wood screws**	900318.	18
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	3
VS+ Connector rail 41x35mm	400531	2
RS1 Black universal clamp	420080-BE	6
M10 x 200 double-threaded screw	860006	6
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	6
MS+ Portrait 400 mm	420421	6
P-Clip earthing	900268	2
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	8
MS+ wheel steel radius 24	420411	8
P-Clip earthing	900268	2

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 1,00 kWp (1x2)

Layout:	Part Nr	Qty
TILE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	4
VS+ Connector rail 41x35mm	400531	2
RS1 Black universal clamp	420080-BE	6
RH1 roof hook (without screws)	420171	8
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
100 Lenticu 6x80 SIT30 wood screws**	900318.	24
OU		
SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	4
VS+ Connector rail 41x35mm	400531	2
RS1 Black universal clamp	420080-BE	6
RH Flat roof hook (without screws)	420172	8
VS+ cap 41x35 (grey)	900246	4
P-Clip earthing	900268	2
100 Lenticu 6x80 SIT30 wood screws**	900318.	24
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	4
VS+ Connector rail 41x35mm	400531	0
RS1 Black universal clamp	420080-BE	8
M10 x 200 double-threaded screw	860006	8
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	2
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	8
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	8
P-Clip earthing	900268	2
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	8
MS+ wheel steel radius 24	420411	8
P-Clip earthing	900268	2
OU		
ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	2
Streamliner+ (wind protection)	520076	2
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	2



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER 3,00 kWp

Kit composition (1)	Part number	Quantity
PVMX-500M-FB	2EN230006	6
DS3 2-input microinverter	2EN250002	3
ECU-R (production metering)	209018.	1
AC 3 kW single-phase electrical box***	2ACEL0009	1
Y3 AC bus (2m)	2322304903	3
AC bus end cap	2060700017	1
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 3,00 kWp (2x3)

Layout:	Part Nr	Qty



TILE [†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	8
VS+ Connector rail 41x35mm	400531	4
RS1 Black universal clamp	420080-BE	16
RH1 roof hook (without screws)	420171	16
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	6
100 Lenticu 6x80 SIT30 wood screws**	900318.	48

OU



FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	8
VS+ Connector rail 41x35mm	400531	4
RS1 Black universal clamp	420080-BE	16
RH Flat roof hook (without screws)	420172	16
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	6
100 Lenticu 6x80 SIT30 wood screws**	900318.	48



OU



FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	8
VS+ Connector rail 41x35mm	400531	4
RS1 Black universal clamp	420080-BE	16
M10 x 200 double-threaded screw	860006	20
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	6

OU



NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	16
MS+ Portrait 400 mm	420421	16
P-Clip earthing	900268	6

OU



WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	21
MS+ wheel steel radius 24	420411	21
P-Clip earthing	900268	6

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 3,00 kWp (2x3)

Layout:	Part Nr	Qty

OU

TILE [†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	8
RS1 Black universal clamp	420080-BE	16
RH1 roof hook (without screws)	420171	24
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	6
100 Lenticu 6x80 SIT30 wood screws**	900318.	72

OU

SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	8
RS1 Black universal clamp	420080-BE	16
RH Flat roof hook (without screws)	420172	20
VS+ cap 41x35 (grey)	900246	8
P-Clip earthing	900268	6
100 Lenticu 6x80 SIT30 wood screws**	900318.	60

OU

FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	9
VS+ Connector rail 41x35mm	400531	6
RS1 Black universal clamp	420080-BE	18
M10 x 200 double-threaded screw	860006	18
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	6

OU

NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	18
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	18
P-Clip earthing	900268	6

OU

WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	18
MS+ wheel steel radius 24	420411	18
P-Clip earthing	900268	6

OU



ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	6
Streamliner+ (wind protection)	520076	6
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	6



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER 4,50 kWp

Kit composition (1)	Part number	Quantity
PVMX-500M-FB	2EN230006	9
DS3 2-input microinverter	2EN250002	5
ECU-R (production metering)	209018.	1
Electrical box AC 6 kW single-phase***	2ACELO010	1
Y3 AC bus (2m)	2322304903	4
AC bus end cap	2060700017	2
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 4,50 kWp (3x4)

Layout:	Part Nr	Qty
TILE[†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	6
RS1 Black universal clamp	420080-BE	24
RH1 roof hook (without screws)	420171	30
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	9
100 Lenticu 6x80 SIT30 wood screws**	900318.	90
OU		
FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	6
RS1 Black universal clamp	420080-BE	24
RH Flat roof hook (without screws)	420172	30
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	9
100 Lenticu 6x80 SIT30 wood screws**	900318.	90
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	6
RS1 Black universal clamp	420080-BE	24
M10 x 200 double-threaded screw	860006	30
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	9
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	24
MS+ Portrait 400 mm	420421	24
P-Clip earthing	900268	9
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	26
MS+ wheel steel radius 24	420411	26
P-Clip earthing	900268	9

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator. For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 4,50 kWp (3x4)

Layout:	Part Nr	Qty
TILE[†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	18
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	24
RH1 roof hook (without screws)	420171	38
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	9
100 Lenticu 6x80 SIT30 wood screws**	900318.	114
OU		
SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	18
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	24
RH Flat roof hook (without screws)	420172	34
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	9
100 Lenticu 6x80 SIT30 wood screws**	900318.	102
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	12
VS+ Connector rail 41x35mm	400531	6
RS1 Black universal clamp	420080-BE	24
M10 x 200 double-threaded screw	860006	24
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	9
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	28
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	28
P-Clip earthing	900268	9
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	28
MS+ wheel steel radius 24	420411	28
P-Clip earthing	900268	9
OU		
ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	9
Streamliner+ (wind protection)	520076	9
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	9



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER 6,00 kWp

Kit composition (1)	Part number	Quantity
PVMX-500M-FB	2EN230006	12
DS3 2-input microinverter	2EN250002	6
ECU-R (production metering)	209018.	1
Electrical box AC 6 kW single-phase***	2ACEL0010	1
Y3 AC bus (2m)	2322304903	6
AC bus end cap	2060700017	2
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 6,00 kWp (3x4)

Layout:	Part Nr	Qty



TILE* Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	15
VS+ Connector rail 41x35mm	400531	12
RSI Black universal clamp	420080-BE	30
RH1 roof hook (without screws)	420171	32
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	96

OU



FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	15
VS+ Connector rail 41x35mm	400531	12
RSI Black universal clamp	420080-BE	30
RH Flat roof hook (without screws)	420172	38
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	114

OU



FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	15
VS+ Connector rail 41x35mm	400531	12
RSI Black universal clamp	420080-BE	30
M10 x 200 double-threaded screw	860006	36
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12

OU



NERVURED STEEL Snow B2 / Wind 3 (2)		
RSI Black universal clamp	420080-BE	30
MS+ Portrait 400 mm	420421	30
P-Clip earthing	900268	12

OU



WHEEL STEEL Snow B2 / Wind 3 (2)		
RSI Black universal clamp	420080-BE	38
MS+ wheel steel radius 24	420411	38
P-Clip earthing	900268	12

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.



LANDSCAPE MOUNTING 6,00 kWp (3x4)

Layout:	Part Nr	Qty

OU

TILE* Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	24
VS+ Connector rail 41x35mm	400531	18
RSI Black universal clamp	420080-BE	30
RH1 roof hook (without screws)	420171	48
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	144

OU

SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	24
VS+ Connector rail 41x35mm	400531	18
RSI Black universal clamp	420080-BE	30
RH Flat roof hook (without screws)	420172	48
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	144

OU

FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	8
RSI Black universal clamp	420080-BE	32
M10 x 200 double-threaded screw	860006	32
VS+ cap 41x35 (grey)	900246	16
P-Clip earthing	900268	12

OU

NERVURED STEEL Snow B2 / Wind 3 (2)		
RSI Black universal clamp	420080-BE	34
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	34
P-Clip earthing	900268	12

OU

WHEEL STEEL Snow B2 / Wind 3 (2)		
RSI Black universal clamp	420080-BE	34
MS+ wheel steel radius 24	420411	34
P-Clip earthing	900268	12

OU

ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	12
Streamliner+ (wind protection)	520076	12
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	12

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER THREE-PHASE 6,00 kWp

Kit composition (1)	Part number	Quantity
PVMX-500M-FB	2EN230006	12
QT2-EU three-phase 4-input microinverter	2EN250003	3
ECU-R (production metering)	209018.	1
Electrical box AC 9 kW three-phase***	2ACELO011	1
5C AC bus (2,4m) pour QT2	2322604802	3
5C AC bus end cap	2062050005	1
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 3-P 6,00 kWp (3x4)

Layout:	Part Nr	Qty
TILE[†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	15
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	30
RH1 roof hook (without screws)	420171	32
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	96
OU		
FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	15
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	30
RH Flat roof hook (without screws)	420172	38
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	114
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	15
VS+ Connector rail 41x35mm	400531	12
RS1 Black universal clamp	420080-BE	30
M10 x 200 double-threaded screw	860006	36
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	30
MS+ Portrait 400 mm	420421	30
P-Clip earthing	900268	12
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	38
MS+ wheel steel radius 24	420411	38
P-Clip earthing	900268	12

* Not compatible with flat tiles and sealed tiles.

** Please note that the screw quantity is given per unit and not per sales package.

*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 3-P 6,00 kWp (3x4)

Layout:	Part Nr	Qty
TILE[†] Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	24
VS+ Connector rail 41x35mm	400531	18
RS1 Black universal clamp	420080-BE	30
RH1 roof hook (without screws)	420171	48
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	144
OU		
SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	24
VS+ Connector rail 41x35mm	400531	18
RS1 Black universal clamp	420080-BE	30
RH Flat roof hook (without screws)	420172	48
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	12
100 Lenticu 6x80 SIT30 wood screws**	900318.	144
OU		
FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	16
VS+ Connector rail 41x35mm	400531	8
RS1 Black universal clamp	420080-BE	32
M10 x 200 double-threaded screw	860006	32
VS+ cap 41x35 (grey)	900246	16
P-Clip earthing	900268	12
OU		
NERVURED STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	34
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	34
P-Clip earthing	900268	12
OU		
WHEEL STEEL Snow B2 / Wind 3 (2)		
RS1 Black universal clamp	420080-BE	34
MS+ wheel steel radius 24	420411	34
P-Clip earthing	900268	12
OU		
ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	12
Streamliner+ (wind protection)	520076	12
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	12



Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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1 POWER REQUIRED

COMPOSITION OF THE KIT POWER THREE-PHASE 9,00 kWp

Kit composition (1)	Part number	Quantity
PVMX-500M-FB	2EN230006	18
QT2-EU three-phase 4-input microinverter	2EN250003	5
ECU-R (production metering)	209018.	1
Electrical box AC 9 kW three-phase***	2ACEL0011	1
5C AC bus (2,4m) pour QT2	2322604802	5
5C AC bus end cap	2062050005	1
Y unlock tool	2352000001	1



(1) It may be necessary to add the reference "DC cable extension - 2310360214". The quantity will depend on the configuration (layout), refer to the length of cable available at the panel output in the panel product data sheet.
Il est nécessaire d'ajouter les références "2 x MC4 caps Male - 2060401006 + 2 x MC4 caps Female - 2060402006" afin de rendre étanches les connecteurs MC4 non utilisés.



2 DESIRED FIXING SYSTEM

PORTRAIT MOUNTING 3-P 9,00 kWp (3x6)

Layout:	Part Nr	Qty



TILE* Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	21
VS+ Connector rail 41x35mm	400531	18
RSI Black universal clamp	420080-BE	42
RH1 roof hook (without screws)	420171	42
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	18
100 Lenticu 6x80 SIT30 wood screws**	900318.	126

OU



FLAT TILE / SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	21
VS+ Connector rail 41x35mm	400531	18
RSI Black universal clamp	420080-BE	42
RH Flat roof hook (without screws)	420172	42
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	18
100 Lenticu 6x80 SIT30 wood screws**	900318.	126



OU



FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	21
VS+ Connector rail 41x35mm	400531	18
RSI Black universal clamp	420080-BE	42
M10 x 200 double-threaded screw	860006	48
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	18

OU



NERVURED STEEL Snow B2 / Wind 3 (2)		
RSI Black universal clamp	420080-BE	42
MS+ Portrait 400 mm	420421	42
P-Clip earthing	900268	18

OU



WHEEL STEEL Snow B2 / Wind 3 (2)		
RSI Black universal clamp	420080-BE	54
MS+ wheel steel radius 24	420411	54
P-Clip earthing	900268	18

* Not compatible with flat tiles and sealed tiles.
** Please note that the screw quantity is given per unit and not per sales package.
*** An alternative reference may be delivered depending on stocks.



(2) The kit does not include the following references for fixing the microinverter to the rail: "100 Vis tête marteau M8 x 25 - 900007" + "100 Écrou M8 - 900001" (1 reference of each per microinverter). For steel covers, provide one additional fastener per microinverter to secure it with the hammer-head screw.

Please note: The kits have been determined for a given altitude and wind and snow conditions. They are given for information only and cannot replace the configurator.

For more details, refer to the maps of wind and snow regions in accordance with Eurocode EN1991-1-3 and EN1991-1-4.

LANDSCAPE MOUNTING 3-P 9,00 kWp (3x6)

Layout:	Part Nr	Qty

OU

TILE* Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	36
VS+ Connector rail 41x35mm	400531	30
RSI Black universal clamp	420080-BE	42
RH1 roof hook (without screws)	420171	72
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	18
100 Lenticu 6x80 SIT30 wood screws**	900318.	216

OU

SLATE Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	36
VS+ Connector rail 41x35mm	400531	30
RSI Black universal clamp	420080-BE	42
RH Flat roof hook (without screws)	420172	72
VS+ cap 41x35 (grey)	900246	12
P-Clip earthing	900268	18
100 Lenticu 6x80 SIT30 wood screws**	900318.	216

OU

FIBROCEMENT Snow B2 / Wind 3 (2)		
VS+ Rail 41x35x2250mm silver	400523	24
VS+ Connector rail 41x35mm	400531	12
RSI Black universal clamp	420080-BE	48
M10 x 200 double-threaded screw	860006	48
VS+ cap 41x35 (grey)	900246	24
P-Clip earthing	900268	18

OU

NERVURED STEEL Snow B2 / Wind 3 (2)		
RSI Black universal clamp	420080-BE	54
MS+ aci0,4-1,25mm alu0,5-2,0mm	420402	54
P-Clip earthing	900268	18

OU

WHEEL STEEL Snow B2 / Wind 3 (2)		
RSI Black universal clamp	420080-BE	54
MS+ wheel steel radius 24	420411	54
P-Clip earthing	900268	18

OU



ROOF TERRACE / GROUND Snow B2 / Wind 3		
ConSole+ (incl. U-Profilé)	520075-K	18
Streamliner+ (wind protection)	520076	18
Rear gripper for CS+	420023	0
Extension rails for ConSole	460196	18

























Check the compatibility of the processes (fixing systems) with the ETNs available in our document library.

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Reference	Part number	Picture
PHOTOVOLTAIC SOLAR PANEL		
PVMX-375M-FB	2EN230004	
PVMX-410M-FB	2EN230005	
PVMX-500M-FB	2EN230006	
MICRO-INVERTER		
DS3-L 2-input microinverter	2EN250001	
DS3 2-input microinverter	2EN250002	
QT2-EU three-phase 4-input microinverter	2EN250003	
HYBRID INVERTER		
IMEON 3.6 Hybrid Inverter	2EN270001	
IMEON 9.12 Hybrid Inverter	2EN270002	
AIRSOLAR "PLUG & PLAY" HYBRID CABINET		
AHOB-3000-24	2EN280001	
AHOB-3000-48	2EN280002	
COMMUNICATION GATEWAY		
ECU-R (production metering)	209018.	
ECU-B (production metering for 4 PV)	211018	
ECU-C (production & consumption metering)	205018	
80A transformer for ECU-C	18083020112	
200A transformer for ECU-C	18083020012	
Wifi / Zigbee booster	2376010003	
WIRING		
Y3 AC bus (2m)	2322304903	
Y3 AC bus (4m)	2322404903	
Y3 standalone cable (1m)	2334076132	
AC bus end cap	2060700017	
AC Bus Y-CONN Cap	2061702007	
Y unlock tool	2352000001	
DC extension cable	2310360214	
AC male connector	2300531032	
AC female connector	2300532032	
MC4 caps Male	2060401006	
MC4 caps Female	2060402006	
5C AC bus (2,4m) pour QT2	2322604802	
5C AC bus end cap	2062050005	
5C AC Bus Y-CONN Cap	2061252032	
25 A AC male connector for 5C AC bus	2300711032	
25 AC female connector for 5C AC bus	2300812032	
BATTERY + MANAGEMENT (MICRO-INVERTER)		
Syst. Battery AC 5000VA 50Hz 48V 7,5KVA	611018	
APbattery 6.5kWh	58404000003	
BATTERY (HYBRID INVERTER)		
48V50Ah-LV battery panel	2EN290001	
51V100Ah-LV battery panel	2EN290002	
ELECTRICAL BOX		
AC 3 kW single-phase electrical box	2ACEL0009	
AC 6 kW single-phase electrical box	2ACEL0010	
AC 9 kW three-phase electrical box	2ACEL0011	

Reference	Part number	Picture
FIXING SYSTEM		
VS+ Rail 41x35x2250mm silver	400523	
VS+ Rail 41x35x3300mm silver	400524	
VS+ Connector rail 41x35mm	400531	
Rear gripper for CS+	420023	
RSI Bride universelle silver	420080	
RSI Black universal clamp	420080-BE	
Single+ flange	420081	
Single flange+ (black)	420081-BE	
Double+ flange	420082	
Double clamp+ (black)	420082-BE	
Flat tile hook (without screws)	420153	
RH Flat roof hook (without screws)	420172	
Slate hook (without screws)	420155	
ECO Basic hook (screwless)	420165	
RH1 roof hook (without screws)	420171	
Aluminium hook (screwless)	420151	
MS+ aci0.4-1.25mm alu0.5-2.0mm	420402	
Extension rails for ConSole	460196	
ConSole+ (incl. U-Profile)	520075-K	
Streamliner+ (wind protection)	520076	
M10 x 200 double-threaded screw	860006	
M12 x 250 double-threaded screw	860007	
100 Countersunk wood screws 6x80	900013.	
VS+ cap 41x35 (grey)	900246	
VS+ cap 41x35 (black)	900245	
P-Clip earthing	900268	
MS+ Portrait 400 mm	420421	
MS+ wheel steel radius 24	420411	
100 Lenticu wood screws 6x80 SIT30	900318.	
100 Hammer head screws M8 x 25	900007	
100 M8 nut	900001	
Spacer plate 2 mm	400350	
Spacer plate 5 mm	400351	



PRIME SELF CONSUMPTION

PREMIUM FOR PHOTOVOLTAIC SELF-CONSUMPTION WITH SALE OF THE SURPLUS

Reduce the investment cost of your panels!

Each country has its own local schemes.

Don't hesitate to find out which bonuses you are entitled to.

WHAT IS SELF-CONSUMPTION?

Self-consumption means consuming the energy produced by your solar array. It therefore applies to photovoltaic and hybrid installations. Here is some information on photovoltaic support for self-consumption in 2024, in France:

- For self-consumption photovoltaic or hybrid installations ≤ 3 kWp: premium of €370 incl. VAT per kWp installed + €0.13 per kWh of surplus sold.
- From 3 to 9 kWp: a self-consumption photovoltaic premium of €280 (incl. VAT) per kWp installed. Surplus electricity can be sold back to the grid at a feed-in tariff of €0.13 per kWh.
- For the 9 to 36 kWp band: a self-consumption photovoltaic bonus of €200 (incl. VAT) per kWp installed. Surplus electricity can be sold back to the grid at a feed-in tariff of €0.078 per kWh.
- For installations of between 36 and 100 kWp: a self-consumption photovoltaic bonus of €100 (incl. VAT) per kWp installed. Surplus electricity can be sold back to the grid at a feed-in tariff of €0.078 per kWh.
- The quarter in which the premium is set is determined by the date on which the complete connection request is submitted.

POWER OF THE INSTALLATION	AMOUNT OF PREMIUM*
Less than 3kWp	370 € / kWp
From 3 kWp to 9 kWp	280 € / kWp
Between 9 kWp and up to 36 kWp	200 € / kWp
Between 36 kWp and up to 100 kWp	100 € / kWp

* Please note that the amounts are subject to change each quarter.

How can I get a contract?

A new photovoltaic order S21 was published on 22/12/2023.

FIND OUT MORE:

EDF website - Purchase obligation
<https://www.edf-oa.fr/>

www.airwell.com

INFORMATION SHEET

Job reference:

Date:

Provisional work date:

CUSTOMER

Company:

Contact name:

Address:

Postcode:

Town/city:

E-mail:

Phone:

INFORMATION ON THE INSTALLATION

Address or geographic coordinates:

Power supply: Single-phase Three-phase

What type of subscription do you have?

Personal residence: Single tariff Peak/Off-peak tariff
 Professional residence: Single tariff Peak/Off-peak tariff
 Company: Low voltage High voltage

What is the firm power indicated on your meter? _____ kVA

Rate per kWh (please specify if not single tariff): € _____

Annual consumption: _____ kWh

Desired panel: PVMX-375M-FB PVMX-500M-FB

Desired total maximum power of installation: _____ Wp

TERRAIN CATEGORY



Terrain category 0 (sea)



Terrain category II (open countryside, airport)



Terrain category IIIa (countryside with hedgerows, woodland)



Terrain category IIIb (dense woodland, industrial zone)



Terrain category IV (urban)

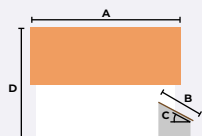
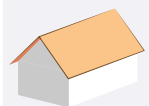
ANSWER TO THE PART BELOW ONLY IF YOU WANT THE FIXING SYSTEM

INFORMATION ON THE ROOF

Orientation: SOUTH SOUTH-WEST SOUTH-EAST EAST WEST

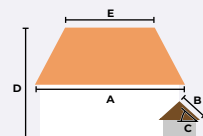
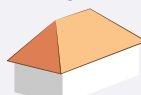
Select the roof type:

Saddleback roof



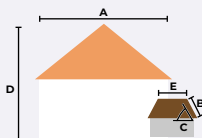
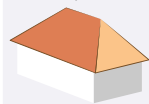
A: Roof length _____m
 B: Roof segment width _____m
 C: Slope _____°
 D: Building height _____m

Two-pitch roof with two long sides



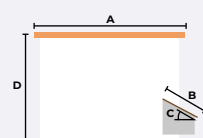
A: Roof length _____m
 B: Roof segment width _____m
 C: Slope _____°
 D: Building height _____m
 E: Ridge length _____m

Short-pitch roof



A: Roof length _____m
 B: Roof segment width _____m
 C: Slope _____°
 D: Building height _____m
 E: Ridge length _____m

Flat roof





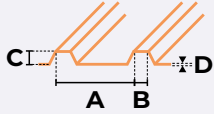

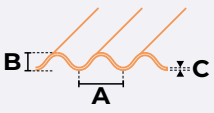

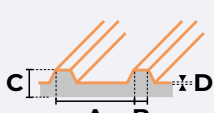

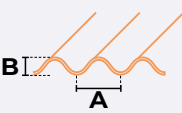


A: Roof length _____m
 B: Roof segment width _____m
 C: Slope _____°
 D: Building height _____m
 Parapet height _____m
 Parapet width _____m
 Rotation _____m
 Ground type _____

COMMENTS / SKETCHES (ALL RELEVANT DETAILS, OBSTACLES, SHADE, ETC.)

INFORMATION SHEET

COVER TYPE

Bearing structure type: <input type="checkbox"/> Rafters <input type="checkbox"/> Purlins	Bearing structure material:
Bearing structure spacing _____ mm	First bearing structure at _____ mm
Bearing structure thickness _____ mm	
 <input type="checkbox"/> TILES	 <input type="checkbox"/> FLAT TILE
 <input type="checkbox"/> SLATE	
Spacing between battens _____ m	Batten height _____ mm
First batten at _____ m	Batten width _____ mm
 <input type="checkbox"/> RIBBED	
A: Spacing between ribs _____ mm	First rib at _____ mm
B: Rib width _____ mm	C: Rib height _____ mm
Rib quality: Steel \geq S320GD (otherwise specify _____)	D: Rib thickness _____ mm
 <input type="checkbox"/> CORRUGATED	
A: Spacing between splines _____ mm	First spline at _____ mm
B: Spline height _____ mm	Rib quality: Steel \geq S320GD (otherwise specify _____)
C: Spline thickness _____ mm	
 <input type="checkbox"/> SANDWICH RIBBED	
A: Spacing between ribs _____ mm	First rib at _____ mm
B: Rib width _____ mm	C: Rib height _____ mm
Rib quality: Steel \geq S320GD (otherwise specify _____)	D: Rib thickness _____ mm
 <input type="checkbox"/> FIBRE CEMENT	
A: Spacing between splines _____ mm	First spline at _____ mm
B: Spline height _____ mm	

DOCUMENTS TO BE SUPPLIED

<input type="checkbox"/> Your subscription contract/electricity bill
<input type="checkbox"/> Your load curve* (contact your energy supplier)
<input type="checkbox"/> Roof plan
<input type="checkbox"/> Pictures

* Available on request from your energy supplier. Electronic document required to conduct the study properly. Without it, the calculation will be less precise.

GROUPE AIRWELL

ARTICLE 1 - PURPOSE AND SCOPE

1.1. These general terms and conditions of sale apply to all sales of equipment and deliveries of services entered into by Groupe Airwell SA (hereinafter the "Vendor"), a public limited company (société anonyme) with a capital of 304,177.10 euros whose registered office is located at 10, rue du Fort de Saint Cyr, 78180 Montigny le Bretonneux, France, entered in the Versailles trade and companies register under number 824 596 795 from a professional buyer, understood as any natural or legal person, public or private, who acts for purposes within the framework of his commercial, industrial, craft, liberal or agricultural activity, including when they act in the name and on behalf of another professional. These general terms and conditions of sale are not applicable to a consumer or non-professional buyer.

1.2. "Equipment" refers to finished products, accessories, and spare parts.

1.3. Any order implies full and unconditional acceptance of these general terms and conditions of sale, which prevail over any other document of the buyer, particularly its general terms and conditions of purchase, unless otherwise expressly agreed beforehand by the Vendor.

1.4. If the Vendor does not invoke any one of the clauses of the general terms and conditions of sale at a given moment, this may not be interpreted as a waiver of its rights to invoke such clauses or these general terms and conditions of sale subsequently.

ARTICLE 2 - GENERAL INFORMATION: CATALOGUES, DOCUMENTATION

2.1. Because of the speed of the technological evolution and the evolution of standards or improvements regarding security in the field in question, any information, indication, or item of value transmitted on any medium, whether it comes from the manufacturer or the Vendor, is given for information purposes only. These parties reserve the right to make any modification to the equipment whose etchings, photographs, or drawings appear on such documents, at any time and without notice. No document provided by the Vendor is considered a contractual element, and the Vendor cannot be held liable for such documents.

2.2. Where the selection of the proposed equipment is done by the Vendor on the basis of information provided by the informed professional buyer, the buyer is always responsible for ensuring that the characteristics of the equipment proposed by the Vendor are actually suitable for its needs, with regard to both performance and the possibilities of implementation. In addition,

if the buyer resorts to the collaboration of the Vendor's engineers or technicians for a study or project, the Vendor may not be held responsible, and the buyer undertakes to consult an expert in the field for, among other things, the selection and sizing of the equipment and its installation and commissioning.

2.3. The buyer must not modify the markings affixed on the equipment or packaging, add any other marking, or use the Vendor's markings, names, or trademarks in any way not expressly authorised.

ARTICLE 3 - ORDERS AND QUOTATIONS

3.1. Orders are firm. Once accepted, the order or quotation may only be modified or cancelled by the buyer with the Vendor's prior express consent. The buyer shall be liable for any order cancellation, even partial, and the Vendor shall be entitled to compensation in the form of a penalty set in the amount of the cancelled order, without prejudice to all other damages.

3.2. Any acceptance of an order or quotation must be written. Sales are final only after the express acceptance materialized by the Vendor's issue of an acknowledgement of receipt of the buyer's order. The Vendor reserves the right to accept or reject any order within a maximum of five business days from its receipt.

3.3. The buyer must check the acknowledgement of receipt of the order and report any error or omission to the Vendor within a maximum period of 48 hours from its receipt. Beyond this period, the order becomes final for the buyer. If a buyer places an order with the Vendor, without having paid for its previous order(s), the Vendor may refuse to honor the order and deliver the equipment in question, without the buyer being able to claim any compensation for any reason whatsoever.

3.4. The Vendor reserves the right, even after partial fulfilment of an order, to require guarantees or to cancel the order(s) or balances of orders in progress in the name of the buyer, without any compensation any kind, in the following cases: deterioration of the buyer's credit, failure to file documents and instruments with the registry of the commercial court, downgrading of the buyer's rating by the Vendor's credit department, refusal of a credit insurer or a factor to cover the amount of the sale, change or modification in the financial or legal capacity of the buyer, registrations or liens on the buyer's business or in general, in case of a change in the buyer's situation.

ARTICLE 4 - DELIVERY AND TRANSPORT

4.1. Unless there are provisions or an agreement to the contrary, the transport/delivery

costs are borne by the purchaser. The reference incoterms are FCA vendor's warehouse or FOB port of shipment from the manufacturing plants.

4.2. The delivery lead times are given for information purposes only. In no case may exceeding the lead times justify the cancellation of the order or the awarding of damages. However, if the equipment still has not been delivered two months after a formal notice has remained unsuccessful, for any other cause other than force majeure (as defined in article 6.2), the order may then be cancelled at the request of either party; the buyer may obtain a refund of its advance payment to the exclusion of any other compensation or damages.

4.3. In accordance with Article 133-3 of the French commercial code, any delivered equipment that was not the subject of reservations by registered letter with acknowledgement of receipt within three days following the date of such receipt (not including holidays) to the transporter, a copy of which shall be simultaneously sent to the Vendor, shall be considered accepted by the buyer.

ARTICLE 5 - RECEIPT AND RETURN OF EQUIPMENT

5.1. Complaints about apparent defects or the non-conformity of the delivered equipment must be expressed in detail on the delivery slip and by registered letter with acknowledgement of receipt and sent to the Vendor's registered office within 72 hours following the delivery. Beyond this period, the received equipment shall be considered conforming to the order. It shall be up to the buyer to provide, with its complaint, any justification as to the reality of the noted defects or anomalies. The buyer shall give the Vendor every opportunity to investigate such defects and find a solution.

5.2. In any case, the buyer may not return the equipment without authorization from the Vendor. The Vendor shall be responsible for the costs and risks of the return solely in the event that an apparent defect or missing items are actually noted by it or its representative. If a claim proves justified, the return shall be the subject of an exchange or a credit memo, at the Vendor's choice, without the ability to demand any compensation or damages in any capacity whatsoever. Any return of equipment previously accepted due to the buyer, including but not limited to an order error or incorrect information communicated for a calculation or an order made by the buyer, will result in a discount to be defined according to the condition and/or antiquated or possible obsolescence of the returned product. The buyer shall be res-

ponsible for the return transport.

ARTICLE 6 - PRICE - TARIFFS - PRICE REDUCTIONS

6.1. Unless there are provisions or an agreement to the contrary, prices are set in euros net of tax and FCA vendor's warehouse for sales from the seller's stock, or FOB port of shipment from the manufacturing plants. For sales from manufacturing plants, a handling/freight/stuffing fee of 470 euros per container (regardless of container type) will be charged.

6.2. Equipment is sold on the basis of the Vendor's tariffs in force as at the date when each order is placed, or as at the date of issue of each quotation, subject to a delivery occurring no later than the end of the second calendar month following that date. Beyond that period, any price change before delivery shall be automatically applicable.

6.3. No discount shall be applied by the Vendor for cash payment or for payment earlier than the period indicated in these general terms and conditions of sale or on the invoice issued by the Vendor.

6.4. Unless otherwise agreed, the Vendor may grant the buyer discounts on the prices in force, including in the form of premiums, at the time when the order is placed, depending on the turnover excluding taxes generated annually or over a given period, and/or the quantity/nature of the purchased finished products and/or services possibly rendered by the buyer. These discounts may be fixed and/or gradual and may vary according to the categories of buyers.

6.5. If one of the criteria for application of these price reductions or any one of the clauses of these terms and conditions of sale is not met, the elimination of the benefit of such price reductions shall be immediately retroactive over the entire year in question. Consequently, if price reductions have already been applied by the Vendor during the year in question, they must be returned by the buyer on simple request.

ARTICLE 7 - PAYMENT TERMS

7.1. For any company based outside France, invoices shall be payable according to the payment period negotiated and agreed by the Vendor. For all French companies, invoices are payable within a maximum period of 45 days, end of month, or 60 days from the invoice issue date. For summarised invoices issued at the end of the month, the period must not exceed 45 days from the invoice issue date (article L. 441-6 of the Code of Commerce).

7.2. The Vendor reserves the right to require one or more advance payments when the order is placed and/or before shipment. Any commercial paper (bill of exchange or promissory note) presented for acceptance must be returned within eight clear days of its receipt by the buyer.

7.3. In accordance with Articles L. 441-3, L. 441-6, and D. 441-5 of the French commercial code, any payment delay automatically results in, in addition to late payment penalties at a rate equal to three times the statutory interest rate (i.e., 0.77% in the second half of 2022 updated each half-year period by the Minister of the Economy, with the understanding that this rate shall apply to the amount of the invoice including all taxes), an obligation for the debtor to pay 40 euros in recovery charges if the invoice has not been settled on the day following the payment date appearing on the invoice. In addition, in case of a late payment or a partial payment, (i) the Vendor may suspend all current and/or future orders; (ii) 48 hours after a formal notice has remained unsuccessful, the sale shall be automatically terminated, if so desired by the Vendor, which may bring action for summary proceedings for the return of the equipment, without prejudice to any other action and/or damages. The buyer must reimburse all costs caused by the non-payment (including return costs on unpaid debts) and the recovery of sums due, including fees of ministerial officers and/or recovery companies.

7.4. In no case may payments be suspended or offset without the Vendor's prior written approval. Any partial payment shall first be applied to the non-preferential part of the debt, then on the amounts with the earliest due date.

ARTICLE 8 - RETENTION OF TITLE AND TRANSFER OF RISKS

8.1. The transfer of ownership of the equipment is subject to the full payment of the price by the buyer. The buyer undertakes to maintain the equipment in good condition and insure it against all risks, for which the buyer shall be fully responsible in all cases, as from their delivery. In order to permit any action for recovery by the Vendor, the buyer must ensure that the equipment can be individually identified.

8.2. The Vendor may recover its equipment regardless of whose possession it is in, in case of non-payment of the price by the buyer or insolvency concerning it, even when such equipment has been handed over to a third party. If the equipment resold, the buyer must notify the new buyer of the existence of the retention of title clause.

ARTICLE 9 - LOCAL STANDARDS AND COMPLIANCE

9.1. As concerns European countries subject to the FGAS EU517/2014 regulation, the importer of the products bears sole liability to the European authorities for the declaration of the FGAS quotas. Therefore, for orders from Airwell's central stock located in France, the FGAS quotas are declared by Airwell; no further action is to be taken by Airwell customers. For drop-shippered orders, imported directly from plants outside of Europe, the Airwell customer importing this order bears sole liability for the declaration of the FGAS quotas to the relevant authorities. The latter must complete the declaration paperwork in its own country. Airwell may, at the customer's request, sell and transfer FGAS quotas but Airwell shall not be held liable under any circumstances for a failure to declare quotas or any error in the quantities declared. The importing customer bears sole liability for the declaration of FGAS quotas.

9.2. Any entry of goods into the European Union or a third country is the sole responsibility of the importer. In this sense, the buyer is solely responsible for ensuring the conformity of the products he imports. Airwell cannot be held responsible if the products do not conform to the local standards when they enter the "destination" territory (release for consumption). The buyer must provide in advance all the documents necessary for the conformity of the imported products on the territory of «destination» (release for consumption). Airwell strongly recommends a pre-departure inspection of the goods, at the customer's (buyer's) expense, to ensure the conformity of the imported goods. After research and analysis, Airwell reserves the right to refuse the order or to modify the pricing.

9.3. As a condition of sale, the buyer, upon placing an order with GROUPE AIRWELL SA for products and/or technology and/or services provided by GROUPE AIRWELL SA, certifies to all of the following provisions:

1. Neither the buyer nor any of the buyer's shareholders are entities designated on the Specially Designated National List (SDN List), or other similar sanction lists maintained by applicable jurisdiction. Buyer further warrants that the buyer and its affiliates will not conduct prohibited transactions with the parties listed thereof.

2. Buyer is not a military end user/military-intelligence end user and shall not use the product(s) and/or technology and/or service(s) for a military end use/military-intelligence end use.

3. Buyer shall not sell, export, reexport, transfer, or divert the product(s) and/or technology and/or service(s) directly or indirectly to any use, location, or user in violation of applicable export controls and sanction laws, including but not limited to the U.S. Export Administration Regulations (EAR), and U.S. sanctions administered by the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC).

4. Buyer shall indemnify and hold GROUPE AIRWELL SA harmless for all damages, costs, fines, penalties, and other expenses arising from the non-compliance by the buyer or any of its shareholders with the aforementioned provisions.

ARTICLE 10 - ASSIGNMENT OF JURISDICTION - APPLICABLE LAW

These general terms and conditions of sale are subject to French law. Any dispute shall be under the exclusive jurisdiction of the VERSAILLES COMMERCIAL COURT, even in case of interim proceedings, incidental claims, or multiple defendants or introduction of third parties.

ARTICLE 11 - INTELLECTUAL PROPERTY

11.1. The buyer is authorized, on a precarious basis, to use the brand, the commercial name, the sign, the graphic elements and other distinctive signs relating to the Vendor's equipment for the sole purpose of identifying and promoting them and in the exclusive interest of the Vendor. This right of use does not confer any ownership rights to the buyer. The buyer undertakes not to register and not to be the owner of trademarks, models, domain names, patents, signs, trade names, product references and other distinctive signs belonging to the Vendor (or of which it has the use) or which could lead to confusion with its own.

11.2. With regard to the Vendor's graphic elements, such as logos or photographs, the buyer undertakes to use and reproduce them only and reproduce them only in strict compliance with the quality of the image and the format of the original graphic elements. The buyer shall not modify them or use them in such a way as to degrade the brand image of the Vendor or

those image of the Vendor or of his equipment.

11.3. The buyer's right to use the Vendor's trademarks, trade names or other distinctive signs shall cease immediately when the business relationship with the Vendor ceases for any reason whatsoever. The same applies to non-compliance by the buyer with the conditions of use described in this article may result in the termination of this right of use at any time by use at any time by simple letter.

ARTICLE 12 - PROTECTION OF PERSONAL DATA

12.1. Any order for equipment implies the processing, by the Vendor, of personal data within the meaning of European Regulation 2016/679 of 27 April 2016 and Law No. 78-17 of 6 January 1978 relating to data processing, files and freedoms in its current version (hereinafter collectively the «Applicable Laws»), which relate to the buyer and/or the natural person, representative of the buyer, who places the order in the name and on behalf of the buyer.

12.2. The Vendor declares that it complies with the Applicable Laws and, in particular, implements the principles of personal data protection, notably the principles of lawfulness, proportionality, transparency and data minimization as set forth in the Applicable Laws.

12.3. The manner in which such data is collected and processed by the Vendor, as well as a description of the buyer's rights with respect to such data, are set out in the privacy policy adopted by the Vendor and available on its website at the URL <https://www.airwell.com/en/privacy-policy/>.

12.4. The Vendor's privacy policy is an integral part of these terms and conditions of sale.

THESE GENERAL TERMS AND CONDITIONS MAY BE SENT TO YOU IMMEDIATELY IN BOLD CHARACTERS ON SIMPLE REQUEST. AS THESE TERMS AND CONDITIONS ARE ESSENTIAL TO THE VENDOR'S COMMITMENT, WE INVITE YOU TO CONTACT US IF THEIR READABILITY IS NOT SUITABLE FOR YOU.

A series of horizontal dotted lines for writing notes.

A series of horizontal dotted lines for taking notes, spanning the width of the page.



YOUR AFTER-SALES, TECHNICAL SUPPORT, ORDER SPARE PARTS CONTACT

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TECHNICAL SUPPORT

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