



CATALOG  
2024



FRENCH MANUFACTURER OF  
SOLAR AND ELECTRICAL EQUIPMENT,  
SPECIALIZING IN ON-BOARD  
AND OFF-GRID ENERGY



**A FRENCH INDUSTRIAL  
DESIGNING, MANUFACTURING AND MARKETING  
INNOVATIVE AND HIGH QUALITY PRODUCTS**

Uniteck is an innovative French industrial company (Montady - dept 34) specialising in the design and manufacture of solar and electrical equipment for on-board energy and off-grid applications.

Thanks to its modern and efficient industrial tool (electronic design, wiring, sheet metal work) and to a dynamic multidisciplinary team (photovoltaic, mechanics, power electronics, energy conversion), Uniteck is positioned as a manufacturing partner for its distributors and users.

Uniteck thus offers a complete range of products perfectly adapted to the targeted markets: motor homes, boating, road signs and domestic applications, with:

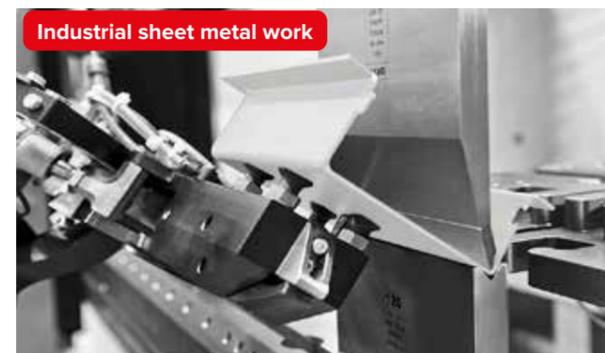
- Charge controllers integrating innovative features to optimise solar and battery charging (charging algorithm + LCD screen + MPPT technology);
- Compact high efficiency solar panels;
- Unique and innovative mounting brackets, made in France;
- Inverters for intensive use: 12V>230V / 24V>230V and 24V/12V;
- DC and solar power cables made in France (battery cable, inverter, DC circuit...);
- High performance GEL and AGM batteries (lead/carbon technology).
- Innovative electrical enclosures made in France.
- Quality accessories: battery chargers, splitter couplers, LED lighting, charge distributors...



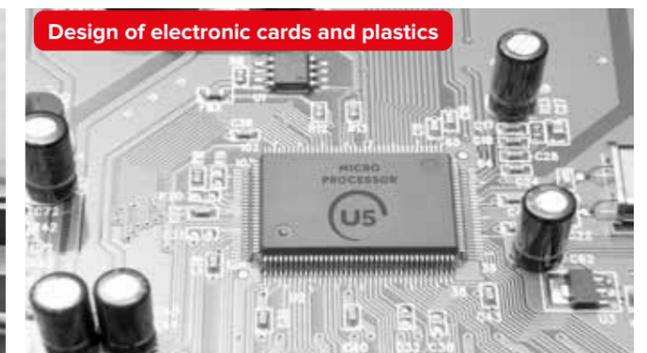
Design and industrialization



Industrial cabling production



Industrial sheet metal work



Design of electronic cards and plastics

**THE SPECIALIST IN ENERGY FOR  
EMBARKED AND REMOTE SITES**



**Leisure vehicles**



**Boating**



**Signs**



**Domestic applications**



**On-board energy**

**A MADE IN FRANCE  
BRAND**



Aesthetic and didactic products



A multilingual website  
(with user manuals, datasheets,  
pictures for download...)



A detailed product documentation



A full range of high-quality products

Documents and tools to guide the user,  
dedicated to every applications



## PRODUCTS

### SOLAR PANELS

UNISUN M & BC  
UNISUN MS



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### SWITCHES/DISCONNECTORS

UNIPVSWITCH



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NEW

### BATTERIES

UNIBAT AGM  
UNIBAT GEL



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### INVERTERS

UNIPOWER Q



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### MOUNTING BRACKETS

UNIFIX - Vehicules



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NEW

### MOUNTING BRACKETS

UNIFIX - Floor & Wall



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NEW

### PURE SINUS INVERTERS

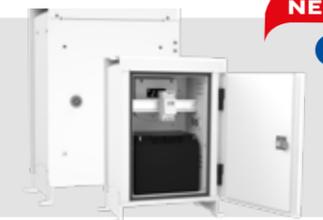
UNIPOWER PRO



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### ELECTRICAL BOXES

UNIBOX



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NEW

### MOUNTING BRACKETS

UNIFIX - Pole & Mast



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### MOUNTING BRACKETS

UNIFIX - Boating



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### BATTERY CHARGERS

UNICHARGE



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### BATTERIE ISOLATORS

UNIMOS



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### WIRING

UNICABLE SOLAR,  
UNICABLE ELEC,  
UNICABLE BAT



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NEW

### MPPT SOLAR CHARGE CONTROLLER

UNIMPPT L



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### COUPLER/SPLITTER

UNISPLIT



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### LIGHTING

UNILED BAR



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### MPPT SOLAR CHARGE CONTROLLER

UNISOLAR L  
UNISOLAR



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NEW

### PWM LOAD LIMITERS

UNISAVE



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### LIGHTING

UNILED LIGHT



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### ACCESSORIES

UNILED BULB  
UNITIMER  
UNIDTECT



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## SOLAR KITS

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Kit - Vehicles

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Kit - Sheds

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Kit - Boating

## UNITECK SIMPLIFIES YOUR CHOICE

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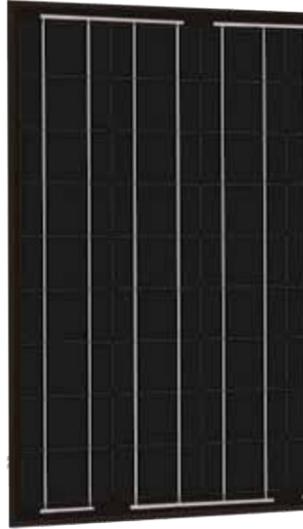
Unimagic - Calculate your installation

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The recycling

## UNISUN M



Monocrystalline module:  
series connections on the front face  
of the cells



10% of the surface is shaded by the  
electrical connections

ex. panels with 125 mm x 125 mm  
cells

intensity (Imp) 2,5-2,8 A

voltage (Vmp) 0,5-0,52 V

electrical contact front  
contact

cell efficiency **20,5%**

number of cells 36 cells  
necessary for battery  
(36 x 0,5 V)  
= 18 V

compactness of panel ++

saving money +++

## UNISUN BC



Back contact module:  
series connections on the back  
of the cells



No areas covered on the surface

ex. panels with 125 mm x 125 mm  
cells

intensity (Imp) 3,2-3,3 A

voltage (Vmp) 0,56-0,57 V

electrical contact back contact

cell efficiency **23-24%**

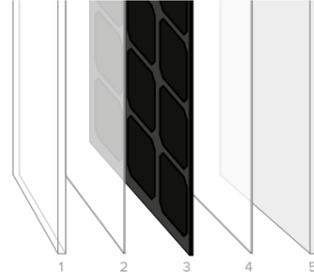
number of cells 32 cells  
necessary for battery  
(32 x 0,57 V)  
= 18 V

panel compactness +++

saving money ++



## HIGH QUALITY STRUCTURE



1. Tempered glass 3.2mm, high transmissibility (low iron content)
2. EVA Resin 0,45mm
3. Highly efficient cells
4. EVA Resin 0,45mm
5. Frame (anodised aluminium)

## QUICK CONNECTORS



## ANTI HOT-SPOT



Protection against Hot-spots  
and surges

## UNISUN M & BC rigid solar panels

# HIGH EFFICIENCY

UNISUN is the range of high performance monocrystalline panels for leisure applications (boating and camping-car), isolated sites or signage.

Their multi-layer structure guarantees exceptional yields, even in very low sunlight conditions.

The thickness of their aluminum frame (35 or 40 mm) allows a better heat dissipation and enabling increased power.

On the surface, their high transmissibility tempered glass and their anodized aluminum frame protect them from external attacks (shocks, oxidation, corrosion)

Their modular design simplifies scaling up power out through either series or parallel connection, facilitate by their fast solar connectors.

The UNISUN range is available in standard monocrystalline cells and back contact monocrystalline cells. UNISUN Back Contact (electrical contact at the back) has the entire cell surface to capture light energy.

With the same power, thanks to their higher efficiency (power/surface ratio), back contact panels offer the advantage of being more compact and therefore ideal for applications where space or weight are criteria of choice.

For more aesthetics and sobriety, the standard UNISUN monocrystalline panels from 50W are equipped with the premium design "Black Backsheet". (black background).

Quality guaranteed  
by Uniteck  
Made in P.R.C.

CE  
EN61215  
et EN61730

**UNITECK**

Highly efficient cells

Excellent impact and weight resistance (3.2 mm tempered glass + aluminum frame)

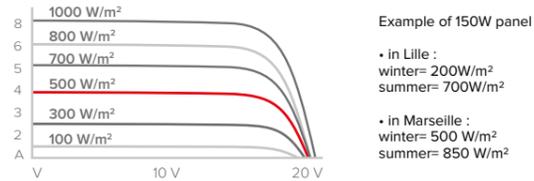
TÜV certified waterproof junction box with hot-spot protection

Exceptional output even under weak light



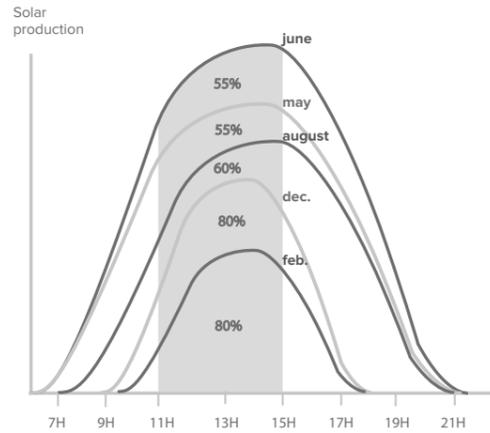
## SOLAR PRODUCTION EXPLANATION

**i** Intensity/voltage curve (eg. panel of 150W) depending on solar radiation W/m<sup>2</sup>



With solar radiation in Marseille, during winter, a solar panel will produce 50% of its power (=500W/m<sup>2</sup>)

**i** Distribution of daily solar production in France



The solar production has a Gaussian curve (bell-shaped curve), with a sunlight main period between 11 a.m. and 3 p.m. During winter, 80% of the production is made during this period when the data is between 50% and 60% during summer (it is because the sunlight period is more spread).

**i** Average coefficient of solar production in France.

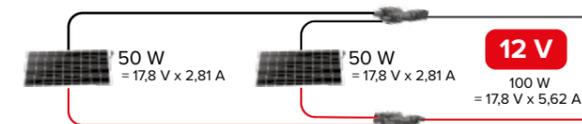
|           | Lille       | Bordeaux    | Marseille   |
|-----------|-------------|-------------|-------------|
| January   | x 0,7 - 1   | x 1 - 1,5   | x 1,5 - 2   |
| February  | x 1 - 1,5   | x 1,5 - 2,5 | x 2 - 3     |
| March     | x 2 - 2,5   | x 3 - 3,5   | x 3 - 4     |
| April     | x 3 - 3,5   | x 3,5 - 4   | x 4 - 5     |
| May       | x 3 - 4     | x 4 - 5     | x 4,5 - 6   |
| June      | x 4 - 4,5   | x 4 - 6     | x 5 - 6,5   |
| July      | x 4 - 4,5   | x 4 - 6     | x 5 - 7     |
| August    | x 3,5 - 4   | x 4 - 5     | x 4,5 - 6   |
| September | x 2,5 - 3   | x 3,5 - 4   | x 4 - 4,5   |
| October   | x 1,5 - 2   | x 2 - 2,5   | x 2,5 - 3   |
| November  | x 0,7 - 1   | x 1 - 1,5   | x 1,5 - 2,5 |
| December  | x 0,5 - 0,7 | x 0,8 - 1,5 | x 1,5 - 2   |

In July a panel in Marseille will produce from 5 to 7 times its power (eg. for a panel of 100W = 500 to 700Wh/j)

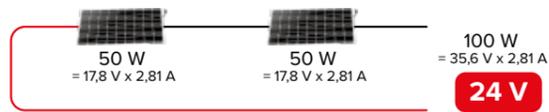


## UPGRADABLE COMBINATION

Parallel connection: for more power (Watt)

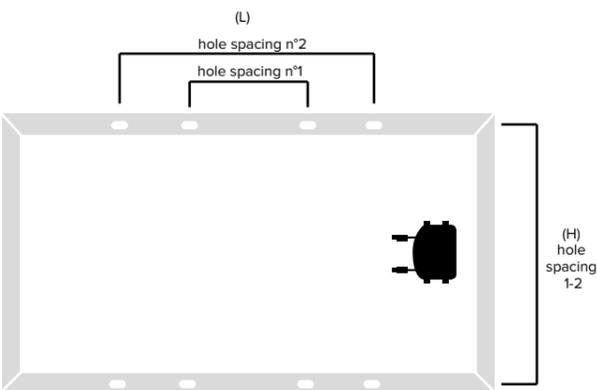


Series connection: for your 24V batteries



|                         | 20 W | 40 W   | 100 W  | 150 W  | 300 W  |
|-------------------------|------|--------|--------|--------|--------|
| UNISUN 20.12M           | x1   | x2     | -      | -      | -      |
| UNISUN 50.12M           | -    | -      | x2     | x3     | -      |
| UNISUN 150.12M          | -    | -      | -      | -      | x2     |
| UNICONNECT 1.6          | x1   | x1     | x1     | x1     | x1     |
| Parallel connectors kit | -    | 2 pan. | 2 pan. | 3 pan. | 2 pan. |

## HOLE SPACING ADAPTED TO UNITECK MOUNTING BRACKETS



## UNISUN M & BC rigid solar panels

|  | UNISUN 5.12 M | UNISUN 10.12 M | UNISUN 10.24 M | UNISUN 20.12 M | UNISUN 20.24 M | UNISUN 30.12 M |
|--|---------------|----------------|----------------|----------------|----------------|----------------|
|  | Ref 0491      | Ref 0798       | Ref 1436       | Ref 0071       | Ref 0804       | Ref 0842       |

### Electrical performance

|  | 5 W    | 10 W    | 10 W    | 20 W   | 20 W    | 30 W   |
|--|--------|---------|---------|--------|---------|--------|
| Max. power (Pm)*                       | 5 W    | 10 W    | 10 W    | 20 W   | 20 W    | 30 W   |
| Power tolerance*                       | 0/+3 % | 0/+3 %  | 0/+3 %  | 0/+3 % | 0/+3 %  | 0/+3 % |
| Battery charge                         | 12 V   | 12 V    | 24 V    | 12 V   | 24 V    | 12 V   |
| Technology                             | mono   | mono    | mono    | mono   | mono    | mono   |
| Voltage at max. power (Vmp)*           | 19,4 V | 17,6 V  | 35,2 V  | 17,8 V | 35,2 V  | 17,8 V |
| Intensity at max. power (Imp)*         | 0,26 A | 0,57 A  | 0,29 A  | 1,12 A | 0,57 A  | 1,69 A |
| Voltage in open circuit (Voc)*         | 22,9 V | 21,77 V | 43,54 V | 22,3 V | 43,54 V | 22,3 V |
| Intensity in short circuit (Icc/ ISC)* | 0,27 A | 0,65 A  | 0,33 A  | 1,21 A | 0,65 A  | 1,82 A |
| Cell efficiency                        | 20,60% | 18,4%   | 18,4%   | 20,60% | 20,60%  | 20,60% |
| Module efficiency*                     | 7,56%  | 11,52%  | 11,52%  | 12,65% | 12,65%  | 11,86% |

### Maximum battery charging power\*\*\*

|             |                      |        |        |        |        |        |        |
|-------------|----------------------|--------|--------|--------|--------|--------|--------|
| 12V Battery | with PWM controller  | 0,23 A | 0,46 A | n.a.   | 0,90 A | n.a.   | 1,35 A |
|             | with MPPT controller | 0,33 A | 0,65 A | 0,65 A | 1,30 A | 1,30 A | 1,96 A |
| 24V Battery | with PWM controller  | n.a.   | n.a.   | 0,23 A | n.a.   | 0,46 A | n.a.   |
|             | with MPPT controller | n.a.   | n.a.   | 0,33 A | n.a.   | 0,65 A | n.a.   |

### Temperature characteristics

|                         |           |           |           |           |           |           |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Operating temperature   | -40/+85°C | -40/+85°C | -40/+85°C | -40/+85°C | -40/+85°C | -40/+85°C |
| NOCT / TUC**            | 45 ±2°C   |
| Temperature coefficient | Pm        | -0,43%/°C | -0,48%/°C | -0,48%/°C | -0,48%/°C | -0,43%/°C |
|                         | Voc       | -0,34%/°C | -0,34%/°C | -0,34%/°C | -0,34%/°C | -0,34%/°C |
|                         | Icc       | 0,05%/°C  | 0,037%/°C | 0,037%/°C | 0,037%/°C | 0,037%/°C |

### Mechanical characteristics

|                                |             |            |            |            |            |            |
|--------------------------------|-------------|------------|------------|------------|------------|------------|
| Anodised aluminium frame       | yes         | yes        | yes        | yes        | yes        | yes        |
| Black backsheet design         | yes         | no         | no         | no         | yes        | yes        |
| Hole spacing for fixing (mm)   | n°1 - L x H | 154 x 195  | 120 x 260  | 120 x 260  | 120 x 260  | 120 x 260  |
|                                | n°2 - L x H | -          | 183 x 260  | 183 x 260  | 420 x 260  | 420 x 260  |
| Cable length (with connectors) | -           | -          | -          | -          | -          | -          |
| Module dimensions (mm)         | 216x306x18  | 310x280x35 | 310x280x35 | 510x310x35 | 660x310x35 | 310x680x35 |
| Module weight                  | 0,8 kg      | 1,3 kg     | 1,3 kg     | 2 kg       | 2 kg       | 3,1 kg     |

### Product warranty

|        |         |         |         |         |         |         |
|--------|---------|---------|---------|---------|---------|---------|
| Period | 5 years |
|--------|---------|---------|---------|---------|---------|---------|

\*According to standard test conditions (STC): irradiance 1000 W/m<sup>2</sup>, AM= 1,5, cell temperature 25°C.  
 \*\* Nominal Operating Cell Temperature: Irradiance 800 W/m<sup>2</sup>, wind speed 1 m/s, ambient temperature 25°C.  
 \*\*\*According to NMOT standard- Nominal Module Operating Temperature (=test condition in real situation) : irradiance 800W/m<sup>2</sup>, ambiente temperature 20°C, wind speed 1 m/s

**UNISUN M & BC rigid solar panels**



|  | UNISUN<br>50.12 M<br>Ref 0088 | UNISUN<br>60.12 BC<br>Ref 1238 | UNISUN<br>50.24 M<br>Ref 1870 | UNISUN<br>80.12 M<br>Ref 0095 | UNISUN<br>100.12 M<br>Ref 0446 | UNISUN<br>120.12 BC<br>Ref 1245 | UNISUN<br>100.24 M<br>Ref 1443 | UNISUN<br>150.12 M<br>Ref 0453 | UNISUN<br>165.12 BC<br>Ref 1528 | UNISUN<br>150.24 M<br>Ref 1887 | UNISUN<br>200.12 BC<br>Ref 3324 | UNISUN<br>200.24 M<br>Ref 1337 | UNISUN<br>300.12 M<br>Ref 2013 | UNISUN<br>400.24 M<br>Ref 5052 |         |
|--|-------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|---------|
| <b>Electrical performance</b>            |                               |                                |                               |                               |                                |                                 |                                |                                |                                 |                                |                                 |                                |                                |                                |         |
| Max. power (Pm)*                         | 50 W                          | 55 W                           | 50 W                          | 80 W                          | 100 W                          | 120 W                           | 100 W                          | 150 W                          | 165 W                           | 150 W                          | 200 W                           | 200 W                          | 300 W                          | 390 W                          |         |
| Power tolerance*                         | 0/+3 %                        | 0/+3 %                         | 0/+3 %                        | 0/+3 %                        | 0/+3 %                         | 0/+3 %                          | 0/+3 %                         | 0/+3 %                         | 0/+3 %                          | 0/+3 %                         | 0/+3 %                          | 0/+3 %                         | +/-3 %                         | +/-3 %                         |         |
| Battery charge                           | 12 V                          | 12 V                           | 24 V                          | 12 V                          | 12 V                           | 12 V                            | 24 V                           | 12 V                           | 12 V                            | 24 V                           | 12 V                            | 12/24 V                        | 12 V                           | 12/24 V                        |         |
| Technology                               | mono                          | back contact                   | mono                          | mono                          | mono                           | back contact                    | mono                           | mono                           | back contact                    | mono                           | back contact                    | mono                           | mono                           | mono                           |         |
| Voltage at max. power (Vmp)*             | 17,8 V                        | 18,6 V                         | 36,6 V                        | 17,8 V                        | 17,8 V                         | 19,8 V                          | 36,6 V                         | 17,8 V                         | 27,9 V                          | 38,9 V                         | 34 V                            | 35,6 V                         | 30,5 V                         | 41,8 V                         |         |
| Intensity at max. power (Imp)*           | 2,81 A                        | 2,96 A                         | 1,4 A                         | 4,49 A                        | 5,62 A                         | 6,06 A                          | 2,81 A                         | 8,43 A                         | 5,38 A                          | 3,99 A                         | 6,24 A                          | 5,62 A                         | 9,82 A                         | 9,34 A                         |         |
| Voltage in open circuit (Voc)*           | 22,3 V                        | 21,8 V                         | 42,7 V                        | 22,3 V                        | 22,3 V                         | 23,3 V                          | 42,7 V                         | 21,3 V                         | 33,5 V                          | 45,9 V                         | 40,0 V                          | 42,7 V                         | 35,5 V                         | 48,9 V                         |         |
| Intensity in short circuit (Icc/ ISC)*   | 3,03 A                        | 3,13 A                         | 1,5 A                         | 4,85 A                        | 6,07 A                         | 6,42 A                          | 3,04 A                         | 9,10 A                         | 5,81 A                          | 4,22 A                         | 5,88 A                          | 6,07 A                         | 11,1 A                         | 9,8 A                          |         |
| Cell efficiency                          | 20,60%                        | 23,80%                         | 20,60%                        | 20,60%                        | 20,60%                         | 24,40%                          | 20,60%                         | 20,60%                         | 24,4%                           | 20,60%                         | 23,80%                          | 20,60%                         | 20,20%                         | 22,70%                         |         |
| Module efficiency*                       | 14,20%                        | 18,18%                         | 14,20%                        | 15,15%                        | 17,32%                         | 20,78%                          | 15,15%                         | 16,58%                         | 20,54%                          | 16,58%                         | 20,43%                          | 15,80%                         | 19,60%                         | 20,47%                         |         |
| <b>Maximum battery charging power***</b> |                               |                                |                               |                               |                                |                                 |                                |                                |                                 |                                |                                 |                                |                                |                                |         |
| 12V battery                              | with PWM controller           | 2,25 A                         | 2,50 A                        | n.a.                          | 3,88 A                         | 4,86 A                          | n.a.                           | 7,28 A                         | n.a.                            | n.a.                           | n.a.                            | n.a.                           | n.a.                           | n.a.                           |         |
|  | with MPPT controller          | 3,26 A                         | 3,59 A                        | 3,26 A                        | 5,22 A                         | 6,52 A                          | 7,17 A                         | 6,52 A                         | 9,78 A                          | 10,76 A                        | 9,78 A                          | 13,04 A                        | 13,04 A                        | 19,57 A                        | 26,10 A |
| 24V battery                              | with PWM controller           | n.a.                           | n.a.                          | 1,20 A                        | n.a.                           | n.a.                            | n.a.                           | n.a.                           | n.a.                            | 3,60 A                         | n.a.                            | 4,86 A                         | n.a.                           | 7,84 A                         |         |
|  | with MPPT controller          | n.a.                           | n.a.                          | 1,63 A                        | n.a.                           | n.a.                            | n.a.                           | n.a.                           | n.a.                            | 4,89 A                         | n.a.                            | 6,52 A                         | n.a.                           | 13,04 A                        |         |
| <b>Temperature characteristics</b>       |                               |                                |                               |                               |                                |                                 |                                |                                |                                 |                                |                                 |                                |                                |                                |         |
| Operating temperature                    | -40/+85°C                     | -40/+85°C                      | -40/+85°C                     | -40/+85°C                     | -40/+85°C                      | -40/+85°C                       | -40/+85°C                      | -40/+85°C                      | -40/+85°C                       | -40/+85°C                      | -40/+85°C                       | -40/+85°C                      | -40/+85°C                      | -40/+85°C                      |         |
| NOCT / TUC**                             | 45 ±2°C                       | 45 ±2°C                        | 45 ±2°C                       | 45 ±2°C                       | 45 ±2°C                        | 45 ±2°C                         | 45 ±2°C                        | 45 ±2°C                        | 45 ±2°C                         | 45 ±2°C                        | 45 ±2°C                         | 45 ±2°C                        | 45 ±2°C                        | 45 ±2°C                        |         |
| Temperature coefficient                  | Pm                            | -0,43%/°C                      | -0,3%/°C                      | -0,43%/°C                     | -0,43%/°C                      | -0,43%/°C                       | -0,43%/°C                      | -0,48%/°C                      | -0,3%/°C                        | -0,43%/°C                      | -0,3%/°C                        | -0,43%/°C                      | -0,43%/°C                      | -0,48%/°C                      |         |
|  | Voc                           | -0,34%/°C                      | -0,28%/°C                     | -0,34%/°C                     | -0,34%/°C                      | -0,28%/°C                       | -0,34%/°C                      | -0,34%/°C                      | -0,28%/°C                       | -0,34%/°C                      | -0,28%/°C                       | -0,34%/°C                      | -0,34%/°C                      | -0,34%/°C                      |         |
|  | Icc                           | 0,05%/°C                       | 0,05%/°C                      | 0,05%/°C                      | 0,05%/°C                       | 0,05%/°C                        | 0,05%/°C                       | 0,05%/°C                       | 0,037%/°C                       | 0,05%/°C                       | 0,05%/°C                        | 0,05%/°C                       | 0,05%/°C                       | 0,037%/°C                      |         |
| <b>Mechanical characteristics</b>        |                               |                                |                               |                               |                                |                                 |                                |                                |                                 |                                |                                 |                                |                                |                                |         |
| Anodised aluminium frame                 | yes                           | yes                            | yes                           | yes                           | yes                            | yes                             | yes                            | yes                            | yes                             | yes                            | yes                             | yes                            | yes                            | yes                            |         |
| Black backsheet design                   | yes                           | yes                            | yes                           | yes                           | yes                            | yes                             | yes                            | yes                            | yes                             | yes                            | yes                             | yes                            | yes                            | yes                            |         |
| Hole spacing for fixing (mm)             | n°1 - L x H                   | 120 x 500                      | 120 x 500                     | 120 x 500                     | 127 x 500                      | 127 x 500                       | 127 x 500                      | 600 x 635                      | 600 x 626                       | 600 x 626                      | 600 x 626                       | 800 x 768                      | 720 x 950                      | 720 x 1094                     |         |
|  | n°2 - L x H                   | 420 x 500                      | 420 x 500                     | 420 x 500                     | 860 x 500                      | 710 x 500                       | 860 x 500                      | 1100 x 635                     | 1100 x 626                      | 1100 x 626                     | 1100 x 626                      | 1300 x 768                     | 1220 x 950                     | 1220 x 1094                    |         |
| Cable length (with connectors)           | 900 mm                        | 900 mm                         | 900 mm                        | 900 mm                        | 900 mm                         | 900 mm                          | 900 mm                         | 900 mm                         | 900 mm                          | 900 mm                         | 900 mm                          | 900 mm                         | 900 mm                         | 900 mm                         |         |
| Module dimensions (mm)                   | 640x550x35                    | 550x550x35                     | 660x550x35                    | 960x550x35                    | 1050x550x35                    | 1050x550x35                     | 1200x550x35                    | 1340x675x35                    | 1190x675x35                     | 1500x675x35                    | 1450x675x40                     | 1580x808x40                    | 1500x990x40                    | 1680x1134x40                   |         |
| Module weight                            | 4,1 kg                        | 3,8 kg                         | 4,1 kg                        | 6,3 kg                        | 7,0 kg                         | 7,0 kg                          | 7,5 kg                         | 9,8 kg                         | 9,3 kg                          | 10,8 kg                        | 12,9 kg                         | 13,6 kg                        | 15,5 kg                        | 17,0 kg                        |         |
| <b>Product warranty</b>                  |                               |                                |                               |                               |                                |                                 |                                |                                |                                 |                                |                                 |                                |                                |                                |         |
| Period                                   | 5 years                       | 5 years                        | 5 years                       | 5 years                       | 5 years                        | 5 years                         | 5 years                        | 5 years                        | 5 years                         | 5 years                        | 5 years                         | 5 years                        | 5 years                        | 5 years                        |         |

\*According to standard test conditions (STC): irradiance 1000 W/m<sup>2</sup>, AM= 1,5, cell temperature 25°C.  
 \*\* Nominal Operating Cell Temperature: Irradiance 800 W/m<sup>2</sup>, wind speed 1 m/s, ambient temperature 25°C.  
 \*\*\*According to NEMO standard- Nominal Module Operating Temperature (=test condition in real situation): irradiance 800W/m<sup>2</sup>, ambient temperature 20°C, wind speed 1 m/s



#### Electrical performance

|                   | UNISUN 50.12 MS | UNISUN 100.12 MS | UNISUN 150.12 MS |
|-------------------|-----------------|------------------|------------------|
| Max. power (Pm)*  | 50 W            | 100 W            | 150 W            |
| Power tolerance*  | 0/+3%           | 0/+3%            | 0/+3%            |
| Operating voltage | 12 V            | 12 V             | 12 V             |

#### Technology

|  | mono/slim | mono/slim | mono/slim |
|--|-----------|-----------|-----------|
| Voltage at max. power (Vmp)*           | 20 V      | 20 V      | 20 V      |
| Intensity at max. power (Imp)*         | 2,5 A     | 5 A       | 7,5 A     |
| Voltage in open circuit (Voc)*         | 23,6 V    | 23,6 V    | 23,6 V    |
| Intensity in short circuit (Icc/ ISC)* | 2,75 A    | 5,5 A     | 8,25 A    |
| Cell efficiency                        | 21%       | 21%       | 21%       |
| Module efficiency*                     | 13,23%    | 14,49%    | 14,02%    |

#### Maximum battery charging power\*\*\*

| 12V Battery | with PWM controller | with MPPT controller | UNISUN 50.12 MS | UNISUN 100.12 MS | UNISUN 150.12 MS |
|-------------|---------------------|----------------------|-----------------|------------------|------------------|
|             |                     |                      | 2 A             | 4 A              | 6 A              |
|             |                     |                      | 3,26 A          | 6,25 A           | 9,78 A           |

#### Temperature characteristics

| Operating temperature   | -40/+85°C | -40/+85°C | -40/+85°C |           |
|-------------------------|-----------|-----------|-----------|-----------|
| NOCT / TUC**            | 45 ±2°C   | 45 ±2°C   | 45 ±2°C   |           |
| Temperature coefficient | Pm        | -0,48%/°C | -0,48%/°C | -0,48%/°C |
|                         | Voc       | -0,34%/°C | -0,34%/°C | -0,34%/°C |
|                         | Icc       | 0,037%/°C | 0,037%/°C | 0,037%/°C |

#### Mechanical characteristics

|                                |            |             |             |
|--------------------------------|------------|-------------|-------------|
| Front structure                | ETFE       | ETFE        | ETFE        |
| Black backsheet design         | yes        | yes         | yes         |
| Back structure                 | fiberglass | fiberglass  | fiberglass  |
| Possible bending               | < 5°       | < 5°        | < 5°        |
| Cable length (with connectors) | 900 mm     | 900 mm      | 900 mm      |
| Fixing eyelet (marine bronze)  | ×4         | ×4          | ×8          |
| Module dimensions              | 712×560×20 | 1110×695×20 | 1580×695×20 |
| Module weight                  | 2,5 kg     | 5,2 kg      | 7,5 kg      |

#### Product warranty

|        |        |        |        |
|--------|--------|--------|--------|
| Period | 1 year | 1 year | 1 year |
|--------|--------|--------|--------|

\*According to standard test conditions (STC): irradiance 1000 W/m<sup>2</sup>, AM= 1.5, cell temperature 25°C.  
 \*\* Nominal Operating Cell Temperature: Irradiance 800 W/m<sup>2</sup>, wind speed 1 m/s, ambient temperature 25°C.  
 \*\*\*According to NEMO standard- Nominal Module Operating Temperature (=test condition in real situation): irradiance 800W/m<sup>2</sup>, ambiente temperature 20°C, wind speed 1 m/s

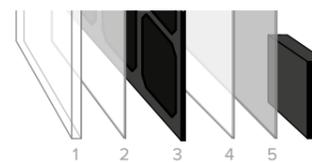
#### HIGH QUALITY COATING

| Entry-level price range           | UNISUN MS  |
|-----------------------------------|------------|
|                                   |            |
| Light transmission                |            |
| 90-93%                            | <b>95%</b> |
| Antireflexion properties          |            |
| +                                 | <b>+++</b> |
| Self-cleaning properties          |            |
| +                                 | <b>+++</b> |
| Corrosion resistant               |            |
| +                                 | <b>+++</b> |
| Resistant to a saline environment |            |
| +                                 | <b>+++</b> |

#### HIGH QUALITY JUNCTION BOX

| Entry-level price range                 | UNISUN MS          |
|---|--------------------|
|   |                    |
| TÜV Certification                       |                    |
| rare                                    | <b>✓</b>           |
| Cell protection from surges (hot-spots) |                    |
| no                                      | <b>✓</b>           |
| Mechanical resistance                   |                    |
| +                                       | <b>+++</b>         |
| Waterproof                              |                    |
| +                                       | <b>+++</b>         |
| Shape                                   |                    |
| not streamlined                         | <b>streamlined</b> |

#### HIGH QUALITY STRUCTURE



1. High quality ETFE plastic
2. EVA Resin
3. Highly efficient cells
4. EVA resin
5. PET + fiberglass
6. TÜV certified junction box



- High efficiency cells
- High resistance plastic, anti-corrosion, high transmissibility of light
- TÜV certified waterproof junction box with hot-spot protection, reverse current
- Exceptional output even under weak light

Quality guaranteed by Uniteck  
Made in P.R.C.



#### UNISUN MS slim solar panels

## LIGHT AND MOBILE

UNISUN MS is the high performance monocrystalline slim panel range (possible bending up to 5° max.) ideal for leisure (boating, campervan), off-grid or nomad activities.

Their highly efficient monocrystalline cells guarantee exceptional output even under weak light or extreme heat.

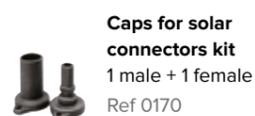
Their multi-layer structure with a high-quality coating on the front (ETFE), and fiberglass on the back, provides the best performance on the market regard to electrical performance (high transmissibility plastic with self-cleaning properties), mechanical resistance and corrosion resistance (ideal for boating).

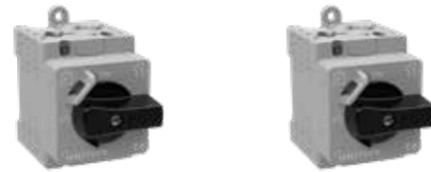
With a TÜV certified junction box, UNISUN MS is protected against all cell overvoltage or hot spots (anti-spot protection) due to grey areas or cells getting masked, very common in boating (sailing ropes etc...). Its streamlined shape minimises wind resistance and avoids ropes from getting stuck making it ideal for boating use.

Light and space-saving UNISUN MS can be placed or fixed with rigging or bungee ropes thanks to their integrated eyelets (diam.10).

#### QUICK CONNECTORS + PROTECTION

For a safe use, Unisun MS is equipped with a solar connector (waterproof + electrical transfer quality), and with an anti-reverse diode integrated in the junction box (protection for reverse current battery ->panel)





**UNIPVSWITCH  
500.32.2P**

Ref 5076

**UNIPVSWITCH  
500.50.2P**

Ref 5083

**General technical data**

|   |        |        |
|---|--------|--------|
| Number of clusters                                  | 2      | 2      |
| Category of use                                     |        |        |
| DC-PV1  | yes    | yes    |
| DC-PV2  | yes    | yes    |
| Rated insulation voltage (Ui)                       | 1500 V | 1500 V |
| Impulse withstand voltage (Uimp)                    | 8000 V | 8000 V |
| Power dissipation per pole at 20A                   | 0,2 W  | 0,2 W  |
| Power dissipation per pole at 50A                   | 1,25 W | 1,25 W |
| <b>Operating current to EN 60947-3/A2 2015 (Ie)</b> |        |        |
| 500 V DC (Ue)                                       |        |        |
| PV1   | 32 A   | 50 A   |
| PV2   | 16 A   | -      |
| 750 V DC (Ue)                                       |        |        |
| PV1   | 25 A   | 32 A   |
| PV2   | 10 A   | 18 A   |
| 1000 V DC (Ue)                                      |        |        |
| PV1   | 12 A   | 20 A   |
| PV2   | 4 A    | 10 A   |

**Technical data for short-circuit protection**

|  |        |        |
|--|--------|--------|
| Rated conditioned short-circuit current              | 5000 A | 5000 A |
| Maximum fuse size for short-circuit protection (gPV) | 50 A   | 50 A   |
| Rated short-time current - 1 s (Icw)                 | 780 A  | 780 A  |
| Rated short-circuit capacity (Icm)                   | 1400 A | 1400 A |

**Mechanical characteristics**

|   |                   |                   |
|---|-------------------|-------------------|
| Max. cable cross-section (direct contact without lug) | 6mm <sup>2</sup>  | 6mm <sup>2</sup>  |
| Max. cable cross-section (with fork terminal)         | 10mm <sup>2</sup> | 10mm <sup>2</sup> |
| Fixing screw size                                     | M4                | M4                |
| Contact clamping force +/-10%                         | 1,7 Nm            | 1,7 Nm            |
| Operating and storage temperature                     | -40°C à +85°C     | -40°C à +85°C     |
| Protection class                                      | IP 20             | IP 20             |

**Materials**

|                                       |              |              |
|---------------------------------------|--------------|--------------|
| Plastic bodies                        | V0           | V0           |
| External metal parts                  | Inox         | Inox         |
| External dimensions (H x W x D) in mm | 78 x 45 x 76 | 78 x 45 x 76 |
| Weight                                | 145 g        | 145 g        |

**Warranty**

|          |         |         |
|----------|---------|---------|
| Duration | 2 years | 2 years |
|----------|---------|---------|



**Isolating switches**

# OPTIMUM PROTECTION

UNIPVSWITCH is a range of two-pole switch-disconnectors ideal for safe operation solar installations up to 500 V DC (installation, maintenance or emergency or emergency intervention).

UNIPVSWITCH is designed to operate even under load, without risk to the switch-disconnector.

Its internal technology reduces the switching time and guarantees fast arc extinguishing during operation.

Thanks to its PV1/PV2 certification, it offers ideal protection, especially in thermal applications between -40°C and +85°C.

The UNIPVSWITCH can be padlocked to prevent unintentional operation accident during maintenance.

Its mechanical design offers 2 mounting options :  
 - Wall mounting (2 holes 68 mm space).  
 - 35 mm DIN rail



**PV1/  
PV2** Compliance with DC Standards EN 60947-3/A2-2021



Bi-polar



Wall mounting 68 mm hole spacing



35 mm Din rail mounting



Padlockable

IP20

For indoor use



500V DC

Quality guaranteed by Uniteck Made in Italia

EN 60947-3



## Mounting Brackets - UNIFIX C



# VEHICLE

### BRACKET FOR UNITECK PANELS

Innovative mounting brackets for easy installation of UNITECK solar panel on a flat surface.

UNIFIX C sticks to all flat surfaces: car or commercial vehicle roof, boat deck. Its aerodynamic and « soundless » design prevents wind catching and sound disturbances.

UNIFIX C enables to raise the panel. It improves your panel thermal dissipation, and thus your energy production (+30% compared to a panel glued without ventilation).

Robust and easy to install, it is simply glued, removing grease from your surface, and sticking your UNIFIX with instant glue (degreaser + glue not included).

## + UNITECK

Aerodynamic brackets for less wind catching and sound disturbances.

Robust mounting brackets (Anti-UV polyvinyl chloride)

Improves panel thermal dissipation (until 30% more production compared to a panel glued on the roof)

Easy to install

Compact



Designed in France



x2

**UNIFIX C100**  
For Unisun 50.12M/ 50.24M/ 55.12BC/ 80.12M/ 100.12M/ 100.24M/ 120.12BC (degreaser + glue not included)  
Ref 1962



x2

**UNIFIX C150**  
For Unisun 150.12M/ 150.24M/ 150.12BC (degreaser + glue not included)  
Ref 1979



x2

**UNIFIX C200**  
For Unisun 200.24M (degreaser + glue not included)  
Ref 1986



x2

**UNIFIX C300**  
For Unisun 300.12M (degreaser + glue not included)  
Ref 2129

**Degreaser/activator**  
Ref 4239

**Fixing glue**  
Ref 2099



## Mounting Brackets - UNIFIX 1.C



# VEHICLE

### BRACKET FOR UNIVERSAL PANELS

UNIFIX 1C is the innovative mounting bracket for fixing your panels on a flat surface. It sticks to the roof of your vehicle.

With its Easy Change system, you can easily replace or remove your panel for maintenance or cleaning.

Its compact design enables you to mount several panels, even on a surface filled with other components.

To place it, UNIFIX 1C only requires 2 steps (clean and stick) instead of the usual 3 (clean, prepare and stick).

## + UNITECK

Easy change system for maintenance or cleaning

UV and corrosion resistant PA66 plastic+ fiberglass + stainless steel screws

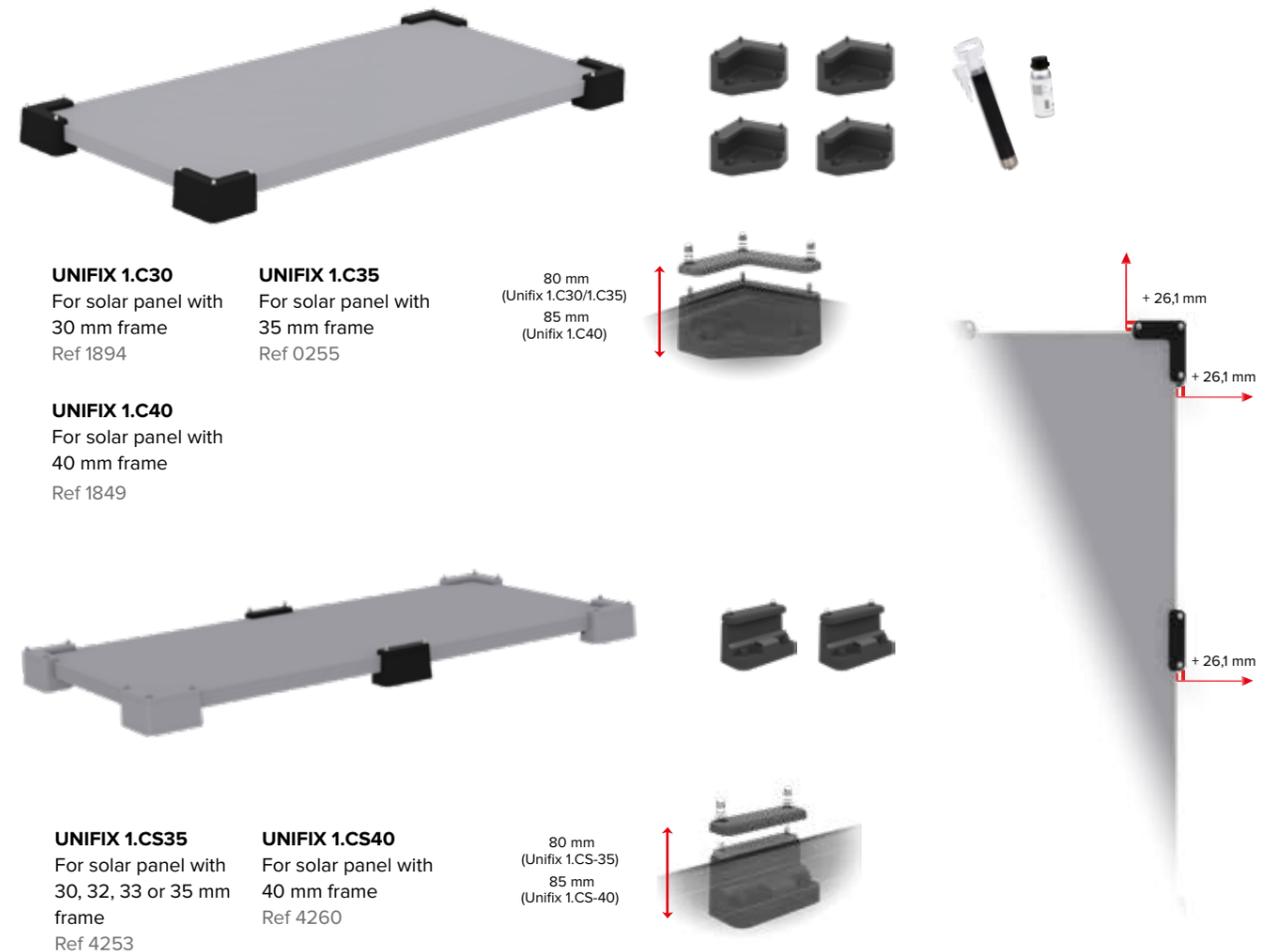
Improves panel thermal dissipation (until 30% more production compared to a panel glued on the roof)

Easy to install

Compact



Designed, made in France



**UNIFIX 1.C30**  
For solar panel with 30 mm frame  
Ref 1894

**UNIFIX 1.C35**  
For solar panel with 35 mm frame  
Ref 0255

80 mm (Unifix 1.C30/1.C35)  
85 mm (Unifix 1.C40)

**UNIFIX 1.C40**  
For solar panel with 40 mm frame  
Ref 1849

**UNIFIX 1.CS35**  
For solar panel with 30, 32, 33 or 35 mm frame  
Ref 4253

**UNIFIX 1.CS40**  
For solar panel with 40 mm frame  
Ref 4260

80 mm (Unifix 1.CS-35)  
85 mm (Unifix 1.CS-40)



## + UNITECK

- Corrosion resistant Aluminium and stainless steel screws
- Easy to install
- Reclinable from 0 to 65°
- Adaptable to all types of vehicle roofs
- Secure system
- Painting possible

Designed, made in France



## Mounting Brackets - UNIFIX 300.1C

# VEHICLE

### TITABLE BRACKET FOR UNITECK PANELS

The UNIFIX 300.1C bracket has been specially designed to fix your 300W Uniteck solar panel on any flat and rigid surface (e.g.: fitted van, camper van, mobile home, barge...).

Its multi-position system on jacks allows you to optimise your performance by effortlessly choosing the most suitable inclination, from 0° to 65°, for a production that is up to 40% higher than a flat mounting.

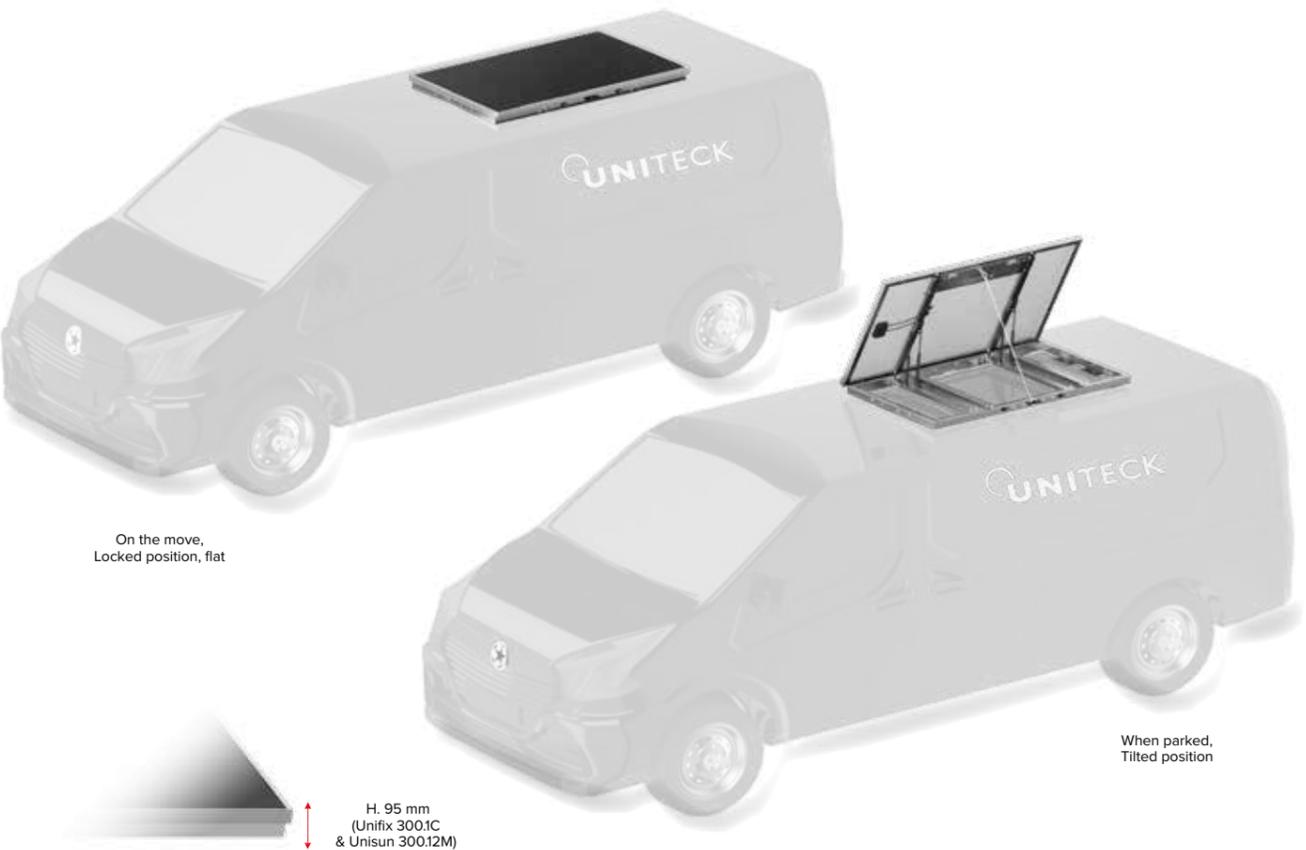
Easy to install, the UNIFIX 300.1C can be fixed :  
-by gluing (glue to be provided)  
-by bolting (screws to be provided)  
-on the roof rack of your vehicle (brackets to be provided)

Its aluminium structure, combined with its stainless steel screws, offers strength and lightness.

For a perfect integration, UNIFIX 300.1C can be painted according to the colour of your vehicle (No painting provided).



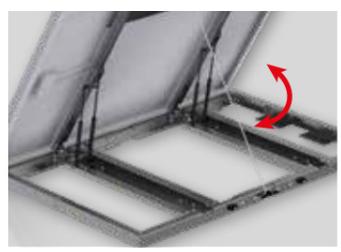
**UNIFIX 300.1C**  
For Unisun 300.12M  
with dimensions :  
-Length of 1500 mm  
-Width of 990 mm  
Ref 3072



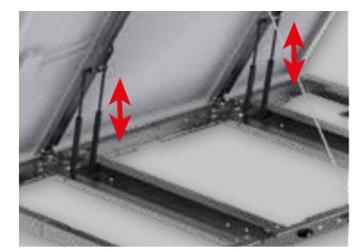
On the move,  
Locked position, flat

When parked,  
Tilted position

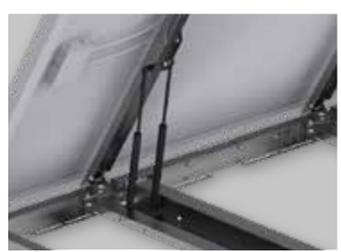
H. 95 mm  
(Unifix 300.1C  
& Unisun 300.12M)



**ADJUSTABLE INCLINATION**  
Tilt system with 45° and 65° stop angles, or from 0 to 65° thanks to the rope system, to optimise your electrical performance according to the position of the sun during the day.



**EASY TILT**  
Equipped with double gas struts to effortlessly change the tilt while keeping the selected position locked.



**EASY MAINTENANCE**  
Maintenance-free, sealed cylinders with automatic internal lubrication.



**LOCKING SYSTEM**  
Key lock to secure your system in a flat position when moving and protect it against theft.

### COMPATIBLE ROOF

FLAT



WAVY



RACK





**UNIFIX 100B**  
 560 mm panels max  
 For Unisun 20.12M(x2)/ 20.24M(x2)/  
 30.12M/ 50.12M/ 50.24M/ 55.12BC/  
 80.12M/ 100.12M/ 100.24M/ 120.12BC  
 Landscape orientation  
 Reclinable from 0 to 90°  
 Ref 0644



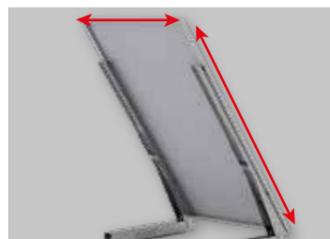
**UNIFIX 150B**  
 700 mm panels max  
 For Unisun 150.12M/ 150.24M/ 165.12BC/  
 200.12BC  
 Landscape orientation  
 Reclinable from 0 to 90°  
 Ref 0545



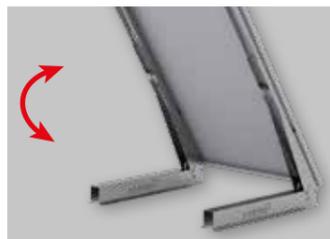
**UNIFIX 300B**  
 1 100 mm panels max  
 (=350-400W)  
 For Unisun 100.12M(x2)/ 100.24M(x2)/  
 120.12BC(x2)/ 150.12M/ 150.24M/ 165.12BC/  
 200.12BC/ 200.24M/ 300.12M  
 Landscape or portrait orientation  
 Reclinable from 10° to 60°  
 Ref 1092



**UNIFIX 500B**  
 1 100 mm panels max  
 (=350-400W)  
 For Unisun 100.12M(x2)/ 100.24M(x2)/  
 120.12BC(x2)/ 150.12M/ 150.24M/ 165.12BC/  
 200.12BC/ 200.24M/ 300.12M  
 Landscape or portrait orientation  
 Reclinable from 10° to 60°  
 Ref 4147



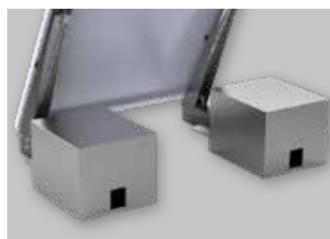
**UNIVERSAL**  
 Thanks to the oblong hole,  
 UNIFIX B accepts the fixing of  
 panels of different sizes:  
 - length from 990 to 2500  
 mm max.  
 - width from 990 to 1400 mm  
 max.



**RECLINABLE**  
 Multi-position reclining  
 system to optimize your  
 electrical performance  
 depending on the season  
 and geographical area.



**MICROINVERTERS AND  
 GROUNDING**  
 For this application, Unifix  
 300B, 500B and 600B  
 incorporate fixing zones for  
 microinverters (Ø M8) and  
 grounding.



**BALLAST BOX OPTION**  
 The ballast box can hold  
 sand, concrete or gravel up.  
 Fits UNIFIX 300B, 500B and  
 600B (Inclinable from 30°  
 to 60°)



Mounting Brackets - UNIFIX B

# FLOOR & WALL

## BASIC BRACKETS

Sturdy and easy to install, UNIFIX B is the ideal economical  
 ideal for fixing your panels to all flat surfaces  
 (wall, concrete floor, wood frame).

- UNIFIX B can be either :
- fixed to a flat surface using M8 dowels (not supplied)
  - ballasted using the optional ballast box.

Its multi-position tilting system allows you to increase your electricity  
 production by choosing the ideal orientation according to the season.



**UNIFIX 600B**  
 For panel size  
 2500 x 1400 mm max  
 Landscape or portrait orientation  
 Tilts from 10 to 60°  
 Ref 3409

## + UNITECK

- Tilts from 0 to 60  
 (except 300B, 500B and  
 600B: 10 to 60°)
- Corrosion resistant  
 Galvanised steel and  
 screws
- Easy to install
- Wall mounting
- Floor mounting

Designed,  
 made in France



**BALLAST BOX**  
 For UNIFIX 300B, 500B,  
 600B  
 Ref 5175

## PAIRED CONFIGURATION

Depending on configuration, for 2, 4, 6, 8, ... panels



**UNIFIX 800 EGF**  
For UNISUN 200.24M (x2)/  
UNISUN 300.12M (x2)  
or 2 panels :  
- width from 808 to 1200mm  
- length from 1200 to 2300mm  
Portrait orientation  
Ref 2105



**BALLAST BOX**  
Ref 2112



**CONCRETE SLABS  
MOUNTING BRACKETS**  
Ref 2679

## ODD-NUMBERED CONFIGURATION

Depending on configuration, for 3, 9, 15 ... panels



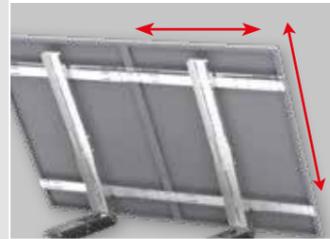
**UNIFIX 800 EGF**  
For UNISUN 200.24M (x2)/  
UNISUN 300.12M (x2)  
or 2 panels :  
- width from 808 to 1100mm  
- length from 1200 to 1800mm  
Portrait orientation  
Ref 2105



**SINGLE PANEL  
EXTENSION**  
Ref 2686



**BALLAST BOX**  
A minimum of x2 ballast  
boxes is required for odd-nu-  
mbered installations.  
Ex :  
If 3 panels : 4130 x 2  
If 9 panels : 4130 x 2 +  
2112 x 3  
Ref 4130



### UNIVERSAL

Thanks to their design based on  
the use of hole drilling, UNIFIX  
800 EGF can receive up panels  
with the following dimensions :  
- width from 808 to 1200 mm  
- length from 1200 to 2300 mm



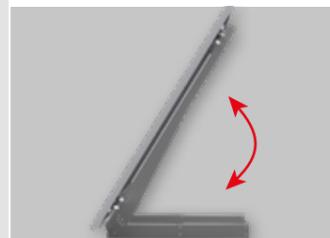
### BALLAST BOX OPTION

The ballast box can hold sand,  
concrete or gravel up to a max.  
total of 240 kg.



### CONCRETE SLABS BRACKETS OPTION

Concrete slabs brackets are  
made to carry up to 24 standard  
40x40 cm concrete slabs of 10kg,  
for a total weight of 240kg for an  
optimal ballasting.



### ADJUSTABLE INCLINATION

Multi-position tilting system for  
an optimization of your electrical  
performances according to the  
season and to your geographical  
area.  
Can be tilted from 10° to 60°.



### MULTI-PANEL

Infinite assembly with an even  
or odd number of panels (for  
odd numbers, add a single panel  
extension)



### MICROINVERTERS AND GROUNDING

For this application, Unifix  
EGF incorporate fixing zones  
for microinverters (Ø M8) and  
grounding.

## Mounting Brackets - UNIFIX 800 EGF

# FLOOR

## MULTI-PANEL BRACKETS

Evolute multi solar panels mounting brackets for flat surfaces.

Easy to install, UNIFIX 800 EGF is made to be used in horizontal position on a  
flat and rigid surface (eg: grass, sand, concrete floor, wood frame).

UNIFIX 800 EGF can be :

- fixed to a concrete floor thanks to M8 dowels (not included)
- weighted using a ballast box (option)
- weighted using the brackets for concrete slabs (option)

With its galvanized steel structure and corrosion resistant  
stainless-steel screws, it is perfectly suited for outdoor use.

Equipped with a multi-position tilting system, UNIFIX 800 EGF bracket enables  
an optimization of your panel's performance by modifying the angle  
inclination according to your geographical position and the season :

- only Unifix 800 EGF : from 10 to 60°
- with ballast box option : from 30 to 60°
- with brackets for concrete slabs option : from 20 to 60°



## + UNITECK

Corrosion resistant  
galvanised steel  
+ stainless steel screws

Easy to install

Reclinable from 10 to 60°

Optimal ballasting (via  
its ballast box or via its  
"concrete slabs" bracket)

Scalable multi-panel

Designed,  
made in France



**KIT UNIFIX 1200 EGR + CONCRETE OR WOOD FLOOR FIXING**  
Ref 5144



**KIT UNIFIX 1200 EGR + CONCRETE SLAB SUPPORT**  
Ref 5151



**KIT UNIFIX 1200 EGR + BALLAST BOX**  
Ref 5168

### ■ MICROINVERTER MOUNTING

Unifix 1200EGR features dedicated fixingzone for microinverters (Ø M8) and grounding.



### ■ EASY ADJUST ROTATION SYSTEM

Thanks to its clamping knobs, you can quickly and easily adjust the orientation yourself.



## Mounting Brackets - UNIFIX 1200 ERF

# FLOOR

### ■ ADJUSTABLE MULTI-PANEL BRACKET

Easy to install and orientate, UNIFIX 1200 EGR is used on a flat, rigid, horizontal surface (e.g. lawn, sand, concrete floor, timber frame).

- UNIFIX 1200 EGR can be either :
- fixed to a concrete floor using M8 dowels (not supplied)
  - ballasted using the optional ballast box
  - ballasted using the optional concrete slab support.

A ballast configurator has been designed to help you with installation (see Page 28).

Thanks to its galvanized steel structure and corrosion-resistant fastenings, it is perfectly suited to outdoor use.

Equipped with a multi-position tilting system, UNIFIX 1200 EGR brackets maximizes your performance by allowing you to adjust the tilt angle from 10° to 90° based on your location and season.



## + UNITECK

- Corrosion resistant galvanised steel + stainless steel screws
- Easy to install
- Reclinable from 10 to 60°
- Optimal ballasting (via its ballast box or via its "concrete slabs" bracket)

Designed, made in France

NEW



# CALCULATE AND LAY

## BALLAST SOLUTION FOR UNIFIX

UNIFIX EGF and EGR brackets are designed to be ballasted to the ground for easy installation.

2 types of ballast are available:

- System for 40x40 cm concrete slab (from 10 to 13kg depending on model)
- Ballast box for sand, gravel, concrete, ...

When we design our UNIFIX, we run mechanical simulations on our software to help us choose the right materials, and to find out what elements are required for fixing, and in particular for ballasting.

UNIFIX EGF and EGR have been designed in galvanized steel, on the one hand to provide superior strength to aluminum supports, for example, and on the other to provide a heavy base, easier to ballast afterwards.

Our UNIFIX ballasting recommendations therefore take into consideration :

- geographical zone
- type of exposure (protected, normal or exposed)
- wind speed (normal or extreme)
- type of prevailing wind (back or front)
- solar panel size

To determine ballast, please follow the 2 steps below:

- Select wind speed
- Select ballast weight



UNIFIX 1200 EGR



UNIFIX 800 EGF

## + UNITECK

Ballast tank up to 130 liters

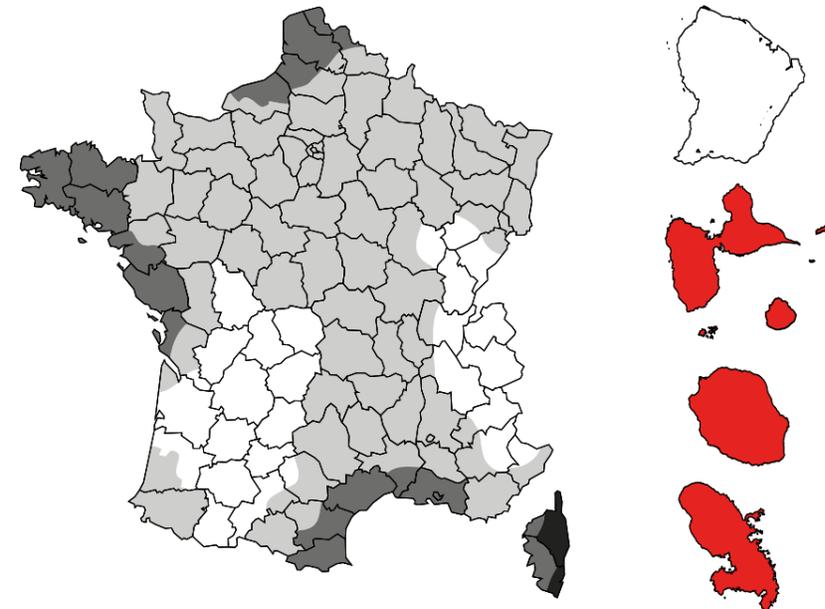
Easy to install

Ballast up to 350 kg

Multi-material (sand, concrete slab, gravel, concrete, etc.)

## A CHOOSE THE WIND SPEED ACCORDING TO YOUR POSITION

You'll find opposite a chart for choosing the wind speed for your installation area, in accordance with standard NV-65-2009. When choosing your ballast, it's important to take into account the nature of the installation zone: protected, normal or exposed...



| Installation area | Wind speed (km/h) |         |
|-------------------|-------------------|---------|
|                   | Normal            | Extreme |
| Protected         | 92                | 122     |
| Normal            | 103               | 136     |
| Exposed           | 120               | 158     |
| Protected         | 101               | 134     |
| Normal            | 113               | 150     |
| Exposed           | 129               | 170     |
| Protected         | 113               | 149     |
| Normal            | 126               | 167     |
| Exposed           | 141               | 187     |
| Protected         | 124               | 164     |
| Normal            | 138               | 183     |
| Exposed           | 152               | 200     |
| Protected         | 160               | 211     |
| Normal            | 160               | 211     |
| Exposed           | 175               | 231     |

### PROTECTED



Protected installation area :  
Basin floor bordered by hills all around, protected from all wind directions.

### NORMAL



Normal installation area :  
Large plains or plateaus with low gradients (<10% slope)

### EXPOSED



Exposed installation area :  
-By the sea: narrow islands or peninsulas, coastline up to 6km deep, cliff tops;  
-Inland: narrow, windy valleys, isolated or high mountains.

**i** Example: I live in Agde (34), 500 m from the seaside, and my installation zone is exposed. I choose the dark grey color, as the wind speed in this area is between 141 and 187 km/h.

Selected wind speed

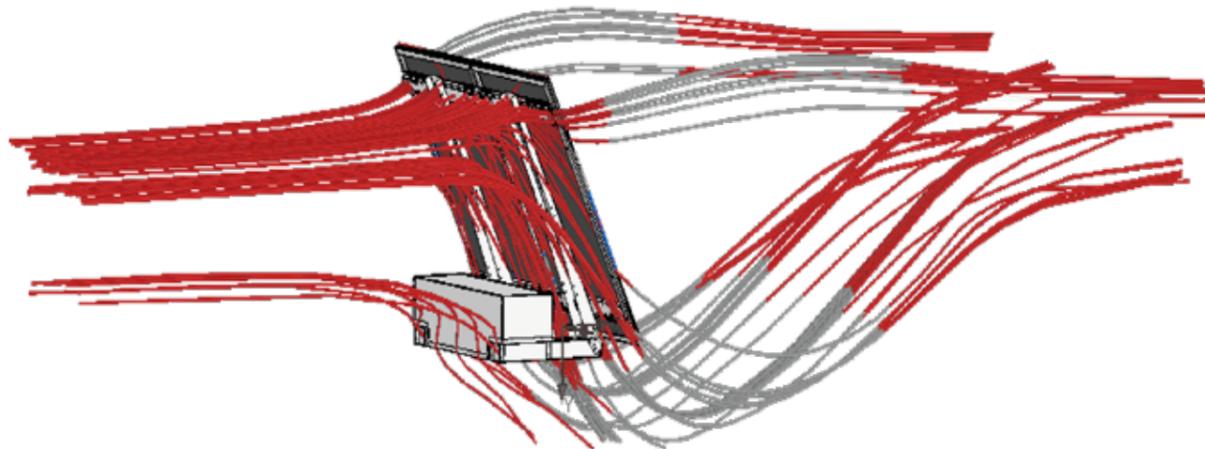
**A** =  km/h



Next page

## B CHOICE OF BALLAST WEIGHT

Tailwind ballasting is the most restrictive ballasting. Ballasting calculations have therefore been carried out with this constraint in mind, to ensure the best possible grip on the ground. The surface area of the solar panel(s), i.e. their size, has a significant impact on the weight required for ballasting. The weights below are for 1 solar panel.



| Recommended ballast weight (kg) | 150 x 99 cm solar panel (approx. 300W) |     |     |     |     |     | 178 x 113 cm solar panel (approx. 400W) |     |     |     |     |     | 220 x 113 cm solar panel (approx. 500W) |     |     |     |     |     |
|---------------------------------|--|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|-----|
|                                 | 10°                                    | 20° | 30° | 40° | 50° | 60° | 10°                                     | 20° | 30° | 40° | 50° | 60° | 10°                                     | 20° | 30° | 40° | 50° | 60° |
| 90                              | 5                                      | 5   | 10  | 18  | 25  | 40  | 5                                       | 5   | 5   | 20  | 40  | 65  | 5                                       | 5   | 20  | 35  | 50  | 80  |
| 100                             | 5                                      | 5   | 18  | 28  | 38  | 55  | 5                                       | 5   | 25  | 45  | 65  | 100 | 5                                       | 10  | 35  | 55  | 75  | 110 |
| 110                             | 5                                      | 13  | 28  | 40  | 53  | 73  | 5                                       | 15  | 40  | 65  | 90  |     | 5                                       | 25  | 55  | 80  | 105 |     |
| 120                             | 5                                      | 20  | 38  | 53  | 68  | 93  | 5                                       | 30  | 65  | 95  |     |     | 5                                       | 40  | 75  | 105 |     |     |
| 130                             | 5                                      | 28  | 50  | 68  | 85  | 113 | 5                                       | 45  | 85  | 120 |     |     | 5                                       | 55  | 100 |     |     |     |
| 140                             | 5                                      | 38  | 63  | 83  | 103 |     | 5                                       | 65  | 110 |     |     |     | 10                                      | 75  |     |     |     |     |
| 150                             | 10                                     | 48  | 75  | 98  |     |     | 5                                       | 80  |     |     |     |     | 20                                      | 95  |     |     |     |     |
| 160                             | 15                                     | 58  | 88  | 115 |     |     | 20                                      | 105 |     |     |     |     | 30                                      | 115 |     |     |     |     |
| 170                             | 20                                     | 70  | 105 |     |     |     | 30                                      |     |     |     |     |     | 40                                      |     |     |     |     |     |
| 180                             | 28                                     | 80  | 120 |     |     |     | 40                                      |     |     |     |     |     | 55                                      |     |     |     |     |     |
| 190                             | 33                                     | 93  |     |     |     |     | 55                                      |     |     |     |     |     | 65                                      |     |     |     |     |     |
| 200                             | 40                                     | 105 |     |     |     |     | 65                                      |     |     |     |     |     | 80                                      |     |     |     |     |     |
| 210                             | 48                                     | 120 |     |     |     |     | 80                                      |     |     |     |     |     | 95                                      |     |     |     |     |     |

### MEMOS POINT

Selected wind speed: **A** =

Color: yellow, green or blue: **C** =

Kg ballast/panel: **B** =

Number of panels: **N** =

## BALLASTING YOUR SYSTEM

Ballast requirement

**B**  X **N**  =  Your requirements in Kg

Ballast for 1 panel (in kg)      Number of panels

## POSSIBLE INSTALLATION

Depending on the weight chosen in Table B, a color has been selected. The colors correspond to compatibility with our mounting brackets: UNIFIX 800 EGF and UNIFIX 1200EGR.

Pair configuration (2, 4, 6, 8...panels)



Odd configuration (3, 9, 15...panels)



**i** The information provided is indicative and does not take precedence over measurements made by a qualified professional on the precise installation location. This page is intended as an aid to ballasting. Uniteck accepts no responsibility for any incident of any kind concerning the ballasting of mounting brackets.



**UNIFIX 20**  
For Unisun 10.12M/ 10.24M/ 20.12M/ 20.24M  
Landscape orientation  
Ref 0262



**UNIFIX 50**  
For Unisun 30.12M/ 50.12M/ 50.24M/ 55.12BC  
Landscape orientation  
Ref 0279



**UNIFIX 100**  
For Unisun 80.12M/ 100.12M/ 100.24M/ 120.12BC  
Landscape orientation  
Ref 0316



**UNIFIX 200**  
For Unisun 80.12M (x2)/  
100.12M (x2)/ 100.24M (x2)/  
120.12BC (x2)/ 150.12M/  
150.24M/ 165.12BC/ 200.12BC  
200.24M  
Ref 0361



1 panel or 2 panels

### SOLAR PANELS DIMENSION COMPATIBILITY

|                   | Panels number |     |     | Panel hole spacing (mm) |            | Panel dimension max. (mm) |        |
|-------------------|---------------|-----|-----|-------------------------|------------|---------------------------|--------|
|                   | x 1           | x 2 | x 3 | Lenght                  | Height     | Lenght                    | Height |
| <b>UNIFIX 20</b>  | ✓             |     |     | 80 - 505                | 100 - 300  | No max.                   | 400    |
| <b>UNIFIX 50</b>  | ✓             |     |     | 80 - 510                | 180 - 510  | No max.                   | 550    |
| <b>UNIFIX 100</b> | ✓             |     |     | 340 - 885               | 180 - 510  | No max.                   | 550    |
| <b>UNIFIX 200</b> | ✓             |     |     | 340 - 885               | 400 - 1050 | No max.                   | 1100   |
|                   |               | ✓   |     | 340 - 885               | 150 - 500  | No max.                   | 550    |
|                   | ✓             |     |     | 150 - 1600              | 400 - 1030 | No max.                   | 1200   |
| <b>UNIFIX 300</b> |               | ✓   |     | 150 - 750               | 400 - 1030 | No max.                   | 880    |
|                   |               |     | ✓   | 150 - 500               | 400 - 1030 | No max.                   | 550    |



### Mounting Brackets - UNIFIX U

# FLOOR, WALL & MAST

#### ■ MULTI-USE BRACKETS

Robust and easy to use, the universal UNIFIX is the ideal support to fix your panels on all flat surfaces (ground, concrete, wood frame, wall) or on round mast (diam. 40 to 60 mm).

Its multi-position tilting system allows you to optimize your electrical performance.

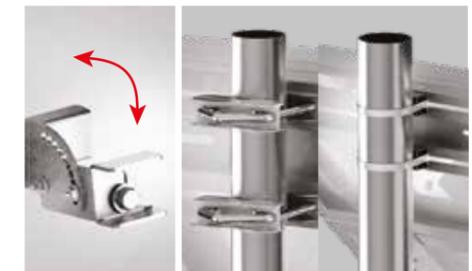
Universal, with its innovative design, the UNIFIX accepts some panels of different brands and sizes.



**UNIFIX 300**  
For Unisun 80.12M (x3)/  
100.12M (x3)/ 120.12BC (x3)/  
100.24M (x3)/ 150.24M (x2)/  
165.12BC (x2)/ 200.12BC (x2)/  
200.24M/ 300.12M  
Ref 0378



1 panel or 2 panels or 3 panels



Tilting system enables an optimized angle for the best electrical production.

Robust and strong fixation on round masts by means of flanges (included)

Attaches to all signage supports (flanges to be bought separately)

### + UNITECK

Corrosion resistant  
Galvanised steel frame  
and screws

Reclinable  
from 0 to 90°

Easy to install

Fixation on round masts  
Ø 40 to 60 mm  
(flanges included)

Wall mounting

Floor mounting

Designed,  
made in France



**UNIFIX 5SF**  
For Unisun 5.12 M  
Portrait orientation  
Masthead and middle of the mast  
Mounting flanges in option  
Ref 2693



**UNIFIX 20SF**  
For Unisun 10.12M/ 10.24M/ 20.12M/ 20.24M  
Portrait orientation  
Masthead and middle of the mast  
Mounting flanges in option  
Ref 1139



**UNIFIX 50SF**  
For Unisun 30.12M/ 50.12M/ 50.24M/ 55.12BC  
Portrait orientation  
Masthead and middle of the mast  
Mounting flanges in option  
Ref 0064



**UNIFIX 100SF**  
For Unisun 80.12M/ 100.12M/ 100.24M/ 120.12BC  
Portrait orientation  
Masthead  
Mounting flanges in option  
Ref 1146



Mounting Brackets - Fixed UNIFIX SF

# POLE & MAST

## FIXED BRACKETS FOR UNIVERSAL PANELS

Thanks to its universal fastening system, UNIFIX SF mounting bracket adapts to all signal masts.

Simply, slide your flanges with the M8 or M10 screws onto the rear rail and then tighten.

It has a fixed 35° panel inclination, optimum for an all year round use.

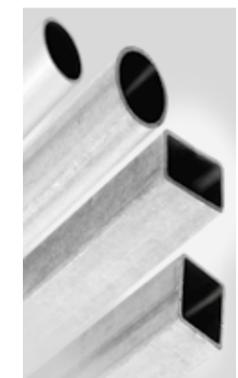
**+ UNITECK**

- Adaptable on all signal masts
- Corrosion resistant aluminium + A4 stainless steel screws
- Easy to install
- Can be fixed on any support
- With flanges or U clamps (flanges and M8 or M10 screws in option)

Designed, made in France



Can be fixed on the masthead or the middle of the mast (except UNIFIX 100SF, masthead only)



Can be fixed on any signal mast (flanges not included)



**OPTION UNIFIX S or SF POST FLANGES STAINLESS STEEL FASTENERS (x2)**

- Diam 40-60 mm  
Ref 2631
- Diam 60-90 mm  
Ref 2648
- Diam 90-130 mm  
Ref 2655
- Diam 130-190 mm  
Ref 2662
- Diam 190-250 mm  
Ref 4185



Reclinable  
from 30 to 60°

**UNIFIX 20S**  
For Unisun 10.12M/ 10.24M/ 20.12M/ 20.24M  
Landscape orientation  
Masthead or middle of the mast  
Mounting flanges in option  
Ref 0286



Reclinable  
from 30 to 60°

**UNIFIX 50S**  
For Unisun 30.12M/ 50.12M/ 50.24M/ 55.12BC  
Landscape orientation  
Masthead or middle of the mast  
Mounting flanges in option  
Ref 0293



Reclinable  
from 30 to 60°

**UNIFIX 100S**  
For Unisun 80.12M/ 100.12M/ 100.24M/ 120.12BC  
Landscape or portrait orientation  
Masthead or middle of the mast  
Mounting flanges in option  
Ref 0323



Reclinable  
from 30 to 60°

**UNIFIX 150S**  
For Unisun 150.12M/ 150.24M/ 165.12BC/ 200.12BC  
Landscape or portrait orientation  
Masthead or middle of the mast  
Mounting flanges in option  
Ref 0866



Reclinable  
from 30 to 60°

**UNIFIX 200S**  
For Unisun 200.24M  
Landscape or portrait orientation  
Masthead or middle of the mast  
Mounting flanges in option  
Ref 0941



Reclinable  
from 30 to 60°

**UNIFIX 300S**  
For Unisun 300.12M  
Landscape or portrait orientation  
Masthead or middle of the mast  
Mounting flanges in option  
Ref 2082



Mounting Brackets - Reclinable UNIFIX S

## POLE & MAST

### RECLINABLE BRACKETS FOR UNIVERSAL PANELS

Thanks to their universal fastening system, UNIFIX S mounting bracket adapts to all signal masts. Simply, slide your flanges with the M8 or M10 screws onto the rear rail and then tighten.

UNIFIX S offers the possibility to choose the inclination. The tilting system enables you to optimize the electrical production according to the area and the period of use.

With its Easy Install system and their light aluminium structure, its mounting can easily be done alone, without extra assistance.



**OPTION**  
UNIFIX S or SF POST FLANGES  
STAINLESS STEEL FASTENERS (x2)

Diam 40-60 mm  
Ref 2631

Diam 60-90 mm  
Ref 2648

Diam 90-130 mm  
Ref 2655

Diam 130-190 mm  
Ref 2662

Diam 190-250 mm  
Ref 4185

**UNITECK**

Adaptable on all signal masts

Corrosion resistant aluminium + A4 stainless steel screws

Easy to install

Reclinable from 30 to 60°

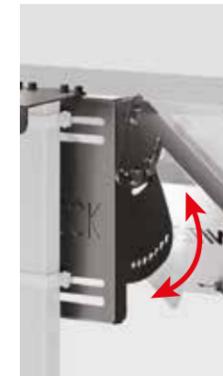
Can be fixed on any support

With flanges or U clamps (flanges and M8 or M10 screws in option)

Designed,  
made in France

#### Light, innovative

Tilting multi-position system to optimize your electrical performances



#### Easy installation system

Its upper cap relieves the weight of the installation so that their mounting can easily be done alone, without extra assistance. This cap can be removed afterwards for a fixation on the middle of the pole. It is used on pole with a maximum of 130mm diameter. For UNIFIX 100S /150S /200S.





Mounting Brackets - UNIFIX WB

# BOATING

## RECLINABLE AND STEERABLE BRACKETS FOR A PUSHFIT FIXATION

The UNIFIX WB mounting brackets range is ideal to fix your rigid solar panels on your pushpit. Made of 316L polished stainless steel, UNIFIX WB is robust and entirely protected against corrosion.

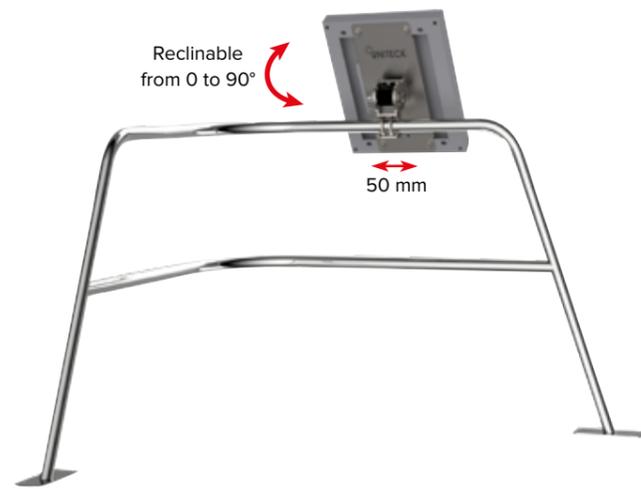
Thanks to its universal fixation system, it can be fixed on all pushpits.

With an adjustable tilt for the 20.1WB and the 100.1WB, with adjustable tilt and steerable for the 50.2WB, the UNIFIX WB optimizes your electrical performance and thus increases your production up to 50% compared to an identical fixed installation.

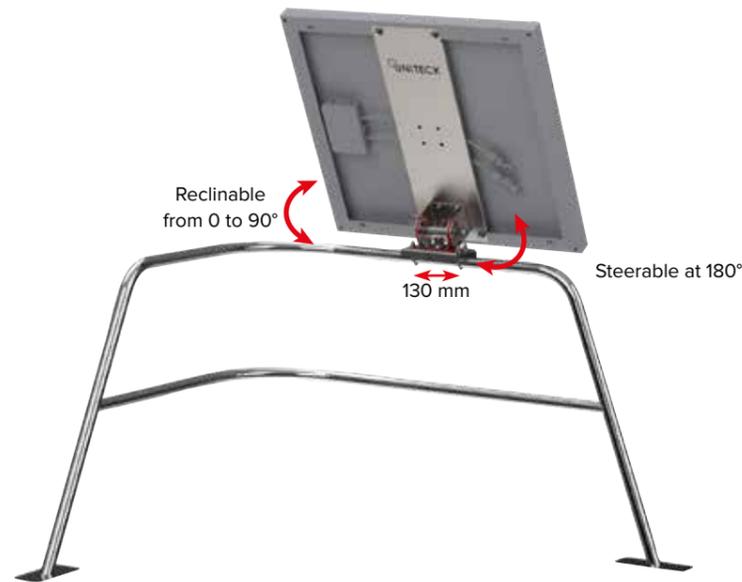
Developed for the fixation of Uniteck panels, it is not necessary to drill the panel frame (operation cancelling the product warranty with many brands).



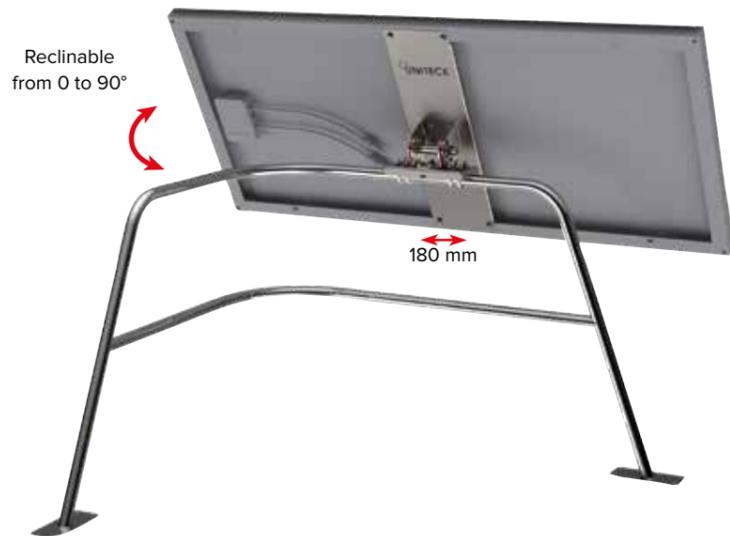
- Adaptable on all pushpits from Ø 20 to 45 mm
- Corrosion resistant marine stainless steel
- Easy to install
- Reclinable from 0 to 90°
- Steerable at 180°



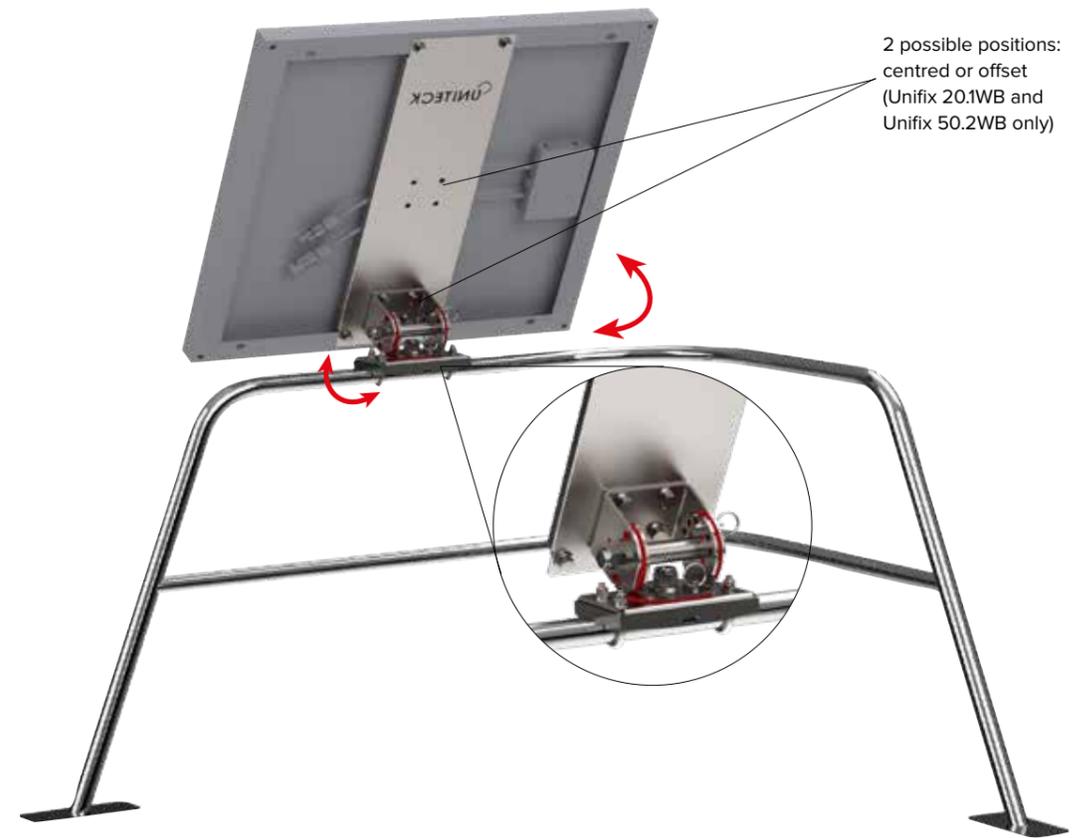
**UNIFIX 20.1 WB**  
for Unisun 10.12M/ 10.24M/ 20.12M/ 20.24M  
Ref 1009



**UNIFIX 50.2 WB**  
for Unisun 30.12M/ 50.12M/ 55.12BC  
Ref 1016



**UNIFIX 100.1 WB**  
for Unisun 80.12M/ 100.12M/ 100.24M/ 120.12BC  
Ref 1153





## Mounting Brackets UNIFIX WPB

# BOATING

### TILTABLE BRACKETS FOR BALCONY AND ARCH MOUNTING

The UNIFIX WP RECLINABLE mounting brackets are ideal to fix your rigid solar panels on your arch.

Made of SAE 316L polished stainless steel, UNIFIX WPB RECLINABLE is robust and entirely protected against corrosion. Its universal titling system allows it to be fixed on all arches : double or single bar, bimini arch...(diam 20 to 45 mm).

Thanks to the adjustable inclination of universal fixation system (-60°/+60°), UNIFIX WP RECLINABLE increases your production over 30% against a laying down installation.

The panel can be positioned either centered or off-centered according to your wishes or your arch configuration.



- Adaptable on all arches from Ø 20 to 45 mm
- Corrosion resistant marine stainless steel
- Easy to install
- Reclinable from 0 to 90°



**UNIFIX 200.1 WPB**  
for Unisun 50.12M (x2)/ 50.24M (x2)/ 55.12BC (x2)/ 80.12M (x2)/ 100.12M (x2)/ 100.24M (x2)/ 120.12BC (x2)  
Ref 2815

**UNIFIX 300.1 WPB**  
for Unisun 150.12M (x2)/ 165.12BC (x2)  
Ref 2822



**UNIFIX 100.1 WPB**  
for Unisun 50.12M/ 50.24M/ 55.12BC/ 80.12M/ 100.12M/ 100.24M/ 120.12BC  
Ref 2792

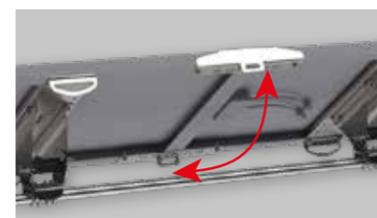
**UNIFIX 150.1 WPB**  
for Unisun 150.12M/ 150.24M/ 165.12BC/ 200.12BC  
Ref 2808



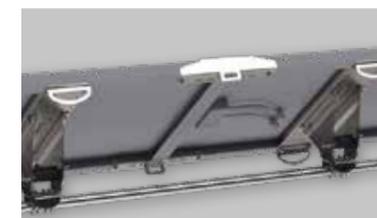
**MONO-BAR FIXATION**  
To maximize space at board, the reclinable arch mounting are equipped with a mono-bar assembly.



**MULTI-POSITION**  
According to your arch configuration or your wishes, your panels can be positioned either centered or off-centered.



**INCLINATION**  
Easy inclination system thanks to adjusting rings optimize your electrical performances depending on the season and the geographical area.



**MULTI-PANEL**  
In double-panel, with UNIFIX 200.1 WP and UNIFIX 300.1 WP offer a larger electrical production area for more self-sufficiency.



## Mounting Brackets - UNIFIX WP

# BOATING

### FIXED BRACKETS FOR ARCH

The UNIFIX WP range of brackets is ideal to fix your rigid solar panels on your arch.

Made of polished 316L stainless steel, UNIFIX WP is robust and totally protected against corrosion.



- Adaptable on all pushpits from Ø 20 to 45 mm
- Corrosion resistant marine stainless steel
- Easy to install



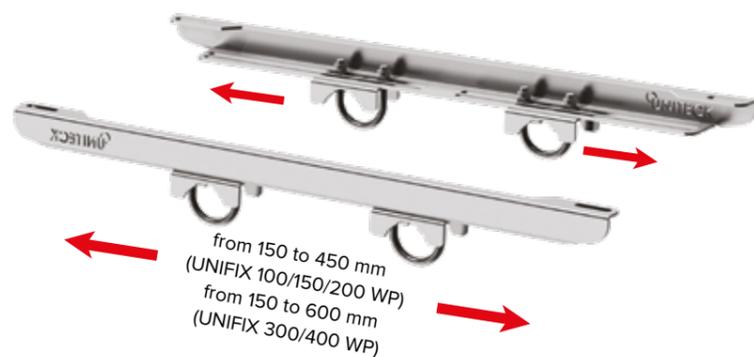
**UNIFIX 100 WP**  
for Unisun 50.12M/ 55.12BC/ 80.12M/ 100.12M/  
100.24M/ 110.12BC  
Ref 0859

**UNIFIX 150 WP**  
for Unisun 150.12M/ 150.24M/  
165.12BC/ 200.12BC  
Ref 0514

**UNIFIX 200 WP**  
for Unisun 200.24M  
Ref 1450

**UNIFIX 300 WP**  
for Unisun 300.12M  
Ref 2136

**UNIFIX 400 WP**  
for Unisun 400.24M  
Ref 5205



## Mounting Brackets - UNIFIX BM

# BOATING

### MOUNTING BRACKET FOR BIMINI

The UNIFIX BM bracket is ideal for mounting your rigid solar panels on your bimini (diam 20 to 28mm).

UNIFIX's innovative multi-axis mounting clamps finally overcome the challenge of mounting rigid solar panels on bimini bars with both vertical and horizontal curves.

This rigid panel solution promotes efficient heat dissipation, leading to up to 20% higher power output compared to thin/flexible panels mounted on bimini canvas. Additionally, it offers almost unlimited lifespan, surpassing flexible panels susceptible to mechanical stresses like (bending, impact, and temperature fluctuations).

Designed in polished 316 stainless steel, it is robust and protected against corrosion.

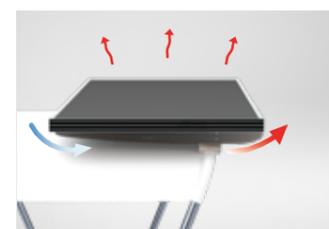
Weighing approximately 10 kg (panel and support), UNIFIX BM is perfectly stable and balanced, minimizing strain on your bimini. The solar panel closely hugs the canvas, making the whole unit very aesthetically pleasing.



- Adaptable on all pushpits from Ø 20 to 45 mm
- Corrosion resistant marine stainless steel
- Easy to install
- Greater performance (+20% compared with flexible panels)



**UNIFIX 100 BM**  
for Unisun 50.12M / 50.24M / 55.12BC /  
80.12M / 100.12M / 100.24M / 120.12BC  
Ref 4123



**MORE OPTIMAL PERFORMANCE**  
UNIFIX 100 BM promotes efficient heat dissipation, leading to up to 20% production compared to flexible panels.



**ADAPTABILITY**  
Multi-axis clamps to fit all types of biminis



UNICABLE solar cables

# READY TO USE

UNICABLE is the reference cable for connecting your solar panels. Its high-quality design (cable, 100% extra-soft tinned copper, UV-resistant sheath, Stäubli MC4 connector) guarantees optimum energy transfer and long service life.



## + UNITECK

Quick and simple to install, fast solar connectors

No power loss (tinned copper wire + suitable cross-section)

Extreme conditions resistant cable (-40°C to 120°C)

UV resistant cable

Water resistant cable Immersion AD7

Fireproof caoutchouc outer sheath type EM8, no halogen type EI6

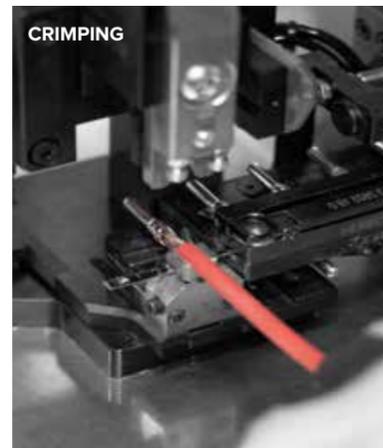
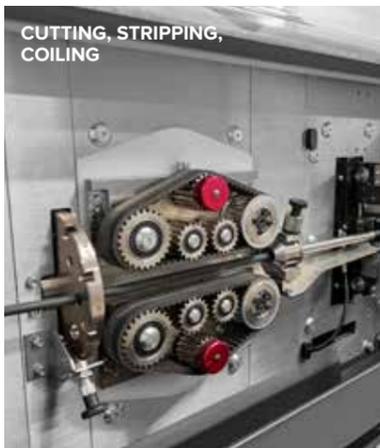
Designed, made in France



UNICABLE solar cables

## SPECIFICATIONS

|                                | 4 mm <sup>2</sup>  | 6 mm <sup>2</sup>  | 10 mm <sup>2</sup> |
|--------------------------------|--|--------------------|--------------------|
| <b>System</b>                  |  |                    |                    |
| Rated voltage                  | 1/1 kVac 1,5/1,5 kVcc                                    |                    |                    |
| Max. voltage                   | 1,2 kVac 1,8 kVcc  |                    |                    |
| Test voltage                   | 6,5 kVac 15 kVcc   |                    |                    |
| <b>Composition</b>             |  |                    |                    |
| Color                          | Black (RAL 9005) / Red (RAL 3013)                        |                    |                    |
| Average weight                 | 57kg/km  | 78kg/km            | 124kg/km           |
| Average diameter Ø             | 5,6mm <sup>2</sup>                                       | 6,2mm <sup>2</sup> | 7,2mm <sup>2</sup> |
| Conductors                     | Flexible tinned copper, class 5                          |                    |                    |
| Identification wire            | H type   |                    |                    |
| Outer sheath                   | Low-smoke, halogen-free rubber (LSZH) - EM8 and EI6      |                    |                    |
| Insulation                     | Non-toxic cross-linked elastomer - Z2 quality (EN 50618) |                    |                    |
| <b>Performances</b>            |  |                    |                    |
| Radius of curvature            | Ø x 6  |                    |                    |
| Shock resistance               | AG2 medium impact  |                    |                    |
| Water resistance               | yes (AD7 - immersion)                                    |                    |                    |
| UV resistance                  | yes (EN 50618 - IEC 62930)                               |                    |                    |
| Smoke emission                 | Light transmittance > 60% (EN 61034 - IEC 61034)         |                    |                    |
| Flame propagation              | H ≤ 425mm (EN 60332-1-2)                                 |                    |                    |
| Operating temperature          | -40°C / +90°C  |                    |                    |
| Max. short-circuit temperature | 250°C  |                    |                    |
| European regulations (CPR)     | ECA  |                    |                    |
| <b>Warranty</b>                |  |                    |                    |
| Duration                       | 5 years  | 5 years            | 5 years            |





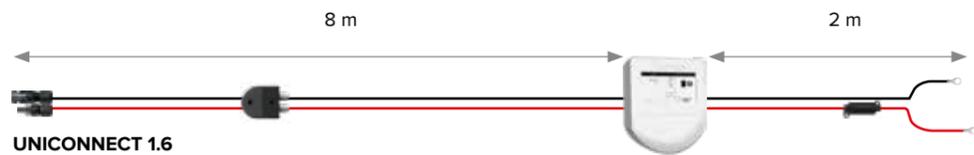
## Connexion kit

### COMPLETE SINGLE PANEL CONNECTION KITS



They can be connected quickly and easily to the panels and the controller via their quick solar connectors.  
With a 6 or 4 mm<sup>2</sup> cross-section, they optimize your electrical performance.

They are equipped with a fuse kit (Uniconnect 1.6 and 1.4S) to protect your installation and your battery, supplied with a UV-resistant waterproof roof-pass (Uniconnect 1.6 and 1.4E) or cable glands (Uniconnect 1.4S) and battery terminals (diam.8).

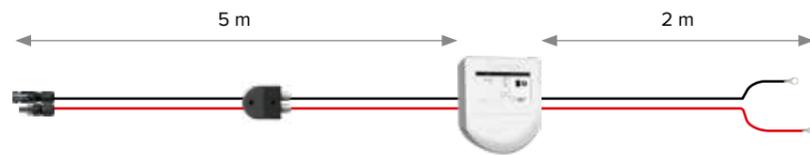


#### UNICONNECT 1.6

Included:

- Panel> regulator connection: 2 x 8 m cable, 6 mm<sup>2</sup> with solar connectors + waterproof roof-pass
- Regulator> Battery connection: 2 x 2 m cable + 6mm<sup>2</sup> battery terminals diam.8 + fuse protection kit

Ref 0200



#### UNICONNECT 1.4E

Included:

- Panel> regulator connection: 2 x 5 m cable, 4 mm<sup>2</sup> with solar connectors + waterproof roof-pass
- Regulator> Battery connection: 2 x 2 m cable + 4mm<sup>2</sup> battery terminals diam.8

Ref 1955



#### UNICONNECT 1.4S

included :

- Panel> regulator connection: 2 x 3 m cable, 4 mm<sup>2</sup> with solar connectors + cable glands
- Regulator> battery connexion: 2 x 1 m cable, 4 mm<sup>2</sup>+ fuse protection kit

Ref 0811



## UNICABLE solar cables

### CONNECTION OUTPUT PANEL



#### UNICABLE SP 2,5,0,2

Panel output cable,  
2,5 mm<sup>2</sup> - 2 x 0,2 m, black + red  
Max panel 100W  
Ref 3256

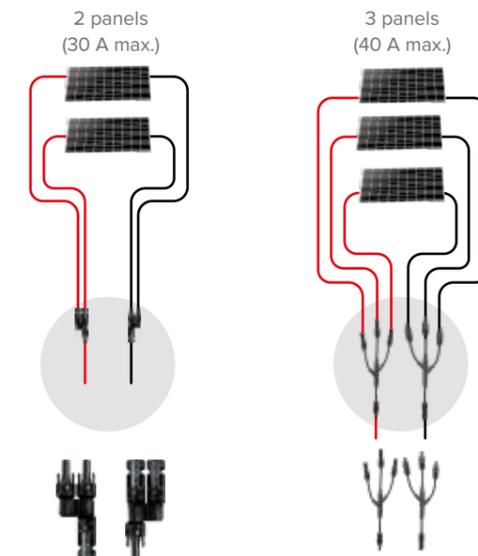
#### UNICABLE SP 2,5,0,5

Panel output cable,  
2,5 mm<sup>2</sup> - 2 x 0,5 m, black + red  
Max panel 100W  
Ref 1740

### CONNECTION MULTI-PANEL



#### Parallel multi-panel option



Parallel connectors kit  
2 panels  
Ref 0231

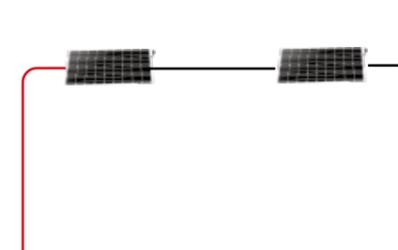
Parallel connectors kit  
3 panels  
Ref 0163



|          | Designation | Cross-section    | Length   | Color       |
|----------|-------------|------------------|----------|-------------|
| Ref 2921 | 412 BR      | 4mm <sup>2</sup> | 2 x 1 m  | black + red |
| Ref 2938 | 452 BR      | 4mm <sup>2</sup> | 2 x 5 m  | black + red |
| Ref 2945 | 4102 BR     | 4mm <sup>2</sup> | 2 x 10 m | black + red |
| Ref 0873 | 612 BR      | 6mm <sup>2</sup> | 2 x 1 m  | black + red |
| Ref 2143 | 632 BR      | 6mm <sup>2</sup> | 2 x 3 m  | black + red |
| Ref 2150 | 652 BR      | 6mm <sup>2</sup> | 2 x 5 m  | black + red |
| Ref 2952 | 6102 BR     | 6mm <sup>2</sup> | 2 x 10 m | black + red |
| Ref 2969 | 6202 BR     | 6mm <sup>2</sup> | 2 x 20 m | black + red |

Section = copper resistivity (= 0.21) x back and forth length (in meters) x current / acceptable voltage drop (0.5% for optimum charge)

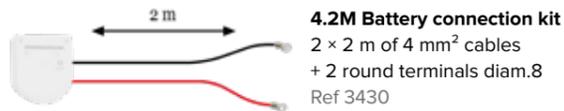
#### Multi-panel option as standard



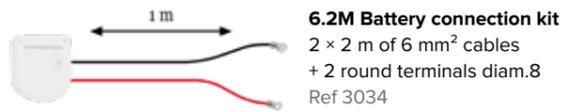
|          | Designation | Cross-section    | Length | Color |
|----------|-------------|------------------|--------|-------|
| Ref 2563 | 412 B       | 4mm <sup>2</sup> | 1m     | black |
| Ref 2570 | 432 B       | 4mm <sup>2</sup> | 3m     | black |
| Ref 2587 | 452 B       | 4mm <sup>2</sup> | 5m     | black |
| Ref 2167 | 612 B       | 6mm <sup>2</sup> | 1m     | black |
| Ref 2174 | 632 B       | 6mm <sup>2</sup> | 3m     | black |
| Ref 2181 | 652 B       | 6mm <sup>2</sup> | 5m     | black |

## CHARGE CONTROLLER > BATTERY CONNECTION

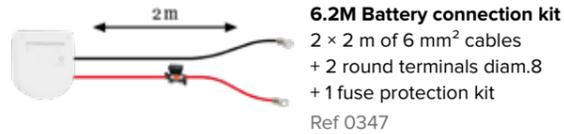
Designed, made in France



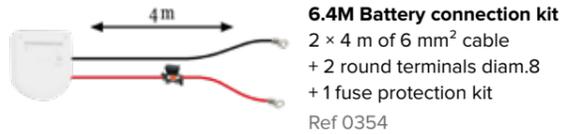
**4.2M Battery connection kit**  
2 x 2 m of 4 mm<sup>2</sup> cables  
+ 2 round terminals diam.8  
Ref 3430



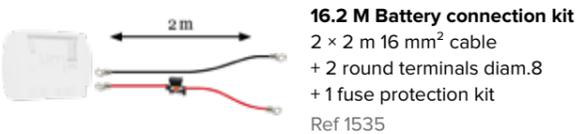
**6.2M Battery connection kit**  
2 x 2 m of 6 mm<sup>2</sup> cables  
+ 2 round terminals diam.8  
Ref 3034



**6.2M Battery connection kit**  
2 x 2 m of 6 mm<sup>2</sup> cables  
+ 2 round terminals diam.8  
+ 1 fuse protection kit  
Ref 0347



**6.4M Battery connection kit**  
2 x 4 m of 6 mm<sup>2</sup> cable  
+ 2 round terminals diam.8  
+ 1 fuse protection kit  
Ref 0354

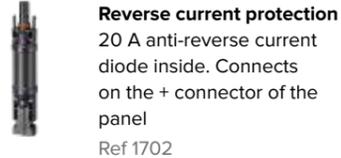


**16.2 M Battery connection kit**  
2 x 2 m 16 mm<sup>2</sup> cable  
+ 2 round terminals diam.8  
+ 1 fuse protection kit  
Ref 1535

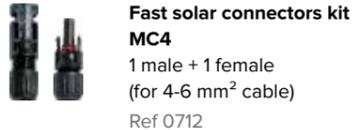
## CABLE ACCESSORIES



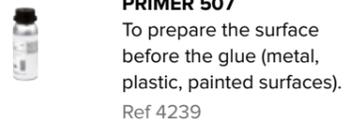
**Waterproof Roof-pass**  
UV resistant  
(for 4-6 mm<sup>2</sup> cable)  
Ref 0248



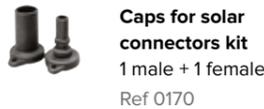
**Reverse current protection**  
20 A anti-reverse current diode inside. Connects on the + connector of the panel  
Ref 1702



**Fast solar connectors kit MC4**  
1 male + 1 female  
(for 4-6 mm<sup>2</sup> cable)  
Ref 0712



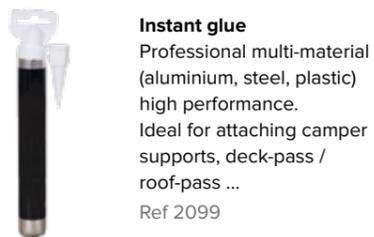
**PRIMER 507**  
To prepare the surface before the glue (metal, plastic, painted surfaces).  
Ref 4239



**Caps for solar connectors kit**  
1 male + 1 female  
Ref 0170



**Fast solar connectors kit MC4 - STÄUBLI**  
1 male + 1 female  
(for 10 mm<sup>2</sup> cable)  
Ref 4802



**Instant glue**  
Professional multi-material (aluminium, steel, plastic) high performance. Ideal for attaching camper supports, deck-pass / roof-pass ...  
Ref 2099



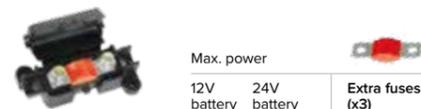
**Deck-pass/ bulkhead-pass**  
UV resistant with the fast solar connectors  
Ref 1481



**Pair of flush-mounting sockets MC4 - STÄUBLI**  
1 male + 1 female  
(for 4-6 mm<sup>2</sup> cable)  
Ref 4864

## FUSE PROTECTIONS

Fuse protection kit (fuse holder + fuse)



| Ref      | Max. power | 12V battery |             | Extra fuses (x3) |
|----------|------------|-------------|-------------|------------------|
|          |            | 30 A/32 V   | 24V battery |                  |
| Ref 4093 | 350 W      | 700 W       |             | Ref 3225         |
| Ref 4109 | 450 W      | 900 W       |             | Ref 3232         |
| Ref 0330 | 700 W      | 1400 W      |             | Ref 1160         |
| Ref 0217 | 950 W      | 1900 W      |             | Ref 0187         |
| Ref 0224 | 1200 W     | 2400 W      |             | Ref 0194         |



| Ref      | Max. power | 12V battery |             | Extra fuses (x3) |
|----------|------------|-------------|-------------|------------------|
|          |            | 125 A/32 V  | 24V battery |                  |
| Ref 0385 | 1500 W     | 3000 W      |             | Ref 1344         |
| Ref 0392 | 1800 W     | 3600 W      |             | Ref 1351         |
| Ref 0439 | 2400 W     | 4800 W      |             | Ref 1368         |
| Ref 0606 | 3000 W     | 6000 W      |             | Ref 1375         |

## UNICABLE solar cables



## PANEL > CHARGE CONTROLLER

Designed, made in France



|          | Designation | Cross section    | Length  | Color       |
|----------|-------------|------------------|---------|-------------|
| Ref 3041 | 411 BR      | 4mm <sup>2</sup> | 2 x 1m  | Black + Red |
| Ref 1917 | 451 BR      | 4mm <sup>2</sup> | 2 x 5m  | Black + Red |
| Ref 2709 | 481 BR      | 4mm <sup>2</sup> | 2 x 8m  | Black + Red |
| Ref 2716 | 4101 BR     | 4mm <sup>2</sup> | 2 x 10m | Black + Red |
| Ref 1023 | 651 BR      | 6mm <sup>2</sup> | 2 x 5m  | Black + Red |
| Ref 0880 | 681 BR      | 6mm <sup>2</sup> | 2 x 8m  | Black + Red |
| Ref 0897 | 6101 BR     | 6mm <sup>2</sup> | 2 x 10m | Black + Red |
| Ref 0903 | 6151 BR     | 6mm <sup>2</sup> | 2 x 15m | Black + Red |
| Ref 3027 | 6201 BR     | 6mm <sup>2</sup> | 2 x 20m | Black + Red |

## MADE-TO-MEASURE CABLES

Designed, made in France



|          | Designation | Cross section     | Length | Color |
|----------|-------------|-------------------|--------|-------|
| Ref 4826 | 4B5         | 4mm <sup>2</sup>  | 5m     | Black |
| Ref 4888 | 4R5         | 4mm <sup>2</sup>  | 5m     | Red   |
| Ref 4833 | 4B10        | 4mm <sup>2</sup>  | 10m    | Black |
| Ref 4895 | 4R10        | 4mm <sup>2</sup>  | 10m    | Red   |
| Ref 4840 | 4B20        | 4mm <sup>2</sup>  | 20m    | Black |
| Ref 4901 | 4R20        | 4mm <sup>2</sup>  | 20m    | Red   |
| Ref 4857 | 4B30        | 4mm <sup>2</sup>  | 30m    | Black |
| Ref 4918 | 4R30        | 4mm <sup>2</sup>  | 30m    | Red   |
| Ref 2211 | 4B50        | 4mm <sup>2</sup>  | 50m    | Black |
| Ref 2228 | 4R50        | 4mm <sup>2</sup>  | 50m    | Red   |
| Ref 1924 | 4B100       | 4mm <sup>2</sup>  | 100m   | Black |
| Ref 1931 | 4R100       | 4mm <sup>2</sup>  | 100m   | Red   |
| Ref 4703 | 6B5         | 6mm <sup>2</sup>  | 5m     | Black |
| Ref 4765 | 6R5         | 6mm <sup>2</sup>  | 5m     | Red   |
| Ref 4710 | 6B10        | 6mm <sup>2</sup>  | 10m    | Black |
| Ref 4772 | 6R10        | 6mm <sup>2</sup>  | 10m    | Red   |
| Ref 4727 | 6B20        | 6mm <sup>2</sup>  | 20m    | Black |
| Ref 4789 | 6R20        | 6mm <sup>2</sup>  | 20m    | Red   |
| Ref 4734 | 6B30        | 6mm <sup>2</sup>  | 30m    | Black |
| Ref 4796 | 6R30        | 6mm <sup>2</sup>  | 30m    | Red   |
| Ref 2198 | 6B50        | 6mm <sup>2</sup>  | 50m    | Black |
| Ref 2204 | 6R50        | 6mm <sup>2</sup>  | 50m    | Red   |
| Ref 0774 | 6B100       | 6mm <sup>2</sup>  | 100m   | Black |
| Ref 0781 | 6R100       | 6mm <sup>2</sup>  | 100m   | Red   |
| Ref 4642 | 10B5        | 10mm <sup>2</sup> | 5m     | Black |
| Ref 4659 | 10B10       | 10mm <sup>2</sup> | 10m    | Black |
| Ref 4666 | 10B20       | 10mm <sup>2</sup> | 20m    | Black |
| Ref 4673 | 10B30       | 10mm <sup>2</sup> | 30m    | Black |
| Ref 4680 | 10B50       | 10mm <sup>2</sup> | 50m    | Black |

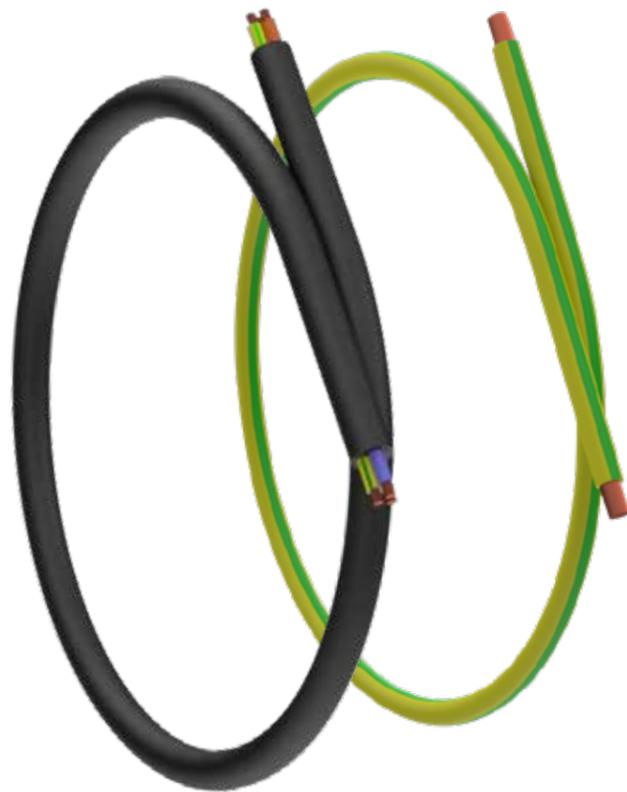
**i** Section = copper resistivity (= 0.21) x back and forth length (in meters) x current / acceptable voltage drop (0.5% for optimum charge).  
ex : 10m avec panneau 300W  
= 9,82A / 30,5V  
= ( 0,021 x 2x10m x 9,82A ) / 5% x 30,5V = 2,7mm<sup>2</sup>



## UNICABLE ELEC solar cables

# READY TO USE

UNICABLE ELEC is the reference cable for your electrical network. Its high-quality design (100% copper core) guarantees optimum energy transfer.



## + UNITECK

Highly flexible, ideal for power transmission in fixed or mobile installations

UV resistant cable (H07RN-F)

Flexible, water-resistant, insulating sheath (H07RN-F)

Cable resistant to extreme conditions (-40°C)



## UNICABLE ELEC solar cables

### FEATURES

|                            | H07RN-F 3G   | H07RN-F 5G                                 | H07V-K   |
|----------------------------|--|--|--|
| <b>System</b>              |  |  |  |
| Voltage                    |  | 450/750 V                                  |  |
| Application                | Electric cable   | Electric cable                             | Earth cable  |
| <b>Composition</b>         |  |  |  |
| Wire color                 | Blue + Brown + Green/Yellow                              | Blue + Brown + Grey + Black + Green/Yellow | Green/yellow   |
| Cable core                 | Electrolytic copper, class 5 (soft) EN 60228 / IEC 60228 |  |  |
| Insulation                 | Thermosetting rubber type EI7                            | Thermosetting rubber type EI7              | Extra-slip flexible polyvinyl chloride sliding type T11 (EN 50363-3) |
| Protective sheath          | Thermosetting rubber black type EM2                      | Thermosetting rubber black type EM2        | no   |
| European regulations (CPR) | ECA  | ECA  | ECA  |
| Water-resistant            | AD8 immersion  | AD8 immersion                              | no   |
| Operating temperature      | -40°C / 90°C   | -40°C / 90°C                               | -40°C / 70°C   |

### CUSTOMIZED CABLE



|          | Designation | Wires | Cross section      | Length | Color          | Serie   |
|----------|-------------|-------|--------------------|--------|----------------|---------|
| Ref 4390 | 3G2,5-1M    | 3     | 2.5mm <sup>2</sup> | 1m     | Black          | H07RN-F |
| Ref 4406 | 3G2,5-5M    | 3     | 2.5mm <sup>2</sup> | 5m     | Black          | H07RN-F |
| Ref 4413 | 3G2,5-10M   | 3     | 2.5mm <sup>2</sup> | 10m    | Black          | H07RN-F |
| Ref 4420 | 3G2,5-20M   | 3     | 2.5mm <sup>2</sup> | 20m    | Black          | H07RN-F |
| Ref 4437 | 3G2,5-30M   | 3     | 2.5mm <sup>2</sup> | 30m    | Black          | H07RN-F |
| Ref 4444 | 3G2,5-50M   | 3     | 2.5mm <sup>2</sup> | 50m    | Black          | H07RN-F |
| Ref 4574 | 5G2,5-1M    | 5     | 2.5mm <sup>2</sup> | 1m     | Black          | H07RN-F |
| Ref 4581 | 5G2,5-5M    | 5     | 2.5mm <sup>2</sup> | 5m     | Black          | H07RN-F |
| Ref 4598 | 5G2,5-10M   | 5     | 2.5mm <sup>2</sup> | 10m    | Black          | H07RN-F |
| Ref 4604 | 5G2,5-20M   | 5     | 2.5mm <sup>2</sup> | 20m    | Black          | H07RN-F |
| Ref 4611 | 5G2,5-30M   | 5     | 2.5mm <sup>2</sup> | 30m    | Black          | H07RN-F |
| Ref 4628 | 5G2,5-50M   | 5     | 2.5mm <sup>2</sup> | 50m    | Black          | H07RN-F |
| Ref 4451 | 3G4-1M      | 3     | 4mm <sup>2</sup>   | 1m     | Black          | H07RN-F |
| Ref 4468 | 3G4-5M      | 3     | 4mm <sup>2</sup>   | 5m     | Black          | H07RN-F |
| Ref 4475 | 3G4-10M     | 3     | 4mm <sup>2</sup>   | 10m    | Black          | H07RN-F |
| Ref 4482 | 3G4-20M     | 3     | 4mm <sup>2</sup>   | 20m    | Black          | H07RN-F |
| Ref 4499 | 3G4-30M     | 3     | 4mm <sup>2</sup>   | 30m    | Black          | H07RN-F |
| Ref 4505 | 3G4-50M     | 3     | 4mm <sup>2</sup>   | 50m    | Black          | H07RN-F |
| Ref 4512 | 3G6-1M      | 3     | 6mm <sup>2</sup>   | 1m     | Black          | H07RN-F |
| Ref 4529 | 3G6-5M      | 3     | 6mm <sup>2</sup>   | 5m     | Black          | H07RN-F |
| Ref 4536 | 3G6-10M     | 3     | 6mm <sup>2</sup>   | 10m    | Black          | H07RN-F |
| Ref 4543 | 3G6-20M     | 3     | 6mm <sup>2</sup>   | 20m    | Black          | H07RN-F |
| Ref 4550 | 3G6-30M     | 3     | 6mm <sup>2</sup>   | 30m    | Black          | H07RN-F |
| Ref 4567 | 3G6-50M     | 3     | 6mm <sup>2</sup>   | 50m    | Black          | H07RN-F |
| Ref 4345 | T6-5M       | 1     | 6mm <sup>2</sup>   | 1m     | Verde / Giallo | H07V-K  |
| Ref 4352 | T6-10M      | 1     | 6mm <sup>2</sup>   | 10m    | Verde / Giallo | H07V-K  |
| Ref 4369 | T6-20M      | 1     | 6mm <sup>2</sup>   | 20m    | Verde / Giallo | H07V-K  |
| Ref 4376 | T6-30M      | 1     | 6mm <sup>2</sup>   | 30m    | Verde / Giallo | H07V-K  |
| Ref 4383 | T6-50M      | 1     | 6mm <sup>2</sup>   | 50m    | Verde / Giallo | H07V-K  |

CUTTING, STRIPPING, COILING



PACKAGING, LABELING





UNICABLE battery cables

# HIGH QUALITY AND FLEXIBILITY

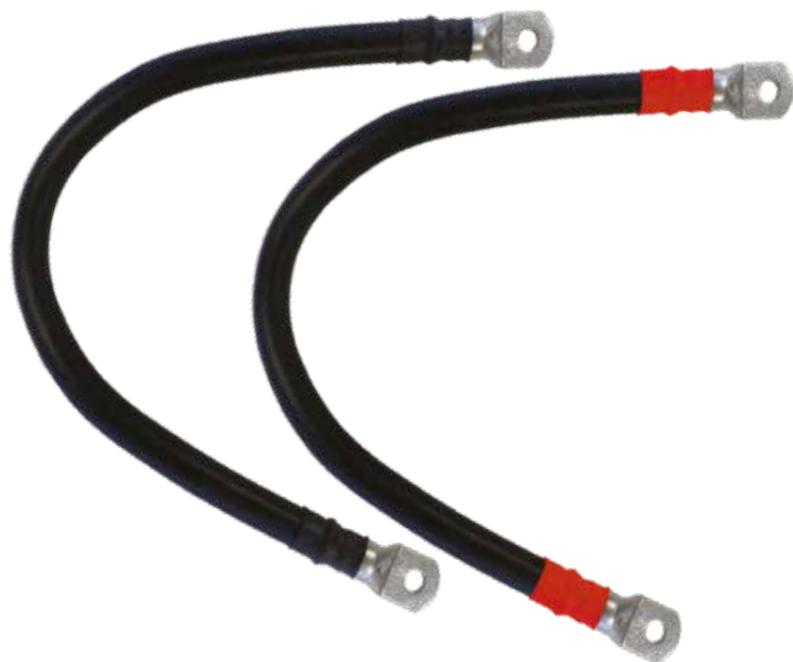
UNICABLE BAT is the reference cable to connect your batteries between them or to make your DC power connections (converters, battery switch...).

Its high quality design (100% flexible multi-stranded copper cable core + lugs with automated hexagonal crimping + thick thermo-glued sheath) guarantees an optimal energy transfer without any power loss, even at high current.

## + UNITECK

- High quality wire (type HO7 RVK)
- Isolated wire and resistant to extreme conditions (-30°C to 85°C)
- Extra flexible multi-strand cable
- Fire-protection sleeve, adaptable, oils and acids resistant
- Automated hexagonal crimping

Designed, made in France



CUTTING, STRIPPING, COILING



CRIMPING



LABELLING



UNICABLE battery cables

## FEATURES

|                          | 16 mm <sup>2</sup>           | 25 mm <sup>2</sup> | 35 mm <sup>2</sup> | 50 mm <sup>2</sup> | 70 mm <sup>2</sup> | 95 mm <sup>2</sup> |
|--------------------------|------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>System</b>            |                              |                    |                    |                    |                    |                    |
| Voltage                  | 12V / 24V / 48V              |                    |                    |                    |                    |                    |
| Type                     | HO7 RVK                      |                    |                    |                    |                    |                    |
| <b>Composition</b>       |                              |                    |                    |                    |                    |                    |
| Drivers                  | 182 x 0,3                    | 280 x 0,3          | 448 x 0,3          | 616 x 0,3          | 836 x 0,3          | 1159 x 0,3         |
| Annealed copper strand Ø | 5,0 mm ± 0,2                 | 6,2 mm ± 0,2       | 7,2 mm ± 0,3       | 8,4 mm ± 0,3       | 10,8 mm ± 0,3      | 12,7 mm ± 0,3      |
| Copper mass              | 114 kg/km                    | 176 kg/km          | 282 kg/km          | 387 kg/km          | 525 kg/km          | 728 kg/km          |
| PVC Insulation Ø         | 7,2 mm ± 0,2                 | 9,8 mm ± 0,3       | 11,0 mm ± 0,3      | 12,2 mm ± 0,4      | 14,2 mm ± 0,4      | 16,1 mm ± 0,5      |
| Environment              | ROHS + REACH                 |                    |                    |                    |                    |                    |
| <b>Performance</b>       |                              |                    |                    |                    |                    |                    |
| Radius of curvature      | < 5,5 x Ø (mm)               |                    |                    |                    |                    |                    |
| Dielectric rigidity      | 1500 V (CC/DC 1min)          |                    |                    |                    |                    |                    |
| Resistance               | ≤ 1,52 Ω/km                  | ≤ 0,99 Ω/km        | ≤ 0,62 Ω/km        | ≤ 0,45 Ω/km        | ≤ 0,33 Ω/km        | ≤ 0,24 Ω/km        |
| Insulation resistance    | ≥ 50 MΩkm (20°)              |                    |                    |                    |                    |                    |
| No flame propagation     | NF C 32-070 C2 (IEC 60332-1) |                    |                    |                    |                    |                    |
| Operating temperature    | -30°C / +85°C                |                    |                    |                    |                    |                    |
| <b>Warranty</b>          |                              |                    |                    |                    |                    |                    |
| Period                   | 5 years                      | 5 years            | 5 years            | 5 years            | 5 years            | 5 years            |



**Terminal cover battery (+/-)**  
(for 10-120 mm<sup>2</sup> cable)  
Ref 5045



**M8 tapered screw-in battery terminals (+/-)**  
(tin-plated brass)  
Ref 4994

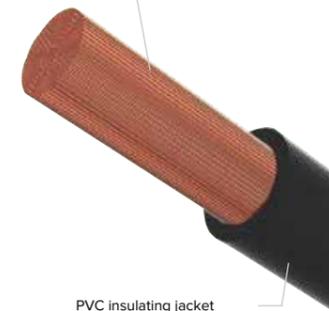


**Battery terminals (+ and -)**  
Ref 1122



**USB 5V - 1A flush-mount socket**  
Ref 2235

100% copper cable core flexible multi-strand



PVC insulating jacket



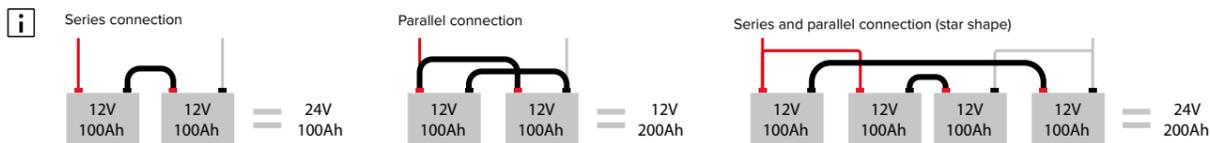
## UNICABLE battery cables

### BATTERY(IES) > BATTERY



|                 | Cross section      | Length     | Terminals    | Δ V < 0,5%                         |                                    |                                    |
|-----------------|--------------------|------------|--------------|------------------------------------|------------------------------------|------------------------------------|
|                 |                    |            |              | 12 V battery fleet<br>Max. current | 24 V battery fleet<br>Max. current | 48 V battery fleet<br>Max. current |
| <b>Parallel</b> |                    |            | <b>M8/M8</b> |                                    |                                    |                                    |
| Ref 2242        | 25 mm <sup>2</sup> | 20 cm x 2  | M8/M8        | 180 A                              | 360 A                              | 720 A                              |
| Ref 2259        | 35 mm <sup>2</sup> | 20 cm x 2  | M8/M8        | 250 A                              | 500 A                              | 1000 A                             |
| Ref 2266        | 25 mm <sup>2</sup> | 40 cm x 2  | M8/M8        | 90 A                               | 180 A                              | 360 A                              |
| Ref 2273        | 35 mm <sup>2</sup> | 40 cm x 2  | M8/M8        | 125 A                              | 250 A                              | 500 A                              |
| Ref 2532        | 50 mm <sup>2</sup> | 40 cm x 2  | M8/M8        | 180 A                              | 360 A                              | 720 A                              |
| Ref 2976        | 16 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 20 A                               | 40 A                               | 80 A                               |
| Ref 2754        | 25 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 35 A                               | 70 A                               | 140 A                              |
| Ref 2761        | 35 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 50 A                               | 100 A                              | 200 A                              |
| Ref 2778        | 50 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 70 A                               | 140 A                              | 280 A                              |
| Ref 2785        | 70 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 100 A                              | 200 A                              | 400 A                              |
| Ref 2983        | 16 mm <sup>2</sup> | 200 cm x 2 | M8/M8        | 10 A                               | 20 A                               | 40 A                               |
| Ref 2990        | 25 mm <sup>2</sup> | 200 cm x 2 | M8/M8        | 17 A                               | 35 A                               | 70 A                               |
| Ref 3003        | 35 mm <sup>2</sup> | 200 cm x 2 | M8/M8        | 25 A                               | 50 A                               | 100 A                              |
| Ref 3010        | 50 mm <sup>2</sup> | 200 cm x 2 | M8/M8        | 35 A                               | 70 A                               | 140 A                              |
| <b>In serie</b> |                    |            |              |                                    |                                    |                                    |
| Ref 2280        | 25 mm <sup>2</sup> | 20 cm      | M8/M8        | 360 A                              | 715 A                              | 1430 A                             |
| Ref 2297        | 35 mm <sup>2</sup> | 20 cm      | M8/M8        | 500 A                              | 1000 A                             | 2000 A                             |

**i** Section = copper resistivity (=0.021) x length of return (in meters) x current / permissible voltage drop in value (0.5% to avoid battery unbalance)



## UNICABLE battery cables

### M8/M8 POWER CABLES



|                  | Cross section      | Length     | Terminals    | Δ V < 3%                           |                                    |                                    |
|------------------|--------------------|------------|--------------|------------------------------------|------------------------------------|------------------------------------|
|                  |                    |            |              | 12 V battery fleet<br>Max. current | 24 V battery fleet<br>Max. current | 48 V battery fleet<br>Max. current |
| <b>Multi-use</b> |                    |            | <b>M8/M8</b> |                                    |                                    |                                    |
| Ref 2884         | 16 mm <sup>2</sup> | 20 cm      | M8/M8        | 650 A                              | 1360 A                             | 2720 A                             |
| Ref 2907         | 25 mm <sup>2</sup> | 20 cm      | M8/M8        | 1070 A                             | 2150 A                             | 4300 A                             |
| Ref 2914         | 35 mm <sup>2</sup> | 20 cm      | M8/M8        | 1500 A                             | 3000 A                             | 6000 A                             |
| Ref 1825         | 25 mm <sup>2</sup> | 25 cm      | M8/M8        | 850 A                              | 1700 A                             | 3400 A                             |
| Ref 2020         | 35 mm <sup>2</sup> | 25 cm      | M8/M8        | 1200 A                             | 2400 A                             | 4800 A                             |
| Ref 2037         | 50 mm <sup>2</sup> | 25 cm      | M8/M8        | 1700 A                             | 3400 A                             | 6800 A                             |
| Ref 2891         | 16 mm <sup>2</sup> | 40 cm      | M8/M8        | 340 A                              | 680 A                              | 1360 A                             |
| Ref 1658         | 25 mm <sup>2</sup> | 40 cm      | M8/M8        | 530 A                              | 1050 A                             | 2100 A                             |
| Ref 1665         | 35 mm <sup>2</sup> | 40 cm      | M8/M8        | 750 A                              | 1500 A                             | 3000 A                             |
| Ref 1672         | 50 mm <sup>2</sup> | 40 cm      | M8/M8        | 1050 A                             | 2100 A                             | 4200 A                             |
| Ref 1689         | 70 mm <sup>2</sup> | 40 cm      | M8/M8        | 1500 A                             | 3000 A                             | 6000 A                             |
| Ref 1696         | 95 mm <sup>2</sup> | 40 cm      | M8/M8        | 2000 A                             | 4000 A                             | 8000 A                             |
| Ref 2389         | 25 mm <sup>2</sup> | 150 cm     | M8/M8        | 140 A                              | 280 A                              | 560 A                              |
| Ref 1764         | 35 mm <sup>2</sup> | 150 cm     | M8/M8        | 200 A                              | 400 A                              | 800 A                              |
| Ref 1771         | 50 mm <sup>2</sup> | 150 cm     | M8/M8        | 285 A                              | 570 A                              | 1140 A                             |
| Ref 1788         | 70 mm <sup>2</sup> | 150 cm     | M8/M8        | 400 A                              | 800 A                              | 1600 A                             |
| Ref 1795         | 95 mm <sup>2</sup> | 150 cm     | M8/M8        | 540 A                              | 1080 A                             | 2160 A                             |
| Ref 3539         | 25 mm <sup>2</sup> | 200 cm     | M8/M8        | 100 A                              | 200 A                              | 400 A                              |
| Ref 3553         | 35 mm <sup>2</sup> | 200 cm     | M8/M8        | 150 A                              | 300 A                              | 600 A                              |
| Ref 3577         | 50 mm <sup>2</sup> | 200 cm     | M8/M8        | 210 A                              | 420 A                              | 840 A                              |
| Ref 3591         | 70 mm <sup>2</sup> | 200 cm     | M8/M8        | 300 A                              | 600 A                              | 1200 A                             |
| Ref 2976         | 16 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 140 A / 1,7 kW                     | 280 A / 6,7 kW                     | 560 A / 26,8 kW                    |
| Ref 2754         | 25 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 210 A / 2,5 kW                     | 420 A / 10 kW                      | 840 A / 40 kW                      |
| Ref 2761         | 35 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 300 A / 3,6 kW                     | 600 A / 14,4 kW                    | 1200 A / 57,6 kW                   |
| Ref 2778         | 50 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 430 A / 5,1 kW                     | 860 A / 20,6 kW                    | 1720 A / 82,4 kW                   |
| Ref 2785         | 70 mm <sup>2</sup> | 100 cm x 2 | M8/M8        | 600 A / 7,2 kW                     | 1200 A / 28,8 kW                   | 2400 A / 115,2 kW                  |

**i** Section = copper resistivity (=0.021) x length (in meters) x current / permissible voltage drop (3% for optimum power supply)



## UNICABLE battery cables

### M8/BARE POWER CABLES



| Multi-use | Cross section      | Length | Terminals | 12 V battery fleet | 24 V battery fleet | 48 V battery fleet |
|-----------|--------------------|--------|-----------|--------------------|--------------------|--------------------|
|           |                    |        |           | $\Delta V < 3\%$   | $\Delta V < 3\%$   | $\Delta V < 3\%$   |
|           |                    |        |           | Max. current       | Max. current       | Max. current       |
| Ref 3683  | 16 mm <sup>2</sup> | 150 cm | M8/Bare   | 90 A               | 180 A              | 360 A              |
| Ref 1832  | 25 mm <sup>2</sup> | 150 cm | M8/Bare   | 140 A              | 280 A              | 560 A              |
| Ref 2440  | 35 mm <sup>2</sup> | 150 cm | M8/Bare   | 200 A              | 400 A              | 800 A              |
| Ref 2457  | 50 mm <sup>2</sup> | 150 cm | M8/Bare   | 285 A              | 570 A              | 1140 A             |
| Ref 2464  | 70 mm <sup>2</sup> | 150 cm | M8/Bare   | 400 A              | 800 A              | 1600 A             |

### M8/M10 POWER CABLES



| Multi-use | Cross section      | Length | Terminals | 12 V battery fleet | 24 V battery fleet | 48 V battery fleet |
|-----------|--------------------|--------|-----------|--------------------|--------------------|--------------------|
|           |                    |        |           | $\Delta V < 3\%$   | $\Delta V < 3\%$   | $\Delta V < 3\%$   |
|           |                    |        |           | Max. current       | Max. current       | Max. current       |
| Ref 1801  | 25 mm <sup>2</sup> | 40 cm  | M8/M10    | 530 A              | 1050 A             | 2100 A             |
| Ref 2310  | 35 mm <sup>2</sup> | 40 cm  | M8/M10    | 750 A              | 1500 A             | 3000 A             |
| Ref 2327  | 50 mm <sup>2</sup> | 40 cm  | M8/M10    | 1050 A             | 2100 A             | 4200 A             |
| Ref 2334  | 70 mm <sup>2</sup> | 40 cm  | M8/M10    | 1500 A             | 3000 A             | 6000 A             |
| Ref 2341  | 95 mm <sup>2</sup> | 40 cm  | M8/M10    | 2000 A             | 4000 A             | 8000 A             |
| Ref 2433  | 25 mm <sup>2</sup> | 150 cm | M8/M10    | 140 A              | 280 A              | 560 A              |
| Ref 2396  | 35 mm <sup>2</sup> | 150 cm | M8/M10    | 200 A              | 400 A              | 800 A              |
| Ref 2402  | 50 mm <sup>2</sup> | 150 cm | M8/M10    | 285 A              | 570 A              | 1140 A             |
| Ref 2419  | 70 mm <sup>2</sup> | 150 cm | M8/M10    | 400 A              | 800 A              | 1600 A             |
| Ref 2426  | 95 mm <sup>2</sup> | 150 cm | M8/M10    | 540 A              | 1080 A             | 2160 A             |

### M10/M10 POWER CABLES



| Multi-use | Cross section      | Length | Terminals | 12 V battery fleet | 24 V battery fleet | 48 V battery fleet |
|-----------|--------------------|--------|-----------|--------------------|--------------------|--------------------|
|           |                    |        |           | $\Delta V < 3\%$   | $\Delta V < 3\%$   | $\Delta V < 3\%$   |
|           |                    |        |           | Max. current       | Max. current       | Max. current       |
| Ref 2358  | 50 mm <sup>2</sup> | 40 cm  | M10/M10   | 1050 A             | 2100 A             | 4200 A             |
| Ref 2365  | 70 mm <sup>2</sup> | 40 cm  | M10/M10   | 1500 A             | 3000 A             | 6000 A             |
| Ref 2372  | 95 mm <sup>2</sup> | 40 cm  | M10/M10   | 2000 A             | 4000 A             | 8000 A             |

### M10/BARE POWER CABLES



| Multi-use | Cross section      | Length | Terminals | 12 V battery fleet | 24 V battery fleet | 48 V battery fleet |
|-----------|--------------------|--------|-----------|--------------------|--------------------|--------------------|
|           |                    |        |           | $\Delta V < 3\%$   | $\Delta V < 3\%$   | $\Delta V < 3\%$   |
|           |                    |        |           | Max. current       | Max. current       | Max. current       |
| Ref 3690  | 16 mm <sup>2</sup> | 150 cm | M10/Bare  | 90 A               | 180 A              | 360 A              |
| Ref 2471  | 25 mm <sup>2</sup> | 150 cm | M10/Bare  | 140 A              | 280 A              | 560 A              |
| Ref 2488  | 35 mm <sup>2</sup> | 150 cm | M10/Bare  | 200 A              | 400 A              | 800 A              |
| Ref 2495  | 50 mm <sup>2</sup> | 150 cm | M10/Bare  | 285 A              | 570 A              | 1140 A             |
| Ref 2501  | 70 mm <sup>2</sup> | 150 cm | M10/Bare  | 400 A              | 800 A              | 1600 A             |



## UNICABLE battery cables

### BARE/BARE POWER CABLES



| Multi-use | Cross section      | Length | Color | Terminals |
|-----------|--------------------|--------|-------|-----------|
|           |                    |        |       | Bare/Bare |
| Ref 3751  | 10 mm <sup>2</sup> | 20 m   | Black | Bare/Bare |
| Ref 3768  | 10 mm <sup>2</sup> | 20 m   | Red   | Bare/Bare |
| Ref 3775  | 10 mm <sup>2</sup> | 10 m   | Black | Bare/Bare |
| Ref 3782  | 10 mm <sup>2</sup> | 10 m   | Red   | Bare/Bare |
| Ref 3799  | 10 mm <sup>2</sup> | 5 m    | Black | Bare/Bare |
| Ref 3805  | 10 mm <sup>2</sup> | 5 m    | Red   | Bare/Bare |
| Ref 3812  | 16 mm <sup>2</sup> | 20 m   | Black | Bare/Bare |
| Ref 3829  | 16 mm <sup>2</sup> | 20 m   | Red   | Bare/Bare |
| Ref 3836  | 16 mm <sup>2</sup> | 10 m   | Black | Bare/Bare |
| Ref 3843  | 16 mm <sup>2</sup> | 10 m   | Red   | Bare/Bare |
| Ref 3850  | 16 mm <sup>2</sup> | 5 m    | Black | Bare/Bare |
| Ref 3867  | 16 mm <sup>2</sup> | 5 m    | Red   | Bare/Bare |
| Ref 3874  | 25 mm <sup>2</sup> | 20 m   | Black | Bare/Bare |
| Ref 3881  | 25 mm <sup>2</sup> | 20 m   | Red   | Bare/Bare |
| Ref 3898  | 25 mm <sup>2</sup> | 10 m   | Black | Bare/Bare |
| Ref 3904  | 25 mm <sup>2</sup> | 10 m   | Red   | Bare/Bare |
| Ref 3911  | 25 mm <sup>2</sup> | 5 m    | Black | Bare/Bare |
| Ref 3928  | 25 mm <sup>2</sup> | 5 m    | Red   | Bare/Bare |
| Ref 3935  | 35 mm <sup>2</sup> | 20 m   | Black | Bare/Bare |
| Ref 3942  | 35 mm <sup>2</sup> | 20 m   | Red   | Bare/Bare |
| Ref 3959  | 35 mm <sup>2</sup> | 10 m   | Black | Bare/Bare |
| Ref 3966  | 35 mm <sup>2</sup> | 10 m   | Red   | Bare/Bare |
| Ref 3973  | 35 mm <sup>2</sup> | 5 m    | Black | Bare/Bare |
| Ref 3980  | 35 mm <sup>2</sup> | 5 m    | Red   | Bare/Bare |
| Ref 3997  | 50 mm <sup>2</sup> | 15 m   | Black | Bare/Bare |
| Ref 4000  | 50 mm <sup>2</sup> | 15 m   | Red   | Bare/Bare |
| Ref 4017  | 50 mm <sup>2</sup> | 10 m   | Black | Bare/Bare |
| Ref 4024  | 50 mm <sup>2</sup> | 10 m   | Red   | Bare/Bare |
| Ref 4031  | 50 mm <sup>2</sup> | 5 m    | Black | Bare/Bare |
| Ref 4048  | 50 mm <sup>2</sup> | 5 m    | Red   | Bare/Bare |

**i** Section = copper resistivity (=0.021) x length (in meters) x current / permissible voltage drop (3% for optimum power supply)

## INTUITIVE LCD SCREEN



### Solar panel mode



Instantaneous production power in Watt, instantaneous production current (A), instantaneous voltage (V), and production history (kWh).

### Battery mode



Instantaneous battery voltage (V), battery technology, instantaneous charge and discharge current (A).

### Controlled output mode



Instantaneous DC current consumed (A), instantaneous power consumed (W), instantaneous DC output voltage, and consumption history (kWh).



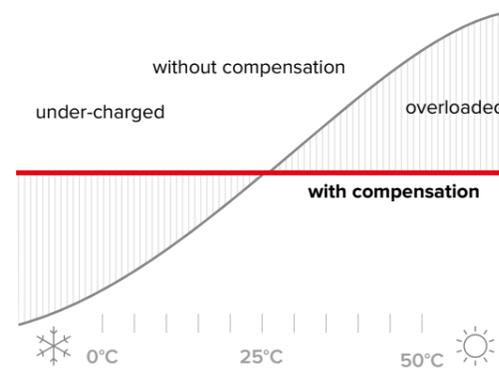
## PERFECT CHARGE ADAPTED TO BATTERY'S TECHNOLOGY

Voltage thresholds

| Gel battery | AGM battery | Flooded battery |
|-------------|-------------|-----------------|
| Boost       |             |                 |
| 14,2 V      | 14,4 V      | 14,5 V          |
| Absorption  |             |                 |
| -           | 14,4 V      | 14,5 V          |
| Leveling    |             |                 |
| -           | -           | 14,8 V          |
| Floating    |             |                 |
| 13,9 V      | 13,9 V      | 13,9 V          |

Algotek adjusts the levels according to the internal analysis of the battery and the ambient temperature.

## PERFECT CHARGE ADAPTED TO AMBIENT TEMPERATURE



The chemical characteristics of the battery vary according to the ambient temperature. Thanks to its temperature sensor, UNIMPPT regulates all its voltage thresholds, compared to a reference temperature of 25°C of +/- 30mV per °C.

Without regulation, the battery is either under-charged, limiting the electric autonomy, or overloaded, irreversibly degrading its life.

## HIGH EFFICIENCY

| 1st price               | UNIMPPT    |
|-------------------------|------------|
| Output at 20W           |            |
| 95%                     | <b>98%</b> |
| Output at 50W           |            |
| 90-95%                  | <b>98%</b> |
| Output at max. capacity |            |
| < 90%                   | <b>98%</b> |

## UNIMPPT L SOLAR Charge controller

# A CONCENTRATE OF TECHNOLOGY

The UNIMPPT range revolutionizes the market of charge controllers.

Its charging curve charges to 100% while taking into consideration the technology of your battery and the ambient temperature to adjust its voltage thresholds according to the recommendations of battery manufacturers.

MPPT technology (converter/regulator), UNIMPPT also uses the entire panel voltage by converting the excess panel/battery voltage, not used by a standard regulator, into charging current for the battery.

The optimized MPPT program, coupled with one of the fastest microprocessors on the market, searches in real time (every 100 ms) for the maximum power point of the panel.

UNIMPPT guarantees up to 40% more energy in winter and 15% more in summer compared to PWM regulator, Even under challenging weather conditions. Its unique and innovative design allows a perfect and discreet integration in your home or car interior.

The UNIMPPT L also features an intuitive LCD display for precise monitoring of panel production, battery charge and power consumption via its controlled 12/24V output.



Evolved MPPT Technology

Management and monitoring of production and consumption.

Charge curves adapted to all lead-acid and lithium batteries (LifePO4).

Perfect charge depending on the ambient temperature

Twilight timer function for controlling night-time lighting

European standard EN 60335-2-29

Quality guaranteed by Uniteck  
Made in P.R.C.

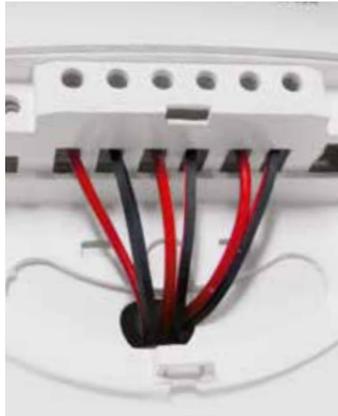


## EASIER CABLING AND MOUNTING

Wall mounting



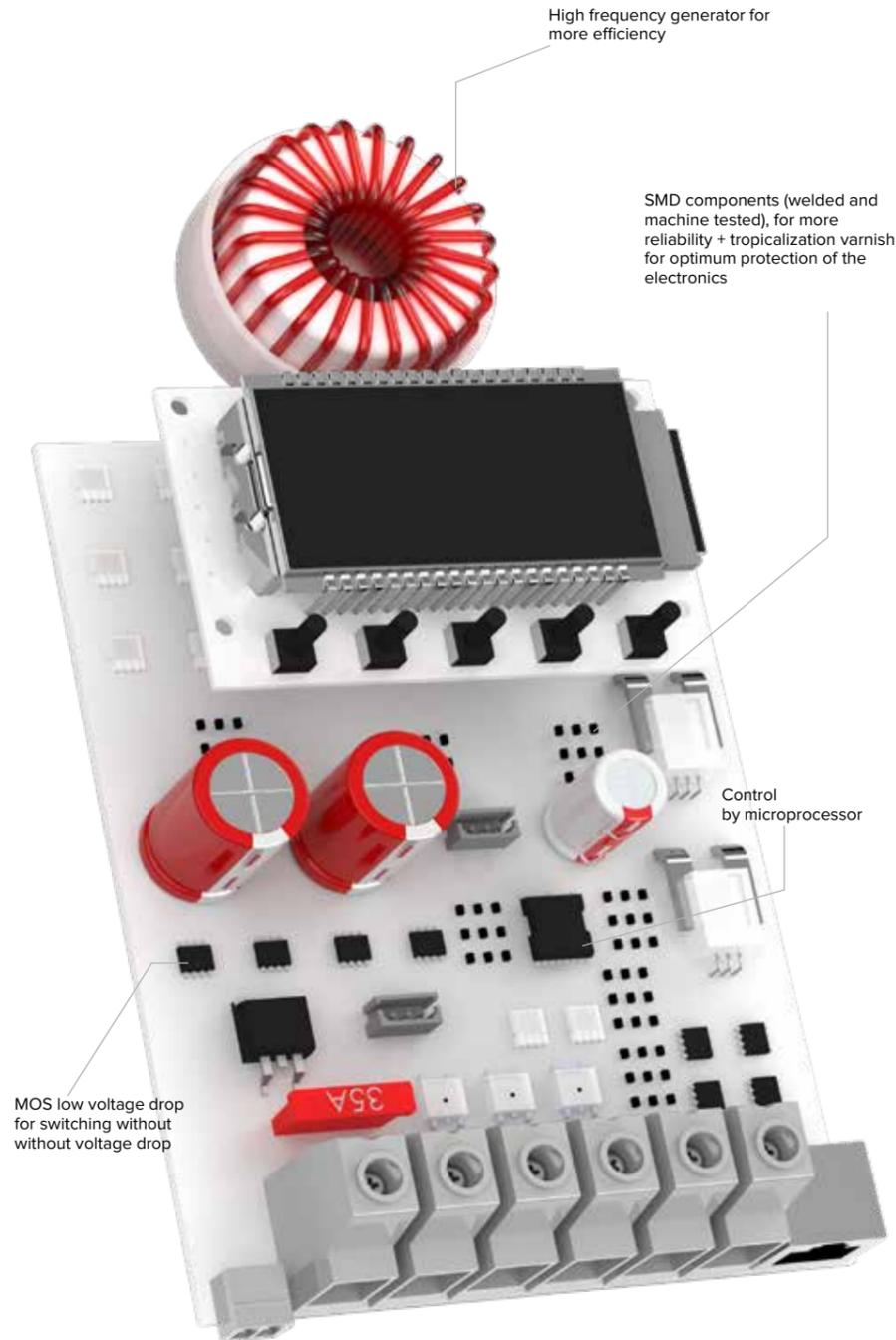
Wiring by partition



Normal wiring



## ADVANCED CONCEPTION



**mppt**  
TECHNOLOGY

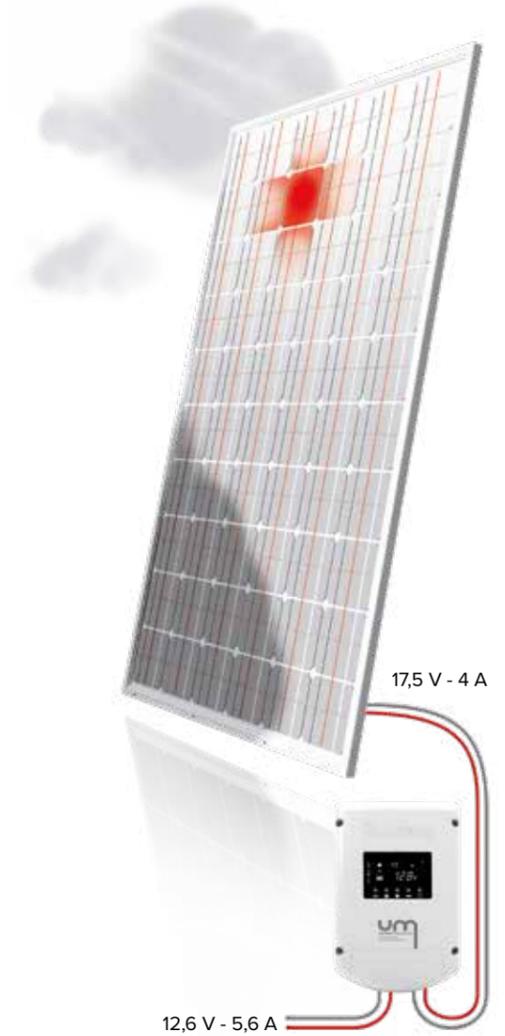
Maximum Power Point Tracking

## MPPT VS PWM 20 TO 40% MORE ENERGY

Unlike a PWM regulator, that lowers the panel's voltage to the battery's voltage, an MPPT (inverter charge controller) uses all of the panel's voltage by reconvertng the voltage surplus of panel/battery voltage not used by the battery into charging current (amperes).

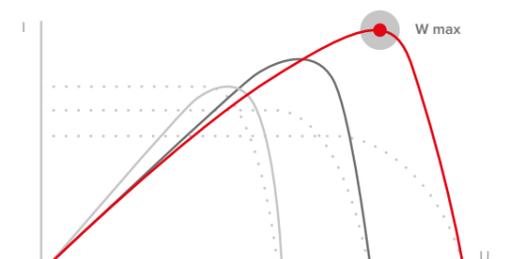
| Winter simulation    |                 |
|----------------------|-----------------|
| Solar panel 100 W    |                 |
| Panel voltage : 19 V |                 |
| Panel current : 5 A  |                 |
| Controller           |                 |
| PWM                  | MPPT            |
| Output voltage       |                 |
| ↘ 12.5 V             | ↘ 12.5 V        |
| Output current       |                 |
| → 5 A                | ↗ 8 A           |
| Battery              |                 |
| 67 W                 | 95 W<br>(+ 40%) |

In summer, the panel voltage decreases with the ambient temperature (average V: 16-17 V), the average gain of a MPPT compared to a PWM is 20%.



## UNIMPPT FAST TRACK

Due to clouds and shadows, the light intensity changes rapidly. Thanks to its Fast Track MPPT program and its ultra fast microprocessor, UNIMPPT searches for the maximum power point of the solar panel and then modifies in real time its conversion parameters (input / output) for maximum power.



## MPPT UNIMPPT CHARGE CONTROLLERS



UNIMPPT L  
60/10.24L

Ref 3287



UNIMPPT L  
60/20.24L

Ref 3294



UNIMPPT L  
100/30.24L

Ref 3300



UNIMPPT L  
100/40.24L

Ref 3317

### System

|                       |           |           |           |           |
|-----------------------|-----------|-----------|-----------|-----------|
| Battery voltage       | 12/24 V   | 12/24 V   | 12/24 V   | 12/24 V   |
| Max. charging current | 10 A      | 20 A      | 30 A      | 40 A      |
| Self-consumption      | 5 à 15 mA |

### Compatible panel

|                         |                  |         |         |          |          |
|-------------------------|------------------|---------|---------|----------|----------|
| Min-max intensity (Voc) | with 12V battery | 17-60 V | 17-60 V | 17-100V  | 17-100V  |
|                         | with 24V battery | 34-60 V | 34-60 V | 34-100 V | 34-100 V |
| Max. power              | with 12V battery | 150 W   | 300 W   | 450 W    | 600 W    |
|                         | with 24V battery | 300 W   | 600 W   | 900 W    | 1200 W   |

### Technology

|                 |             |             |             |             |
|-----------------|-------------|-------------|-------------|-------------|
| Max. efficiency | <b>MPPT</b> | <b>MPPT</b> | <b>MPPT</b> | <b>MPPT</b> |
|                 | 98,00%      | 98,00%      | 98,00%      | 98,00%      |

### Battery charge controller

|                              |             |             |             |             |
|------------------------------|-------------|-------------|-------------|-------------|
| Algorithm                    | Multi-step  | Multi-step  | Multi-step  | Multi-step  |
| Voltage selection            | auto        | auto        | auto        | auto        |
| Battery type selection       |             |             |             |             |
| Gel/Agm/liquid               | yes         | yes         | yes         | yes         |
| LiFePO4                      | yes         | yes         | yes         | yes         |
| Recommended battery capacity | 10 - 200 Ah | 20 - 400 Ah | 30 - 600 Ah | 50 - 800 Ah |
| Temperature compensation     |             |             |             |             |
| via integrated sensor        | yes         | yes         | yes         | yes         |
| via remote sensor            | yes         | yes         | yes         | yes         |

### Output controller 12/24V\*\*

|   |      |      |      |      |
|---|------|------|------|------|
| Output current                                  | 10 A | 20 A | 30 A | 40 A |
| Output voltage 12 or 24V (depending on battery) | yes  | yes  | yes  | yes  |
| Overconsumption protection                      | yes  | yes  | yes  | yes  |
| Low battery protection                          | yes  | yes  | yes  | yes  |
| Twilight timer function                         | yes  | yes  | yes  | yes  |

### Mechanical characteristics

|                                 |                     |                   |                    |                    |
|---------------------------------|---------------------|-------------------|--------------------|--------------------|
| Max. cable cross section        | 4/6 mm <sup>2</sup> | 6 mm <sup>2</sup> | 16 mm <sup>2</sup> | 16 mm <sup>2</sup> |
| International Protection rating | IP32                | IP32              | IP32               | IP32               |
| Operating temperature           | -20°/+50°C          | -20°/+50°C        | -20°/+50°C         | -20°/+50°C         |
| Storage temperature             | -20°/+70°C          | -20°/+70°C        | -20°/+70°C         | -20°/+70°C         |
| Dimensions (W x H x D) in mm    | 205 x 150 x 50      | 250 x 170 x 57    | 265 x 175 x 63     | 300 x 195 x 68     |
| Weight                          | 700g                | 1,2kg             | 1,6 kg             | 2,0 kg             |

### Warranty

|        |         |         |         |         |
|--------|---------|---------|---------|---------|
| Period | 2 years | 2 years | 2 years | 2 years |
|--------|---------|---------|---------|---------|

\* Equipped with an output controller, UNIMPPT directly supplies your 12 or 24 V electrical devices (depending on the connected battery). UNIMPPT protects your battery against deep discharges of the battery thanks to a low battery voltage cut, with automatic recovery of the power supply when the battery charge level is sufficient.  
Warning : this output is not adapted for an DC-AC inverter connection.

## THERMAL SENSOR INCLUDED

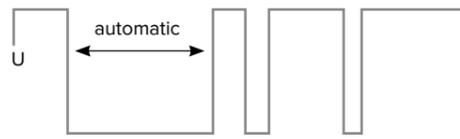
Battery voltage charge depends on ambient temperature. In order to deliver the correct voltage, to avoid any overcharging or undercharging of the battery and therefore guarantee a good lifespan for your battery, Unimppt L is delivered as standard with 1 temperature sensor.



Temperature sensor  
Length: 3 meters

## PMW CHARGING TECHNOLOGY

\* Pulse Width Modulation



- Charges by modulating current pulses.
- Recharges faster (than an ON/OFF charge controller).
- Reduces internal battery heating.
- Lowers the panel voltage to the charging voltage of the battery.

## EASIER CABLING AND MOUNTING



UNISOLAR 10.24/10.24S/20.24/  
20.24S/20.24D/30.24

UNISOLAR 20.24D/30.24

Wall and/or DIN rail mount



Normal wiring or through a partition wall

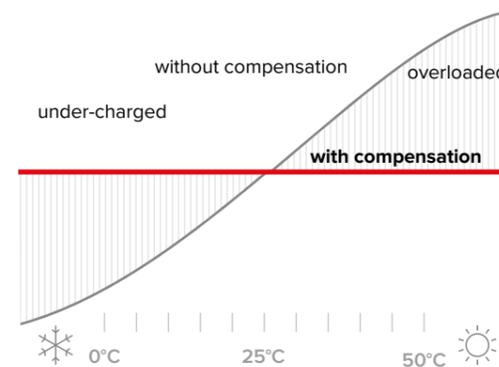
## PERFECT CHARGE ADAPTED TO BATTERY'S TECHNOLOGY

Voltage thresholds

| Gel battery | AGM battery | Flooded battery |
|-------------|-------------|-----------------|
| Boost       |             |                 |
| 14,2 V      | 14,4 V      | 14,5 V          |
| Absorption  |             |                 |
| -           | 14,4 V      | 14,5 V          |
| Leveling    |             |                 |
| -           | -           | 14,8 V          |
| Floating    |             |                 |
| 13,9 V      | 13,9 V      | 13,9 V          |

Algoteck adjusts the levels according to the internal analysis of the battery and the ambient temperature.

## PERFECT CHARGE ADAPTED TO AMBIENT TEMPERATURE



The chemical characteristics of the battery vary according to the ambient temperature. Thanks to its temperature sensor, UNIMPPT regulates all its voltage thresholds, compared to a reference temperature of 25°C of +/- 30mV per °C.

Without regulation, the battery is either under-charged, limiting the electric autonomy, or overloaded, irreversibly degrading its life.

## HIGH EFFICIENCY

| 1st price               | UNIMPPT    |
|-------------------------|------------|
| Output at 20W           |            |
| 95%                     | <b>98%</b> |
| Output at 50W           |            |
| 90-95%                  | <b>98%</b> |
| Output at max. capacity |            |
| < 90%                   | <b>98%</b> |



 Management and monitoring of production and consumption.

 Charges all lead-acid batteries thanks to its regulation adapted to every type of battery.

 Regulates the voltage according to the ambient temperature, to avoid over- or under-charging.

 Protects against surges, overconsumption, short circuits, polarity reversals, low battery

## UNISOLAR PWM Solar Charge controllers

# EVOLVED ELECTRONICS

The Unisolar range revolutionizes the charge controller market.

UNISOLAR controllers incorporate an unique 6-step charging algorithm, Algoteck 6, which tests your battery, charges it at 100%, desulfates it, delaminates it, maintains its charge and improves its lifetime while taking into account the ambient temperature to adjust its voltage thresholds according to the recommendations of the battery manufacturers (integrated temperature sensor).

With its unique and innovative design, and its possible wiring through walls, UNISOLAR perfectly integrates into the passenger compartment of your vehicle or in your residence.

Its intuitive interface enables an easy access to necessary information in order to optimize the charge and your power consumption.

Its mechanical conception provides a high level of protection, preserving the electronics against dust.



Quality guaranteed by Uniteck,  
Made in P.R.C.



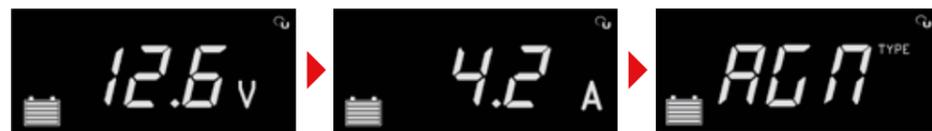
## INTUITIVE LCD DISPLAY FOR UNISOLAR L

### Solar panel mode



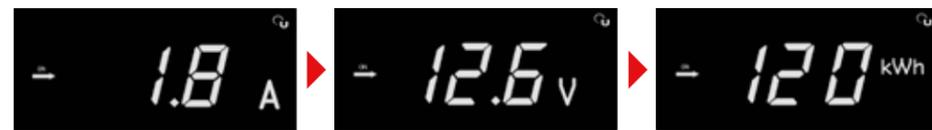
Instantaneous production current (A), instantaneous voltage in (V), and production history (kWh).

### Battery mode



Instantaneous battery voltage (V), instantaneous charging and discharging current (A), battery technology

### Output controller mode



Instantaneous DC current consumed (A), instantaneous DC output voltage (V), and consumption history (kWh).

## UNISOLAR RM



### UNISOLAR RM Remote display for Unisolar 20.24D

110 × 120 × 53 mm  
300g  
RJ45 - 8 m cable  
Ref 0033

Wall mounted or embedded into wall

Enables complete control and configuration:

- Batteries 1 and 2 : current voltage, min., max., injected capacity
- Panel: voltage, instant current, max. current, injected capacity in Ah, frequency, priority (battery 1, battery 2)
- Temperature/time



UNISOLAR 20.24D + RM =  
UNISOLAR 20.24 DR  
Ref 0040



UNISOLAR  
10.24 L

Ref 4062



UNISOLAR  
20.24 L

Ref 4079



UNISOLAR  
20.24D

Ref 0026



UNISOLAR  
30.24

Ref 0965

### System

|                       |         |         |                |         |
|-----------------------|---------|---------|----------------|---------|
| Battery voltage       | 12/24 V | 12/24 V | 12/24 V        | 12/24 V |
| Max. charging current | 10 A    | 20 A    | 20 A           | 30 A    |
| Self-consumption      | <9 mA   | <9 mA   | 4 mA (RM=20mA) | 4 mA    |
| Battery               | Simple  | Simple  | Double         | Simple  |

### Compatible panel

|   |         |         |         |         |
|---|---------|---------|---------|---------|
| Recommended voltage (for 12V Battery) - Vmp | 17-19 V | 17-19 V | 17-19 V | 17-19 V |
| Recommended voltage (for 24V Battery) - Vmp | 34-38 V | 34-38 V | 34-38 V | 34-38 V |
| Max. power (for 12V Battery)                | 150 W   | 300 W   | 300 W   | 450 W   |
| Max. power (for 24V Battery)                | 300 W   | 600 W   | 600 W   | 900 W   |

### Technology

PWM PWM PWM PWM

### Battery charge controller

|   |             |             |             |             |
|---|-------------|-------------|-------------|-------------|
| Algorithm                                   | Multi-step  |             |             |             |
| Voltage selection                           | auto        | auto        | auto        | auto        |
| Battery type selection (Gel / AGM / Liquid) | yes         | yes         | yes         | yes         |
| Recommended battery capacity                | 10 - 150 Ah | 10 - 300 Ah | 10 - 300 Ah | 10 - 450 Ah |
| Temperature compensation                    | yes         | yes         | yes         | yes         |
| Panel surge protection                      | yes         | yes         | yes         | yes         |

### Output controller 12/24V\*

|   |        |        |  |        |
|---|--------|--------|--|--------|
| Output current                                  | 1-10 A | 1-20 A |  | 1-30 A |
| Output voltage 12 or 24V (depending on battery) | yes    | yes    |  | yes    |
| Overconsumption protection                      | yes    | yes    |  | yes    |
| Low battery protection                          | yes    | yes    |  | yes    |

### Mechanical characteristics

|  |                     |                   |                   |                    |
|--|---------------------|-------------------|-------------------|--------------------|
| Max. cable cross section                     | 4/6 mm <sup>2</sup> | 6 mm <sup>2</sup> | 6 mm <sup>2</sup> | 10 mm <sup>2</sup> |
| International Protection rating              | IP30                | IP30              | IP43              | IP43               |
| Operating temperature                        | -20 °C/+55 °C       | -20 °C/+55 °C     | -35 °C/+55 °C     | -35 °C/+55 °C      |
| Storage temperature                          | -35 °C/+80 °C       | -35 °C/+80 °C     | -35 °C/+80 °C     | -35 °C/+80 °C      |
| Dimensions (w x h x d) without DIN rail (mm) | 122 × 121 × 40      | 140 × 131 × 48,5  | 137 × 150 × 46,5  | 127 × 150 × 55     |
| Weight                                       | 330 g               | 370 g             | 350 g             | 400 g              |

### Warranty

|        |         |         |         |         |
|--------|---------|---------|---------|---------|
| Period | 2 years | 2 years | 2 years | 2 years |
|--------|---------|---------|---------|---------|

\* Equipped with an output controller, UNISOLAR directly supplies your 12 or 24 V electrical devices (depending on the connected battery). UNISOLAR protects your battery against deep discharges of the battery thanks to a low battery voltage cut, with automatic recovery of the power supply when the battery charge level is sufficient.

Warning : this output is not adapted for an DC-AC inverter connection.

Recharge all lead batteries (AGM, GEL, Liquide)

Easy to install, integrated cable

Possible to fix directly on the panel (M8)

Protects against polarity reversals, and against water (IP65)

100% made in France

Designed, made in France



**UNISAVE PWM Charge limiter**

**COMPACT AND WATERPROOF**

UNISAVE 5.12 - 5.24 S is an evolved charge limiter for autonomous photovoltaic system, with PWM 5A 12 or 24V technology.

UNISAVE converts the electrical energy of your solar panel in charging voltage for your battery.

Thanks to its evolved electronic, Unisave regulates the charging voltage in two steps (Boost and Floating) and thus perfectly save all your lead batteries:  
 -liquid electrolyte  
 -jellified electrolyte (GEL)  
 -AGM

With PWM technology, it ensures an optimal charge quality of your batteries 12-24V for a longer lifecycle.

Its mounting system and its integrated cable enable to fix it easily on the back of your panel without wrong connection risk.

Waterproof (IP65), UNISAVE is ideal for all outdoor applications (electrical fence, pool,...)

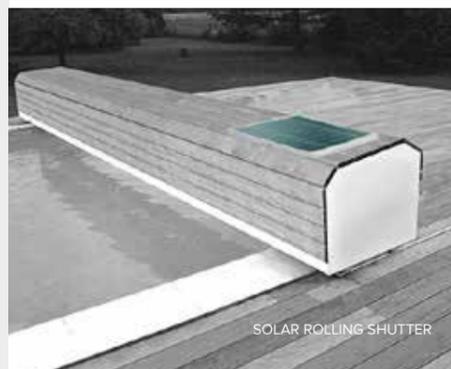


**EASY MOUNTING**



Waterproof, UNISAVE can be fixed directly on the back of your panel.

**POTENTIAL INSTALLATIONS**



**System**

|                       |        |        |
|-----------------------|--------|--------|
| Max. charging current | 5 A    | 5 A    |
| Self-consumption      | < 4 mA | < 4 mA |

**Technology**

**PWM**      **PWM**

**Battery charge controller**

|                              |             |             |
|------------------------------|-------------|-------------|
| Battery voltage              | 12 V        | 24 V        |
| Recommended battery capacity | 2 to 150 Ah | 2 to 150 Ah |

**Compatible panel**

|                           |         |         |
|---------------------------|---------|---------|
| Recommended voltage - Vmp | 17-19 V | 34-38 V |
| Max. power                | 100 W   | 100 W   |

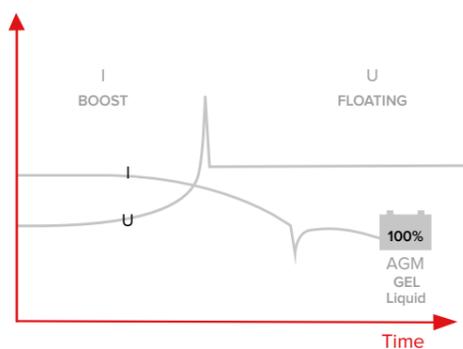
**Mechanical characteristics**

|                          |                     |
|--------------------------|---------------------|
| Operating temperature    | IP65                |
| Wire Section             | 1,5 mm <sup>2</sup> |
| Panel lenght             | 0,4 m               |
| Battery lenght           | 2 m                 |
| Operating temperature    | -35°/+55°C          |
| Storage temperature      | -35°/+80°C          |
| Dimensions in mm (wxhxd) | 82 x 50 x 15        |
| Weight                   | 150 g               |

**Warranty**

|        |         |         |
|--------|---------|---------|
| Period | 2 years | 2 years |
|--------|---------|---------|

**LOAD CURVE IN 3 STEPS**





UNIBAT 80.12 AGM Ref 1573 UNIBAT 100.12 AGM Ref 1580 UNIBAT 150.12 AGM Ref 1597 UNIBAT 220.12 AGM Ref 1603

| System                      | UNIBAT 80.12 AGM | UNIBAT 100.12 AGM                                       | UNIBAT 150.12 AGM | UNIBAT 220.12 AGM |
|-----------------------------|------------------|---|-------------------|-------------------|
| Battery voltage             | 12 V             | 12 V  | 12 V              | 12 V              |
| Nominal capacity 20 h (C20) | 80 Ah            | 100 Ah  | 150 Ah            | 220 Ah            |
| Power at 80% discharge (Wh) | 0,75 Wh          | 0,95 Wh   | 1,43 Wh           | 2,10 Wh           |
| Temperature characteristics |                  | 30°C : 105%<br>25°C : 103%<br>10°C : 95%<br>-10°C : 78% |                   |                   |
| Self-discharge (25°)        |                  | 1 month : 3%<br>3 months : 8%<br>6 months : 15 %        |                   |                   |
| Internal resistance (25°C)  | < 5,8 mΩ         | < 5 mΩ  | < 3,1 mΩ          | < 2,5 mΩ          |

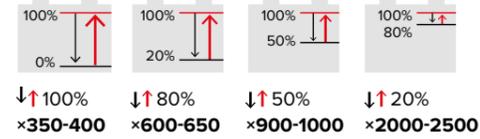
| Performances                               | UNIBAT 80.12 AGM | UNIBAT 100.12 AGM | UNIBAT 150.12 AGM | UNIBAT 220.12 AGM |        |
|--|------------------|-------------------|-------------------|-------------------|--------|
| Nominal capacity                           | 100 h (C100)     | 93 Ah             | 108 Ah            | 162 Ah            | 238 Ah |
|  | 20 h (C20)       | 80 Ah             | 100 Ah            | 150 Ah            | 220 Ah |
|  | 10 h (C10)       | 74 Ah             | 95 Ah             | 143 Ah            | 205 Ah |
|  | 5 h (C5)         | 67 Ah             | 87 Ah             | 131 Ah            | 194 Ah |
|  | 1 h (C1)         | 43 Ah             | 64 Ah             | 98 Ah             | 144 Ah |
| Cycles (% of discharge)                    | 20%              | 2000 > 2500       |                   |                   |        |
|  | 50%              | 900 > 1000        |                   |                   |        |
|  | 80%              | 600 > 650         |                   |                   |        |
|  | 100%             | 350 > 400         |                   |                   |        |
| Maximum charging current                   | 32 A             | 40 A              | 57 A              | 82 A              |        |
| Maximum discharge current                  | 0,1 s            | 1600 A            | 1900 A            | 2860 A            | 4100 A |
|  | 5 s              | 640 A             | 760 A             | 1144 A            | 1640 A |
|  | continuous       | 240 A             | 285 A             | 430 A             | 615 A  |
| Cold start charging current (CCA-EN)       | 630A             | 650A              | 880A              | 1120A             |        |
| Permanent load performance (floating life) | 25°C             | 10-11 years       |                   |                   |        |
|  | 30°C             | 7 years           |                   |                   |        |
|  | 35°C             | 4 years           |                   |                   |        |
|  | 40°C             | 3 years           |                   |                   |        |

| Mechanical characteristics | UNIBAT 80.12 AGM                            | UNIBAT 100.12 AGM  | UNIBAT 150.12 AGM  | UNIBAT 220.12 AGM  |
|----------------------------|---|--------------------|--------------------|--------------------|
| Connector technology       | M8 copper nickel-silver plated brass insert |                    |                    |                    |
| Shape of plates            | flat  |                    |                    |                    |
| Plate material             | pure lead at 99,9%                          |                    |                    |                    |
| Separator                  | AGM (Absorbent Glass Mat)                   |                    |                    |                    |
| Electrolyte                | absorbed                                    |                    |                    |                    |
| Case material              | high-strength polypropylene                 |                    |                    |                    |
| Operating temperature      | -15/+40°C                                   |                    |                    |                    |
| Dimensions (w x h x d)     | 368 x 219 x 172 mm                          | 368 x 219 x 172 mm | 522 x 221 x 240 mm | 522 x 221 x 240 mm |
| Weight                     | 27 kg                                       | 29,5 kg            | 43,5 kg            | 58,5 kg            |

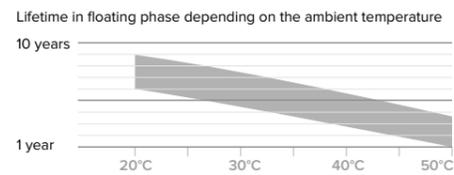
| Warranty | UNIBAT 80.12 AGM | UNIBAT 100.12 AGM | UNIBAT 150.12 AGM | UNIBAT 220.12 AGM |
|----------|------------------|-------------------|-------------------|-------------------|
| Period   | 2 years          | 2 years           | 2 years           | 2 years           |



### 1,5 TO 2 X MORE CYCLES\*



### UP TO 2 X LONGER LIFETIME\*



### STANDARD FLOODED BATTERY VS AGM

| Flooded battery  | AGM Battery   |
|--|---|
| <b>Strength</b>  |   |
| -  | +++<br>better circulations of the ions/<br>less internal resistance |
| <b>Charging/discharging speed</b>                          |   |
| -  | +++<br>better circulations of the ions/<br>less internal resistance |
| <b>Load resistance</b>                                     |   |
| -<br>higher self-discharge                                 | +++<br>lower self-discharge   |
| <b>Deep discharge</b>                                      |   |
| ---  | ++<br>possible up to 80% with imperative<br>charging afterwards     |
| <b>Heat emission</b>                                       |   |
| strong   | <b>weak</b><br>less internal resistance                             |
| <b>Storing</b>   |   |
| -<br>needs a well ventilated<br>area (Hydrogen<br>release) | +++<br>very weak hydrogen release                                   |
| <b>Transportation</b>                                      |   |
| ---  | ++<br>electrolyte absorbed by the glass mat                         |
| <b>Resistance to shocks and vibrations</b>                 |   |
| -<br>more fragile  | +++<br>tightly fixed compressed sheets                              |
| <b>Resistance to cold</b>                                  |   |
| -<br>risk of freezing                                      | +++<br>no liquids   |

\* compared to most AGM batteries on the market



AGM Sealed battery for maximum security

Higher charge/ discharge cycling capacity compared to other AGM batteries on the market x 2

High discharge rates (imperative recharging afterwards)

Longer lifespan than other AGM batteries x 2

Low self-discharge

Advanced technological design (pure lead, carbon additive, machine pressed high density grid)

Possible inclination (until 30°)

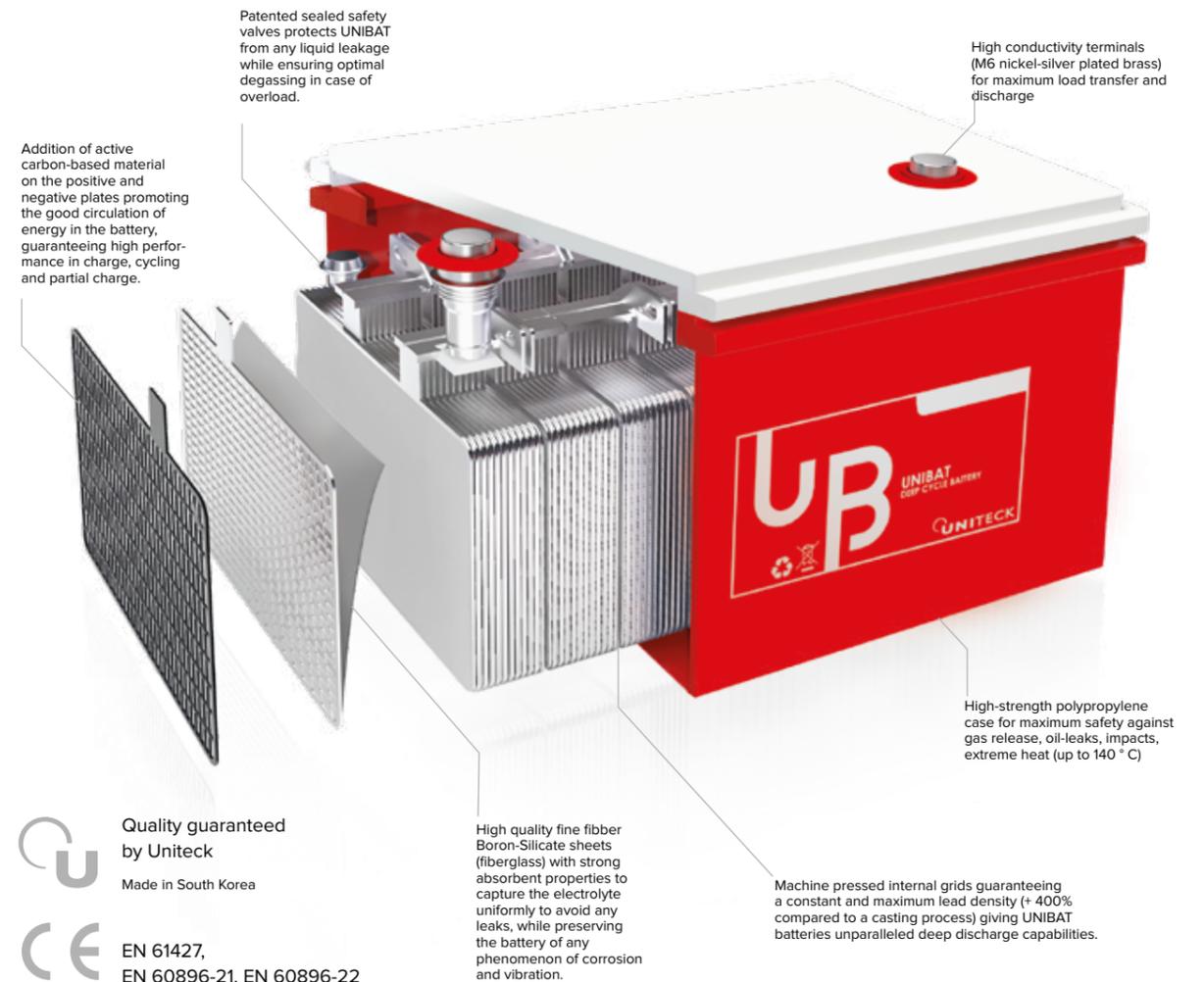
## UNIBAT AGM Batteries

# HIGH EFFICIENCY

Equipped with an advanced technological design (compressed high density pure lead grid, highly absorbent glass mat, carbon additive ...) UNIBAT AGM batteries perform up to 2 times better in cycling and lifespan than most batteries of the same category on the market.

Thanks to their unique internal design, UNIBAT AGM batteries can accept discharge rates up to 80% to make the most of the available energy. Their weak self-discharge guarantees a good stability over time.

Its AGM technology guarantees safe use without leaks or gas release.





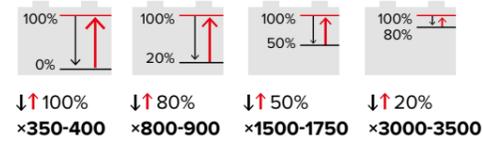
|                                | UNIBAT<br>80.12 GEL<br>Ref 1610 | UNIBAT<br>100.12 GEL<br>Ref 1627                        | UNIBAT<br>150.12 GEL<br>Ref 1634 | UNIBAT<br>220.12 GEL<br>Ref 1641 |
|--------------------------------|---------------------------------|---|----------------------------------|----------------------------------|
| <b>System</b>                  |                                 |   |                                  |                                  |
| Battery voltage                | 12 V                            | 12 V  | 12 V                             | 12 V                             |
| Nominal capacity<br>20 h (C20) | 80 Ah                           | 100 Ah  | 150 Ah                           | 220 Ah                           |
| Power at 90% discharge<br>(Wh) | 0,85 Wh                         | 1,08 Wh   | 1,61 Wh                          | 2,36 Wh                          |
| Temperature characteristics    |                                 | 30°C : 105%<br>25°C : 103%<br>10°C : 95%<br>-10°C : 78% |                                  |                                  |
| Self-discharge (25°)           |                                 | 1 month : 3%<br>3 months : 8%<br>6 months : 15%         |                                  |                                  |
| Internal resistance (25°C)     | < 5,8 mΩ                        | < 5 mΩ  | < 3,1 mΩ                         | < 2,5 mΩ                         |

| <b>Performances</b>                        |                                    |               |        |        |        |        |
|--|------------------------------------|---------------|--------|--------|--------|--------|
| Nominal capacity                           | 100 h (C100)                       | 93 Ah         | 108 Ah | 162 Ah | 238 Ah |        |
|  | 20 h (C20)                         | 80 Ah         | 100 Ah | 150 Ah | 220 Ah |        |
|  | 10 h (C10)                         | 74 Ah         | 95 Ah  | 143 Ah | 200 Ah |        |
|  | 5 h (C5)                           | 70 Ah         | 87 Ah  | 131 Ah | 191 Ah |        |
|  | 1 h (C1)                           | 56 Ah         | 64 Ah  | 99 Ah  | 135 Ah |        |
| Cycles (% of discharge)                    | 20%                                | 3000 > 3500   |        |        |        |        |
|  | 50%                                | 1500 > 1750   |        |        |        |        |
|  | 80%                                | 800 > 900     |        |        |        |        |
|  | 100%                               | 350 > 400     |        |        |        |        |
| Maximum charging current                   | 20 A                               | 25 A          | 37,5 A | 55 A   |        |        |
|  | Maximum                            | 0,1 s         | 1600 A | 1900 A | 2860 A | 4000 A |
|  | discharge                          | 5 s           | 640 A  | 760 A  | 1140 A | 1600 A |
| current                                    | continuous                         | 240 A         | 285 A  | 430 A  | 600 A  |        |
|  | Cold start charging current CCA-EN | 630 A         | 650 A  | 880 A  | 1120 A |        |
| Permanent load performance (floating life) | 25°C                               | 13 - 15 years |        |        |        |        |
|  | 30°C                               | 9 - 10 years  |        |        |        |        |
|  | 35°C                               | 6 years       |        |        |        |        |
|  | 40°C                               | 4 years       |        |        |        |        |

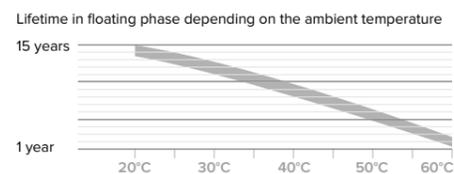
| <b>Mechanical characteristics</b> |  |   |                    |                    |                    |
|-----------------------------------|--|---|--------------------|--------------------|--------------------|
| Connector technology              |  | M8 copper nickel-silver plated brass insert |                    |                    |                    |
| Shape of plates                   |  | flat  |                    |                    |                    |
| Case material                     |  | high-strength polypropylene plastic         |                    |                    |                    |
| Electrolyte                       |  | jellified                                   |                    |                    |                    |
| Material of plates                |  | pure lead at 99,9%                          |                    |                    |                    |
| Operating temperature             |  | -20/+50°C                                   |                    |                    |                    |
| Dimensions (w x h x d)            |  | 368 × 219 × 172 mm                          | 368 × 219 × 172 mm | 522 × 221 × 240 mm | 522 × 221 × 240 mm |
| Weight                            |  | 27,5 kg                                     | 30 kg              | 45 kg              | 59 kg              |
| <b>Warranty</b>                   |  |   |                    |                    |                    |
| Period                            |  | 2 years                                     | 2 years            | 2 years            | 2 years            |



### 1,5 TO 2 X MORE CYCLES\*



### UP TO 2 X LONGER LIFETIME\*



### STANDARD FLOODED BATTERY VS GEL

| Flooded battery                                     | UNIBAT GEL Battery   |
|---|--|
| <b>Strength</b>                                     |  |
| -   | ++<br>better circulations of the ions/<br>less internal resistance                   |
| <b>Charging/ discharging speed</b>                  |  |
| -   | ++<br>better circulations of the ions/<br>less internal resistance                   |
| <b>Load resistance</b>                              |  |
| higher self- discharge                              | +++<br>weak self-discharge   |
| <b>Deep Discharge</b>                               |  |
| ---   | +++<br>can handle very deep discharges<br>90% with imperative charging<br>afterwards |
| <b>Maintenance</b>                                  |  |
| water level to be checked<br>and refilled regularly | +++<br>recombining gas technology that<br>avoids any loss of water                   |
| <b>Heat emission</b>                                |  |
| Strong  | Weak<br>less internal resistance   |
| <b>Storing</b>                                      |  |
| needs a well ventilated area<br>(Hydrogen release)  | +++<br>very weak hydrogen release  |
| <b>Gas release</b>                                  |  |
| high  | weak<br>in case of overload.   |
| <b>Transportation</b>                               |  |
| risky (risk of leaks)                               | +++<br>jellified Electrolyte   |
| <b>resistance to shocks and vibrations</b>          |  |
| more fragile  | +++<br>tightly fixed compressed sheets   |
| <b>Resistance to cold</b>                           |  |
| risk of freezing                                    | +++<br>no liquids  |

\* compared to most GEL batteries on the market



**GEL** Sealed battery for maximum security

Higher charge/ discharge cycling capacity compared to other GEL batteries on the market x 2

High discharge rates (imperative recharging afterwards)

Longer lifespan than other GEL batteries x 2

Low self-discharge

Advanced technological design (pure lead, carbon additive, machine pressed high density grid)

Possible inclination until 90° (on its length or width)

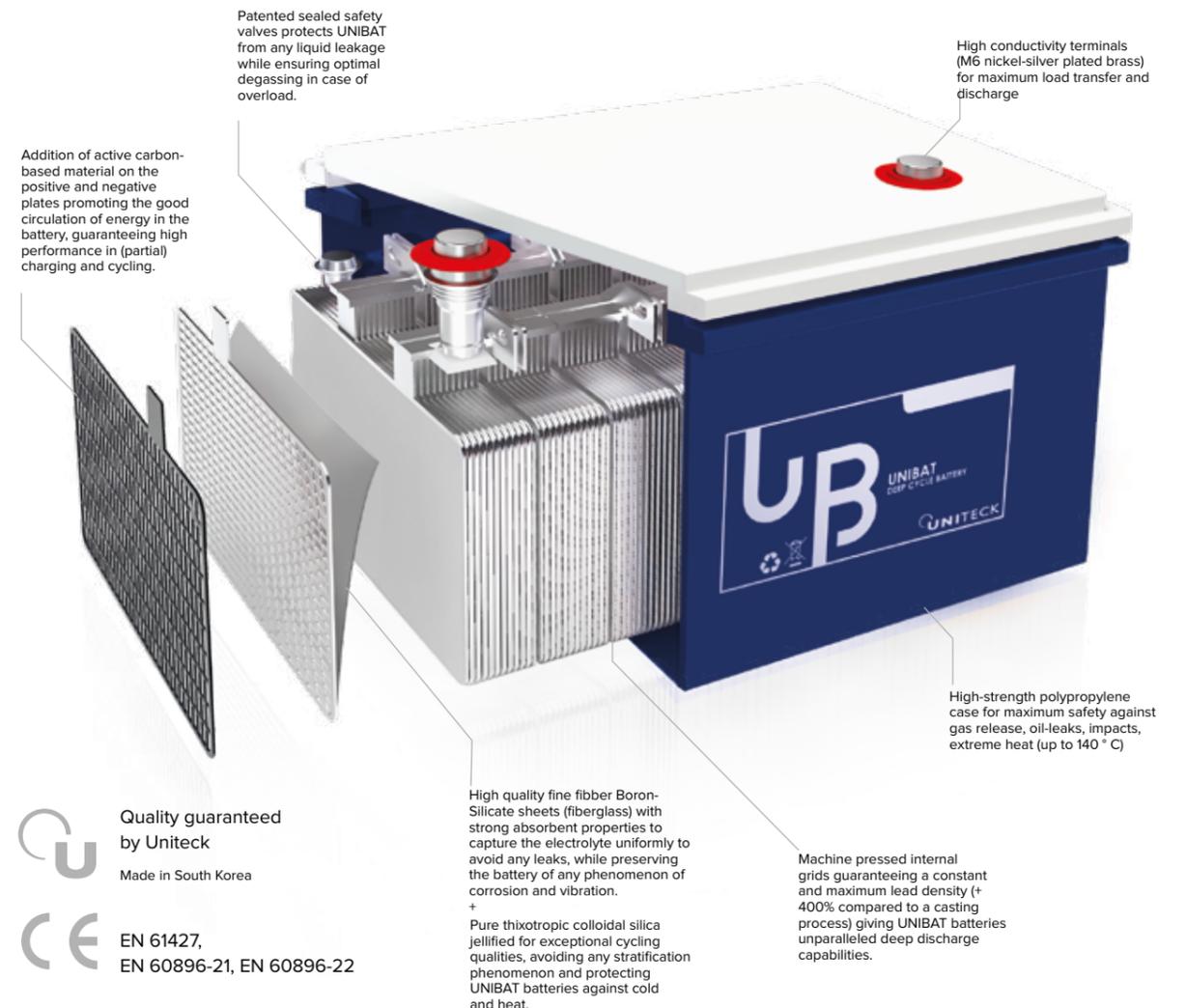
## UNIBAT GEL Batteries

# HIGH EFFICIENCY

Equipped with an advanced technological design (compressed high density pure lead grid, pure silica jellified, carbon additive ...) UNIBAT GEL batteries perform up to 2 times better in cycling and lifespan than most batteries of the same category on the market.

Thanks to their unique internal design, UNIBAT GEL batteries can accept discharge rates up to 100% to make the most of the available energy. Their weak self-discharge guarantees a stability over time.

Its GEL technology guarantees safe use without leaks or gas release.





## ADVANCED ELECTRONIC ARCHITECTURE

+ efficiency  
- selfconsumption  
= more energy

| ex: of a quasi sinus   | Other (entry level price range) | UNIPOWER |
|------------------------|---------------------------------|----------|
| conversion rate        | 80-85%                          | 87%      |
| self-consumption/ hour | 0,4-0,5 Ah                      | 0,25 Ah  |

| Simulation of a 100 Ah battery |       |       |
|--------------------------------|-------|-------|
| converted energy               | 85 Ah | 87 Ah |
| self-consumption over 24h      | 10 Ah | 5 Ah  |
| restored energy                | 75 Ah | 82 Ah |

10% to 20%\*

more energy

\*If maximum discharge is set at 50%



Advanced electronic architecture



Robust mechanics



UNIPOWER 150.12Q/150.24Q /350.12Q/350.24Q/600.12Q/600.24Q

Powerful USB Socket



UNIPOWER 2000.12Q/2000.24Q

Remote display and control

## THE 12 V>230 V/24 V>230 V RANGE



To supply your 230V electrical devices with your 12V or 24V battery.

## THE DC>DC RANGE



To supply your 12V electrical devices with your 24V battery. Ideal for lighting applications or for supplying 12V electrical devices.



High-end electronic and mechanical design

High conversion rate

Low self-consumption

Broad operating temperature range (-10°C to 45°C)

Protected against overloads, overconsumption, short circuits, reverse polarity, low battery

## UNIPOWER inverters

# TRANSFORMS YOUR BATTERY INTO A POWER SUPPLY

With an advanced electronic architecture coupled with robust mechanics (fans, connectors, wiring...), UNIPOWER has been developed for all uses, even the most intensive.

Thanks to their high conversion rate and their low self-consumption, the UNIPOWER range convert up to 20% more energy than a standard inverter.

Their broad range of operating temperature (-10°C to 45°C) guarantees an optimum functioning in any situation (hold of a boat, under vehicle seats...).

Quality guaranteed by Uniteck  
Made in Taiwan

Emission EMC : EN 55022 class B  
Susceptibility EMC : EN 55024,  
EN 61000-4-2, EN 61000-4-3, EN 61000-4-8  
LVD : EN 60950-1



## UNIPOWER 12 V > 230 V inverters

### QUASI SINUS



**UNIPOWER  
150.12 Q**

Ref 0101



**UNIPOWER  
350.12 Q**

Ref 0118



**UNIPOWER  
600.12 Q**

Ref 0125



**UNIPOWER  
1000.12 Q**

Ref 0132



**UNIPOWER  
2000.12 Q**

Ref 0613

#### System

|                               |                  |                  |                  |                  |                  |
|-------------------------------|------------------|------------------|------------------|------------------|------------------|
| Conversion                    | 12 VDC > 230 VAC |
| Continuous/ peak power (1 s.) | 150/300W         | 350/700W         | 600/1 200W       | 1000/2 000W      | 2 000/4 000W     |
| Technology                    | Quasi sinus      |
| Self-consumption              | 0,2 A            | 0,25 A           | 0,5 A            | 0,6 A            | 1,6 A            |
| Max. efficiency               | 87%              | 87%              | 87%              | 87%              | 87%              |
| Remote display/control        | no               | no               | no               | no               | yes              |

#### Input

|                          |            |            |            |            |            |
|--------------------------|------------|------------|------------|------------|------------|
|                          | 0,7 m      | 0,85 m     | 0,95 m     | 1 m        | 1 m        |
| Input voltage range      | 9,5 - 16 V |
| Surge protection         | yes        | yes        | yes        | yes        | yes        |
| Low battery protection   | yes        | yes        | yes        | yes        | yes        |
| Short circuit protection | yes        | yes        | yes        | yes        | yes        |

#### Output

|                            |                            |                            |                            |          |          |
|----------------------------|----------------------------|----------------------------|----------------------------|----------|----------|
|                            |                            |                            |                            |          |          |
| Output voltage             | 230 V AC<br>+ USB 5V-1A DC | 230 V AC<br>+ USB 5V-3A DC | 230 V AC<br>+ USB 5V-3A DC | 230 V AC | 230 V AC |
| Frequency                  | 50 Hz                      | 50 Hz                      | 50 Hz                      | 50 Hz    | 50 Hz    |
| Overconsumption protection | yes                        | yes                        | yes                        | yes      | yes      |

#### Mechanical characteristics

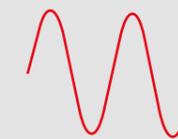
|                                 |               |               |                |                  |                  |
|---------------------------------|---------------|---------------|----------------|------------------|------------------|
| International Protection rating | IP10          | IP10          | IP10           | IP10             | IP10             |
| Operating temperature           | -15/+45 °C    | -15/+45 °C    | -15/+45 °C     | -15/+45 °C       | -15/+45 °C       |
| Humidity (without condensation) | 90 % max.     | 90 % max.     | 90 % max.      | 90 % max.        | 90 % max.        |
| Storage temperature             | -30°/+70 °C   | -30°/+70 °C   | -30°/+70 °C    | -30°/+70 °C      | -30°/+70 °C      |
| Dimensions (mm)                 | 155 × 85 × 55 | 180 × 85 × 55 | 220 × 123 × 65 | 195 × 179 × 82,5 | 425 × 179 × 82,5 |
| Net weight without accessories  | 0,46 kg       | 0,56 kg       | 1,4 kg         | 2,4 kg           | 3,7 kg           |
| Net weight with accessories     | 0,49 kg       | 0,59 kg       | 1,8 kg         | 2,7 kg           | 4,3 kg           |

#### Warranty

|        |         |         |         |         |         |
|--------|---------|---------|---------|---------|---------|
| Period | 2 years |
|--------|---------|---------|---------|---------|---------|

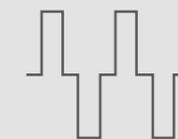
### WHICH DIFFERENCES BETWEEN QUASI SINE AND PURE SINE WAVE ?

To supply your 230V electrical devices with your 12V or 24V battery.



The Pur Sinus models deliver a perfectly stable voltage, of the same quality as the electrical network.

They supply all appliances, even the most sensitive ones (espresso machine, fridge, etc...)



Quasi Sinus models generate a modified alternating wave.

They are suitable for charging most electrical and electronic devices such as phones, cameras, laptops, lighting (excluding neon)...<sup>(1)</sup>

<sup>(1)</sup> ⚠ Technology not suitable for powering inductive loads: fridge, motor... (destructive for the converter).

### HELP FOR CHOOSING YOUR INVERTER

|                                 |      |      |      |      |      |       |       |       |       |      |       |       |       |
|---------------------------------|------|------|------|------|------|-------|-------|-------|-------|------|-------|-------|-------|
| <b>Start-up peak (1 s.)</b>     | 10 W | 30 W | 20 W | 20 W | 20 W | 50 W  | 100 W | 150W  | 200 W | 350W | 500 W | 600 W | 750 W |
| <b>Continuous power</b>         | 5 W  | 20 W | 20 W | 20 W | 50 W | 100 W | 150 W | 150 W | 350 W | 50 W | 200 W | 500 W |       |
| <b>Quasi Sinus / Pure Sinus</b> | Q/P  | P    | Q/P  | Q/P  | Q/P  | Q/P   | Q/P   | Q/P   | Q/P   | Q/P  | Q/P   | P     |       |

UNIPOWER 150.12 Q

UNIPOWER 350.12 Q

UNIPOWER 600.12 Q

UNIPOWER 1000.12 Q

UNIPOWER 2000.12 Q

N.B.: Powers and inrush ratios are given on an indicative basis.

For more information, refer to the values indicated on the identification plate or in the user manual of the device that needs to be supplied.

|        |        |        |        |        |        |        |        |        |        |        |       |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 1000 W | 1200 W | 1200 W | 1200 W | 1500 W | 1500W  | 1500 W | 1800 W | 2250 W | 2700 W | 3000 W | 200 W |
| 1000 W | 600 W  | 800W   | 1200 W | 150 W  | 1500 W | 1500 W | 600 W  | 1500 W | 450 W  | 300 W  | +     |
| Q/P    | Q/P    | Q/P    | Q/P    | P      | Q/P    | Q/P    | Q/P    | P      | P      | P      | +     |

+

600 W

+

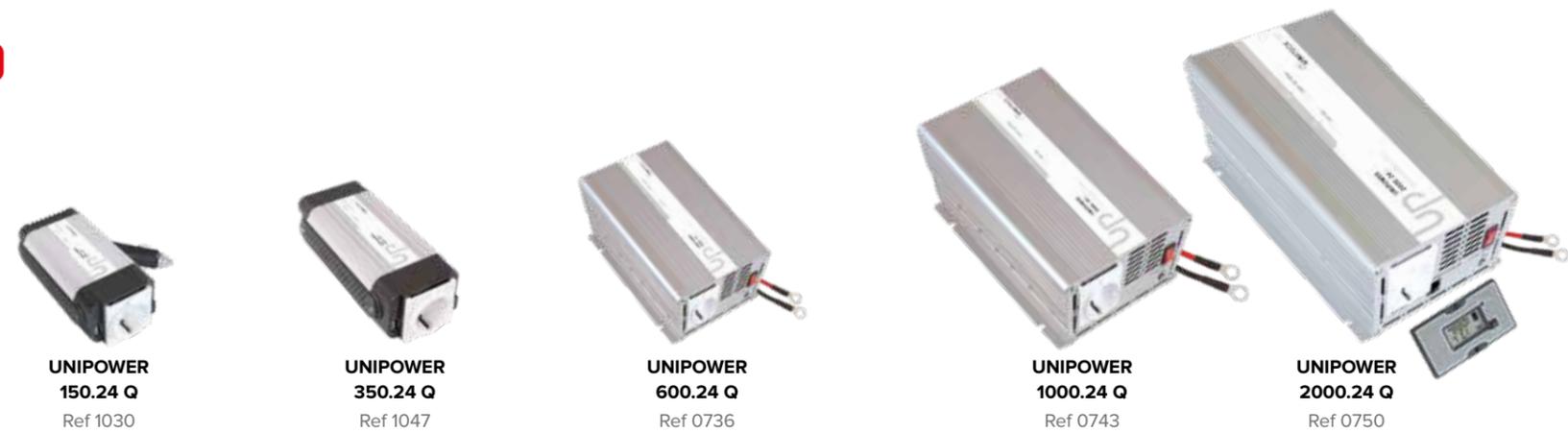
100 W

=

900 W

## UNIPOWER 24 V > 230 V inverters

### QUASI SINUS



## 24 V > 12 V DC

### DC>DC



| System                          | UNIPOWER 150.24 Q<br>Ref 1030 | UNIPOWER 350.24 Q<br>Ref 1047 | UNIPOWER 600.24 Q<br>Ref 0736 | UNIPOWER 1000.24 Q<br>Ref 0743 | UNIPOWER 2000.24 Q<br>Ref 0750 | UNIPOWER 200.12 DC<br>Ref 0651 |
|---------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Conversion                      | 24 VDC > 230 VAC               | 24 VDC > 230 VAC               | 24 V DC > 2 V DC               |
| Continuous/ peak power (1 s.)   | 150/300W                      | 350/700W                      | 600/1 200W                    | 1000/2 000W                    | 2 000/4 000W                   | 200/300W                       |
| Technology                      | Quasi sinus                   | Quasi sinus                   | Quasi sinus                   | Quasi sinus                    | Quasi sinus                    | Inverter DC-DC                 |
| Self-consumption                | 0,1 A                         | 0,2 A                         | 0,3 A                         | 0,3 A                          | 0,2 A                          | 0,3 A                          |
| Max. efficiency                 | 87%                           | 87%                           | 87%                           | 87%                            | 87%                            | 87%                            |
| Remote display/ control         | no                            | no                            | no                            | no                             | yes                            | no                             |
| Input                           | 0,7 m                         | 0,85 m                        | 0,95 m                        | 1 m                            | 1 m                            | in                             |
| Input voltage range             | 20 - 32 V                      | 20 - 32 V                      | 18 - 30 V DC                   |
| Surge protection                | yes                           | yes                           | yes                           | yes                            | yes                            | yes                            |
| Low battery protection          | yes                           | yes                           | yes                           | yes                            | yes                            | yes                            |
| Short circuit protection        | yes                           | yes                           | yes                           | yes                            | yes                            | yes                            |
| Output                          |                               |                               |                               |                                |                                | out                            |
| Output voltage                  | 230 V AC+USB 5V-1A DC         | 230 V AC+USB 5V-3A DC         | 230 V AC+USB 5V-3A DC         | 230 V AC                       | 230 V AC                       | 12-13 V DC                     |
| Frequency                       | 50 Hz                         | 50 Hz                         | 50 Hz                         | 50 Hz                          | 50 Hz                          | -                              |
| Overconsumption protection      | yes                           | yes                           | yes                           | yes                            | yes                            | yes                            |
| Mechanical characteristics      |                               |                               |                               |                                |                                |                                |
| International Protection rating | IP10                          | IP10                          | IP10                          | IP10                           | IP10                           | IP 10                          |
| Operating temperature           | -15/+45 °C                    | -15/+45 °C                    | -15/+45 °C                    | -15/+45 °C                     | -15/+45 °C                     | -15/+45 °C                     |
| Humidity (without condensation) | 90% max.                      | 90% max.                      | 90% max.                      | 90% max.                       | 90% max.                       | 90% max.                       |
| Storage temperature             | -30/+70 °C                    | -30/+70 °C                    | -30/+70 °C                    | -30/+70 °C                     | -30/+70 °C                     | -30/+70 °C                     |
| Dimensions                      | 155 × 85 × 55 mm              | 180 × 85 × 55 mm              | 220 × 123 × 65 mm             | 195 × 179 × 82,5 mm            | 425 × 179 × 82,5 mm            | 178 × 89 × 50 mm               |
| Net weight without accessories  | 0,46 kg                       | 0,56 kg                       | 1,4 kg                        | 2,4 kg                         | 3,7 kg                         | 0,6 kg                         |
| Net weight with accessories     | 0,49 kg                       | 0,59 kg                       | 1,8 kg                        | 2,7 kg                         | 4,3 kg                         | 0,6 kg                         |
| Warranty                        |                               |                               |                               |                                |                                |                                |
| Period                          | 2 years                       | 2 years                       | 2 years                       | 2 years                        | 2 years                        | 2 years                        |

### HELP FOR CHOOSING YOUR INVERTER

**Start-up peak (1 s.)**

|      |      |      |      |      |      |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |       |
|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
|      |      |      |      |      |      |       |       |       |       |       |       |       |        |        |        |        |        |        |        |        |        |        |        |       |
| 10 W | 30 W | 20 W | 20 W | 20 W | 50 W | 100 W | 150 W | 200 W | 350 W | 500 W | 600 W | 750 W | 1000 W | 1200 W | 1200 W | 1200 W | 1500 W | 1500 W | 1500 W | 1800 W | 2250 W | 2700 W | 3000 W | 200 W |
| 5 W  | 20 W | 20 W | 20 W | 20 W | 50 W | 100 W | 150 W | 150 W | 350 W | 50 W  | 200 W | 500 W | 1000 W | 600 W  | 800 W  | 1200 W | 150 W  | 1500 W | 1500 W | 600 W  | 1500 W | 450 W  | 300 W  | +     |
| Q/P  | P    | Q/P  | Q/P  | Q/P  | Q/P  | Q/P   | Q/P   | Q/P   | Q/P   | P     | Q/P   | P     | Q/P    | Q/P    | Q/P    | Q/P    | P      | Q/P    | Q/P    | Q/P    | P      | P      | P      | +     |

**24 V > 230 V**

- UNIPOWER 150.24 Q
- UNIPOWER 350.24 Q
- UNIPOWER 600.24 Q
- UNIPOWER 1000.24 Q
- UNIPOWER 2000.24 Q

**24 V > 12 V DC**

- UNIPOWER 200.12 DC

**Legend:**

- 200 W + 600 W = 800 W
- 100 W = 900 W

N.B.: Powers and inrush ratios are given on an indicative basis. For more information, refer to the values indicated on the identification plate or in the user manual of the device that needs to be supplied.

## ADVANCED ELECTRONIC ARCHITECTURE



## START/STOP CONTROL & SMART SELF-CONSUMPTION



## PURE SINE



UNIPOWER PRO MODELS provides a perfectly stable voltage (THD<2,5%), even on high current draws. It powers thus all the devices, even the most sensitive ones with a current similar to the electric grid

## HIC TECHNOLOGY HIGH INRUSH CAPACITY



UNIPOWER PRO is equipped with "HIC-High Inrush Capacity" Technology, unique on the market, which provides the maximum power on a period of time twice longer than most of the inverters (peak power = 3sec.). This Technology is adapted to use inductive charges (fridge, motor, etc...) without oversizing the inverter.

## ADAPTABILITY



UNIPOWER PRO is supplied with 2 connections :  
EU outlet and direct connection (except for 3600W, direct connection only, EU outlet unsuitable for these powers)



Perfectly stable voltage thanks to its Pure Sine wave (<2,5% THD)

Constant & high conversion rate

High quality electronic and mechanical design

Compact and light

"High Inrush Capacity" Technology to supply inductive loads

Low self-consumption thanks to its eco mode (< 1W)

Device "Safe Connect" Protection against polarity reversal

Advanced On/Off

Wide operating temperature range

## UNIPOWER PRO power inverters

# PURE SINE WAVE HIGH PERFORMANCE

UNIPOWER PRO is the range of high performance 12-24V > 230V pure sine wave power inverters.

Thanks to its integrated microprocessor, UNIPOWER PRO provides a perfectly stable voltage with the same quality as the electric grid (pure sine wave), ideal to safely power all your electrical devices.

UNIPOWER PRO can thus supply all inductive charges (fridges, motors), without having to use an oversized inverter.

Thanks to its automatic standby mode, UNIPOWER PRO has one of the lowest self-consumption rates on the market.

Besides, UNIPOWER PRO offers a smart ON/OFF management controlled by:

- the switch situated on the device,
- the remote control (option),
- an external signal from the battery positive terminal,
- an external signal by dry contact.

It powers all devices, even the most sensitive ones, by providing a current similar to the electric grid.



Remote control in option - 5M. ref. 0637

Quality guarantee by Uniteck  
Made in Taiwan, Developed in France

CEM émission : EN 55032 class B  
CEM réception : EN 55024, EN 62368-1



## UNIPOWER PRO 12V - 24 V > 230 V inverters

### PURE SINE



| System  | 12 VDC > 230 VAC   |                                       |                                       |                                       |                                       | 24 VDC > 230 VAC   |                                       |                                       |                                       |                                       |
|---|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Conversion  |  |                                       |                                       |                                       |                                       |  |                                       |                                       |                                       |                                       |
| Power   |  |                                       |                                       |                                       |                                       |  |                                       |                                       |                                       |                                       |
| Peak power - 3 seconds                                  | 1400W  | 2000W                                 | 3000W                                 | 4000W                                 | 6000W                                 | 1400W  | 2000W                                 | 3000W                                 | 4000W                                 | 6000W                                 |
| Continuous power at 30°C                                | 840W   | 1200W                                 | 1800W                                 | 2400W                                 | 3600W                                 | 840W   | 1200W                                 | 1800W                                 | 2400W                                 | 3600W                                 |
| Continuous power at 40°C                                | 700W   | 1000W                                 | 1500W                                 | 2000W                                 | 3000W                                 | 700W   | 1000W                                 | 1500W                                 | 2000W                                 | 3000W                                 |
| Continuous power at 50°C                                | 560W   | 800W                                  | 1200W                                 | 1600W                                 | 2400W                                 | 560W   | 800W                                  | 1200W                                 | 1600W                                 | 2400W                                 |
|   | 420W   | 600W                                  | 900W                                  | 1200W                                 | 1800W                                 | 420W   | 600W                                  | 900W                                  | 1200W                                 | 1800W                                 |
| Technology  | Pure Sine (THD <2,5%)  |                                       |                                       |                                       |                                       | Pure Sine (THD <2,5%)  |                                       |                                       |                                       |                                       |
| Self-consumption  |  |                                       |                                       |                                       |                                       |  |                                       |                                       |                                       |                                       |
| Normal mode   | <1,3A  | <1,6A                                 | <1,8A                                 | <1,85A                                | <2,8A                                 | <0,65A   | <0,8A                                 | <0,95A                                | <1,1A                                 | <1,5A                                 |
| Eco mode  |  |                                       | <0.01A                                |                                       |                                       |  |                                       | <0.01A                                |                                       |                                       |
| Maximum efficiency                                      | 91%  | 92%                                   | 92%                                   | 93%                                   | 92%                                   | 92%  | 93%                                   | 93%                                   | 93%                                   | 93%                                   |
| Input   |  |                                       |                                       |                                       |                                       |  |                                       |                                       |                                       |                                       |
| Input voltage range                                     | 10,5V - 16,5V  |                                       |                                       |                                       |                                       | 20V - 33V  |                                       |                                       |                                       |                                       |
| Overvoltage battery protection                          | yes  |                                       |                                       |                                       |                                       | yes  |                                       |                                       |                                       |                                       |
| Low voltage battery protection                          | yes  |                                       |                                       |                                       |                                       | yes  |                                       |                                       |                                       |                                       |
| Polarity reversal protection                            | yes (electronics)  |                                       |                                       |                                       |                                       | yes (electronics)  |                                       |                                       |                                       |                                       |
| Output  | <br>(Included : EU outlet and direct connection)               |                                       |                                       |                                       |                                       | <br>(Direct connection only)                                   |                                       |                                       |                                       |                                       |
| Output AC voltage                                       | 230V +/-3% (adjustable 200,220,240V) - 50 Hz (adjustable 60Hz) |                                       |                                       |                                       |                                       | 230V +/-3% (adjustable 200,220,240V) - 50 Hz (adjustable 60Hz) |                                       |                                       |                                       |                                       |
| Short-circuit protection                                | yes  |                                       |                                       |                                       |                                       | yes  |                                       |                                       |                                       |                                       |
| Overconsumption protection                              | yes  |                                       |                                       |                                       |                                       | yes  |                                       |                                       |                                       |                                       |
| Command - Communication                                 |  |                                       |                                       |                                       |                                       |  |                                       |                                       |                                       |                                       |
| Remote control  | option (ref. 0637)   |                                       |                                       |                                       |                                       | option (ref. 0637)   |                                       |                                       |                                       |                                       |
| Command by dry contact<br>(N.O./COM/N.C./GND/RSB-/RSB+) | yes  |                                       |                                       |                                       |                                       | yes  |                                       |                                       |                                       |                                       |
| RS232 - Communication                                   | yes  |                                       |                                       |                                       |                                       | yes  |                                       |                                       |                                       |                                       |
| Mechanical characteristics                              |  |                                       |                                       |                                       |                                       |  |                                       |                                       |                                       |                                       |
| International Protection rating                         | IP10   |                                       |                                       |                                       |                                       | IP10   |                                       |                                       |                                       |                                       |
| Operating temperature                                   | -20/+60 °C   |                                       |                                       |                                       |                                       | -20/+60 °C   |                                       |                                       |                                       |                                       |
| Storage temperature                                     | -30/+70 °C   |                                       |                                       |                                       |                                       | -30/+70 °C   |                                       |                                       |                                       |                                       |
| Non-condensing humidity                                 | 95% max  |                                       |                                       |                                       |                                       | 95% max  |                                       |                                       |                                       |                                       |
| DC wire (no included)                                   | Ref. 2754<br>25 mm <sup>2</sup> - 1 m                          | Ref. 2754<br>25 mm <sup>2</sup> - 1 m | Ref. 2761<br>35 mm <sup>2</sup> - 1 m | Ref. 2778<br>50 mm <sup>2</sup> - 1 m | Ref. 2785<br>50 mm <sup>2</sup> - 1 m | Ref. 2754<br>25 mm <sup>2</sup> - 1 m                          | Ref. 2754<br>25 mm <sup>2</sup> - 1 m | Ref. 2754<br>25 mm <sup>2</sup> - 1 m | Ref. 2761<br>35 mm <sup>2</sup> - 1 m | Ref. 2761<br>35 mm <sup>2</sup> - 1 m |
| Dimensions (mm)   | 192x210x88,9   | 192x250x88,9                          | 192x300x88,9                          | 192x375x88,9                          | 192 x 455 x 88,9                      | 192x210x88,9   | 192x250x88,9                          | 192x300x88,9                          | 192x375x88,9                          | 192 x 455 x 88,9                      |
| Weight without accessories                              | 2,5kg  | 3,3kg                                 | 3,9kg                                 | 5,3kg                                 | 6,2kg                                 | 2,5kg  | 3,3kg                                 | 3,9kg                                 | 5,3kg                                 | 6,2kg                                 |
| Warranty  |  |                                       |                                       |                                       |                                       |  |                                       |                                       |                                       |                                       |
| Period  | 2 years  | 2 years                               | 2 years                               | 2 years                               | 2 years                               | 2 years  | 2 years                               | 2 years                               | 2 years                               | 2 years                               |

### HELP FOR CHOOSING YOUR INVERTER

| Start up peak (3 s.)                  | 10 W | 30 W | 20 W | 20 W | 20 W | 50 W | 100 W | 150W  | 200 W | 350W  | 500 W | 600 W | 750 W | 1000 W |
|---------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|--------|
| Continuous power                      | 5 W  | 20 W | 20 W | 20 W | 20 W | 50 W | 100 W | 150 W | 150 W | 350 W | 50 W  | 200 W | 500 W | 1000 W |
| <b>UNIPOWER PRO 800.12 - 800.24</b>   |      |      |      |      |      |      |       |       |       |       |       |       |       |        |
| <b>UNIPOWER PRO 1200.12 - 1200.24</b> |      |      |      |      |      |      |       |       |       |       |       |       |       |        |
| <b>UNIPOWER PRO 1800.12 - 1800.24</b> |      |      |      |      |      |      |       |       |       |       |       |       |       |        |
| <b>UNIPOWER PRO 2400.12 - 2400.24</b> |      |      |      |      |      |      |       |       |       |       |       |       |       |        |
| <b>UNIPOWER PRO 3600.12 - 3600.24</b> |      |      |      |      |      |      |       |       |       |       |       |       |       |        |

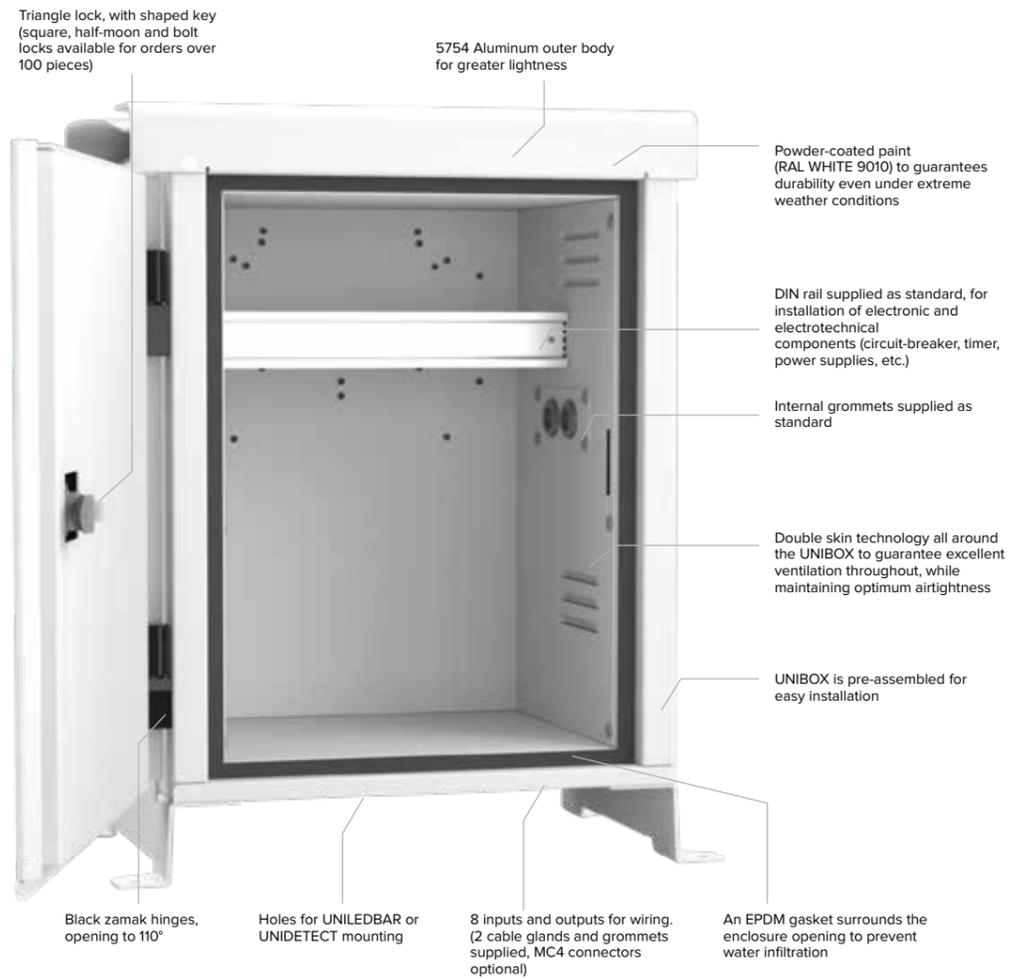
N.B.: Powers and inrush ratios are given on an indicative basis.

For more information, refer to the values indicated on the identification plate or in the user manual of the device that needs to be supplied.

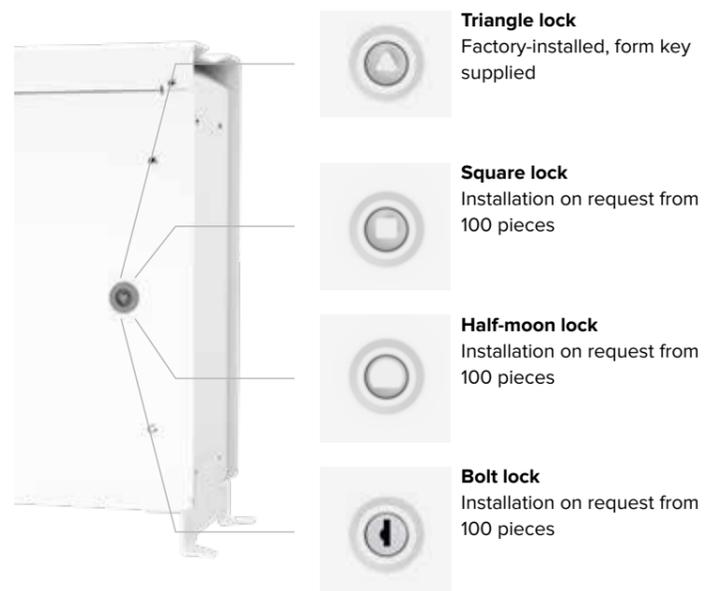
|        |        |        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|        |        |        |        |        |        |        |        |        |        |
| 1200 W | 1200 W | 1200 W | 1500 W | 1500W  | 1500 W | 1800 W | 2250 W | 2700 W | 3000 W |
| 600 W  | 800W   | 1200 W | 150 W  | 1500 W | 1500 W | 600 W  | 1500 W | 450 W  | 300 W  |

|   |       |
|---|-------|
|   | 200 W |
| + |       |
|   | 600 W |
| + |       |
|   | 100 W |
| = |       |
|   | 900 W |

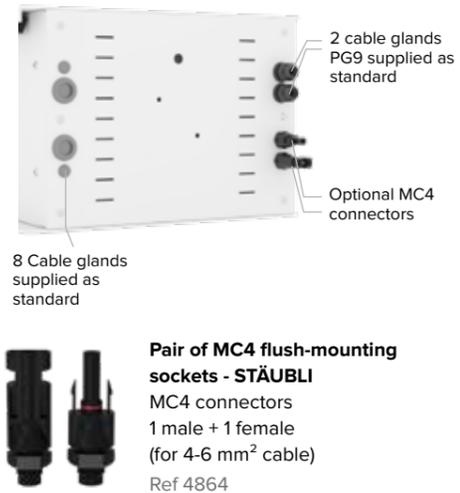
## INNOVATIVE ARCHITECTURE



## SECURE CLOSURE



## EASY WIRING



## UNIBOX electrical boxes

# OPTIMUM PROTECTION

## VENTILATED EXTERIOR ELECTRICAL BOXES

The UNIBOX range is ideal for protecting your outdoor electrical equipment. This enclosure accommodates the electrical and electronic equipment needed to supply, distribute and convert the electrical energy of your installation.

With its 5754 aluminum structure, white (RAL 9010) powder-coated surface and corrosion-resistant screws, UNIBOX is perfectly suited to outdoor use. UNIBOX offers a turnkey protection solution, with accessories supplied as standard (cable glands, cable glands, lock, DIN rail, etc.).

Watertightness and ventilation of electronic products and batteries are guaranteed by a high degree of protection (IP 34). UNIBOX has been designed to withstand any weather conditions (rain, snow, hail, etc.) and the passage of solid objects larger than 2.5mm (insects, dust, etc.).

Easy to install, UNIBOX can be mounted :

- wall
- floor
- pole

## + UNITECK

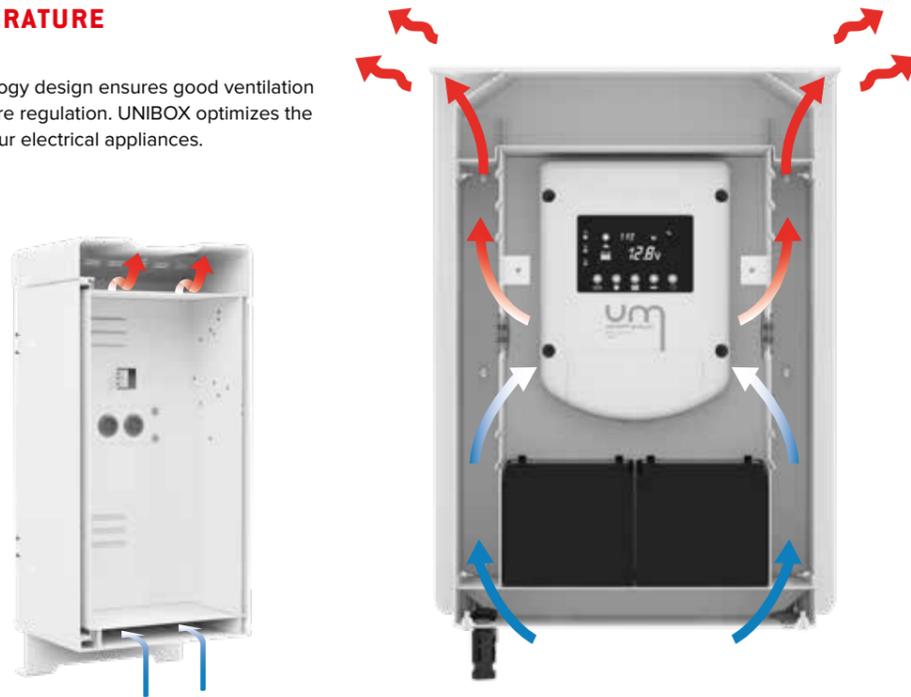
- IP34** Protection for indoor and outdoor use
- Lightweight (aluminum)
- Corrosion-resistant, Aluminum
- Easy to install
- Wall mounting
- Floor mounting
- Fits all masts

Designed and manufactured in France



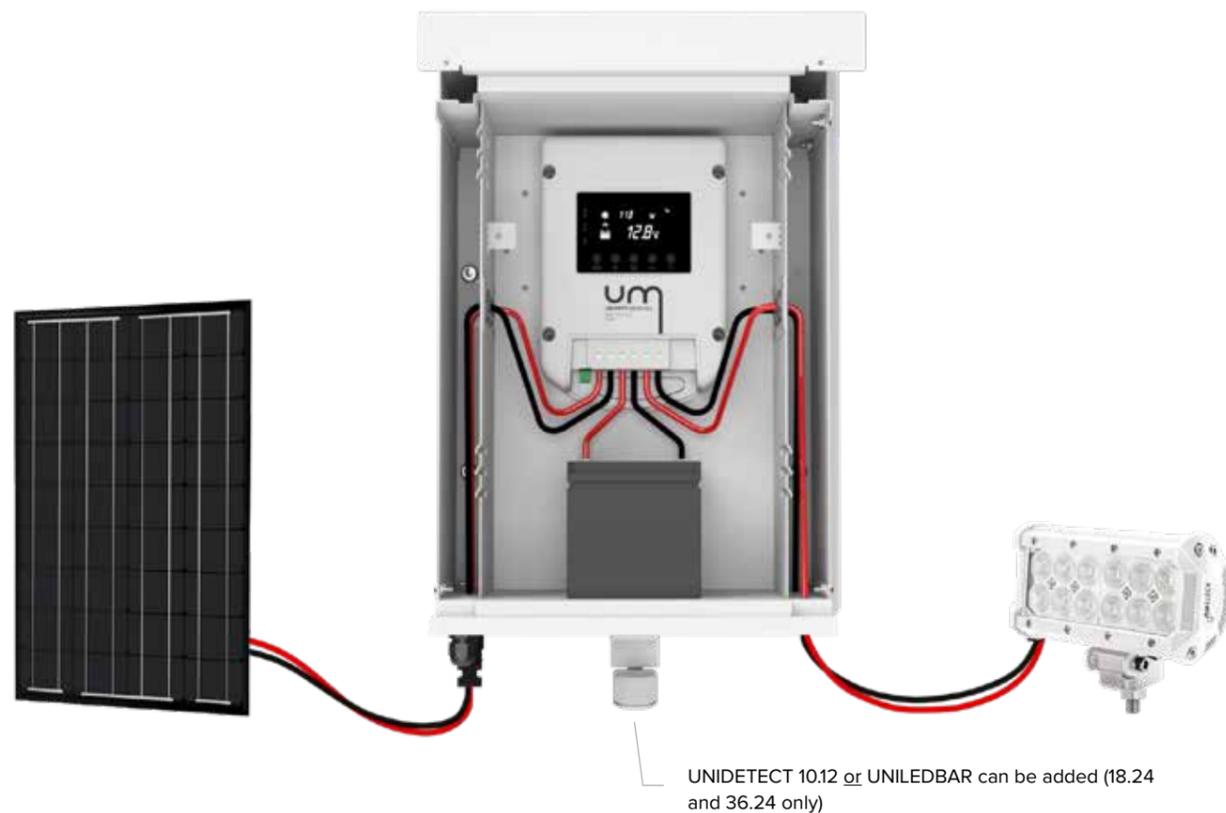
## REGULATED TEMPERATURE

UNIBOX's Double Skin Technology design ensures good ventilation for optimum internal temperature regulation. UNIBOX optimizes the performance and lifespan of your electrical appliances.



## EASY INSTALLATION

UNIBOX provides clean, efficient internal wiring. Double Skin technology provides access to the bottom of the enclosure during assembly. Cable glands and grommets are provided for easy, isolated wiring.

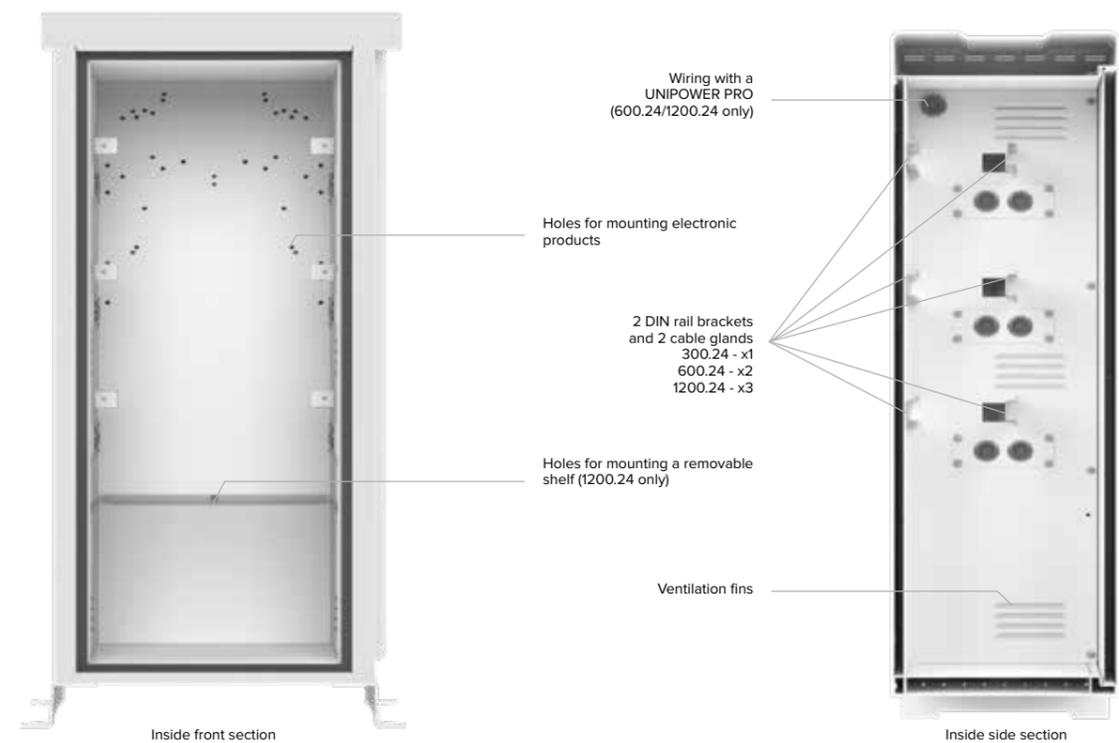


## SECURE/IDENTIFIED WIRING

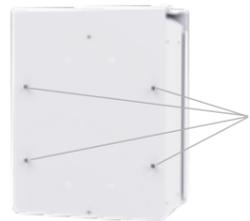
The front panel can be attached to the front using the holes provided. It can be used to add shutters to modular windows, as well as to affix warning or marker labels.



## INTERNAL VIEW OF UNIBOX



## WALL & FLOOR MOUNTING



**Wall mounting**  
Original holes and spacers for wall mounting  
Ø 6mm  
(screws not supplied)



**Floor mounting**  
2 mounting feet  
Ref 4277

## POLE MOUNTING



**Clamp fastening professional strap fasteners**  
As standard, two holes are drilled to allow the use of "professional" flanges. (see example below)

90 mm centres  
Ø 8,5 mm



**Mounting on all poles**  
Fits all types of post from 40 to 250 mm  
(Mounting brackets not supplied, see opposite)  
For UNIBOX 600.24 and 1200.24, order 2 pieces  
Ref 4291



**UNIBOX FLANGE STAINLESS STEEL HARDWARE (x2)**  
Diam 40-60 mm  
Ref 2631  
Diam 60-90 mm  
Ref 2648  
Diam 90-130 mm  
Ref 2655  
Diam 130-190 mm  
Ref 2662  
Diam 190-250 mm  
Ref 4185



**UNIBOX 500.24**  
Ref 4338

**UNIBOX 600.24**  
Ref 4161

**UNIBOX 1200.24**  
Ref 4178

### Closing system

|                |   |                             |   |
|----------------|---|-----------------------------|---|
| Locks          | 1 | 2                           | 2 |
| Triangle shape |   | Original, with supplied key |   |
| Other shapes   |   | On request (+ 100 pieces)   |   |

### Interior electrical installation

|                                     |       |       |       |
|-------------------------------------|-------|-------|-------|
| Internal cable gland                | 2 x 2 | 2 x 4 | 2 x 6 |
| Cable gland PG9 black               | 2     | 2     | 2     |
| External cable gland                | 8     | 8     | 8     |
| Rail DIN ( 35 x 10 mm)              | 2     | 4     | 6     |
| Compatible batteries                |       |       |       |
| Bin n°1 - 7-8 Ah (151x65x98 mm)     | x 2   | x 2   | x 4   |
| Bin n°2 - 12-14 Ah (151x100x103 mm) | x 2   | x 2   | x 4   |
| Bin n°3 - 18-22 Ah (181x77x167 mm)  | x 2   | x 1   | x 4   |
| Bin n°4 - 24-28 Ah (175x166x125 mm) | x 1   | x 1   | x 2   |
| Bin n°5 - 38-50 Ah (197x165x170 mm) | x 1   | -     | x 2   |
| Compatible controllers              |       |       |       |
| UNIMPPT 60/10.24L                   | -     | yes   | yes   |
| UNIMPPT 60/20.24L                   | -     | -     | yes   |
| UNIMPPT 100/30.24L                  | -     | -     | yes   |
| UNISOLAR 10.24L                     | yes   | yes   | yes   |
| UNISOLAR 20.24L                     | yes   | yes   | yes   |
| Other brands                        | yes   | yes   | yes   |
| Compatible converters               |       |       |       |
| UNIPOWER PRO 800.12                 | -     | yes   | yes   |
| UNIPOWER PRO 1200.12                | -     | -     | yes   |
| UNIPOWER PRO 1800.12                | -     | -     | yes   |
| Compatible accessories              |       |       |       |
| UNITIMER                            | yes   | yes   | yes   |

### Technical data

|                                       |                  |                 |                 |
|---------------------------------------|------------------|-----------------|-----------------|
| Protection class                      | IP34             |                 |                 |
| Impact resistance                     | IK10             |                 |                 |
| Materials                             | Aluminium 5754   |                 |                 |
| Color                                 | White (RAL 9010) |                 |                 |
| Interior dimensions (H x W x D) in mm | 340 x 210 x 170  | 500 x 210 x 170 | 687 x 210 x 170 |
| External dimensions (H x W x D) in mm | 418 x 320 x 225  | 578 x 320 x 225 | 765 x 320 x 225 |
| Weight                                | 4 kg             | 5,5 kg          | 7 kg            |

### Warranty

|        |         |         |         |
|--------|---------|---------|---------|
| Period | 2 years | 2 years | 2 years |
|--------|---------|---------|---------|

## MANUAL MODE

Unlike many low-cost chargers, UNICHARGE can revitalize even deeply discharged batteries (below 5V) that typically cannot be recovered with standard automatic charging methods. This is thanks to its "manual charge" mode, which allows you to carefully raise the battery voltage up to 13.6V, corresponding to approximately 80% capacity.



UNICHARGE 4.12 and 8.12 only

## CHARGING TIMES

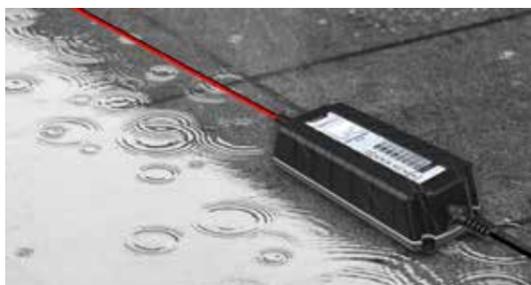
|            | UNICHARGE |         |          |
|------------|-----------|---------|----------|
|            | 1,5.12    | 4.12    | 8.12     |
| 150-200 Ah | 80-107 h  | 30-40 h | 15-20 h  |
| 60-150 Ah  | 32-80 h   | 12-30 h | 8-15 h   |
| 80-150 Ah  | 43-80 h   | 16-30 h | 8-15 h   |
| 45-120 Ah  | 24-64 h   | 9-24 h  | 4.5-12 h |
| 10-30 Ah   | 5-16 h    | 2-6 h   | 1-3 h    |
| 10-30 Ah   | 5-16 h    | 2-6 h   | 1-3 h    |
| 5-20 Ah    | 3-11 h    | 1-4 h   | 0.5-2 h  |

Indicative time for an 80% load

**x-x h** recommended  
**X-X h** suitable, but charging may take longer or be too rapid compared with a recommended charger

## HIGH DEGREE OF PROTECTION (IP65)

Protected against rain and dust



## PROLONGED BATTERY LIFESPAN

- 1 Test**  
 Analysis of the battery's condition.
- 2 Repair sulfated battery\***  
 Recovery of sulfated batteries (extended deep discharge).
- 3 Repair low battery\***  
 Recovery of deeply discharged batteries.
- 4 Boost charge**  
 Fast charge at maximum power.
- 5 Equalisation**  
 Equalisation of the charge at 100% on all battery elements.
- 6 Recondition\*\***  
 Mixing of the battery in order to avoid all stratification phenomenon.
- 7 Charge Diagnostic**  
 Verification of the battery's ability to hold the charge.
- 8 100%**  
 Keeping the battery's charge at 100% (floating).
- 9 Life+/Storage**  
 Compensation of the natural selfdischarge of the battery, with pulse charge for more battery lifespan.

\*UNICHARGE 4.12 and 8.12 only  
 \*\*UNICHARGE 8.12 only

## UNICHARGE battery chargers

# REPAIRS, RECHARGES AND PRESERVES YOUR BATTERIES

With a last generation multi-stage charging algorithm, UNICHARGE perfectly recharges all the way to 100% and without supervision all lead-acid batteries : liquid electrolyte, flooded and AGM (maintenance-free).

Designed and developed for all uses, UNICHARGE is the ideal charger to recharge solar batteries, vehicle batteries (car, motorcycle, scooter, snow scooter, tractor, agricultural machines), boat batteries, alarm batteries, fence batteries...

UNICHARGE 4.12 and 8.12 are much more than simple standard chargers, they :

- repair and recharge deeply discharged batteries (>0V),
- repair batteries which could have started a stratification process,
- preserve batteries from all stratification phenomenon (recondition mode, 8.12 model),
- avoid self-discharge of the batteries during long winters or storage periods while improving their lifespan.

UNICHARGE is fitted as standard with a clamp connection kit, but also with an eyelet connection kit, ideal for regular charges or for hard to access batteries. Moreover, the 4.12 and 8.12 models are equipped with charge control technology on their eyelet connection, which allows to visually and simply check the level of charge of your battery.

Quality guaranteed by Uniteck  
 Made in P.R.C.

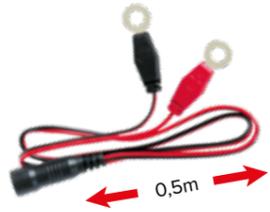
EN 60335-1, EN 60335-2-29 & EN 55014-1  
 / EN 55014-2, EN 61000-3-2 - EN61000-3-3  
 - EN 62233



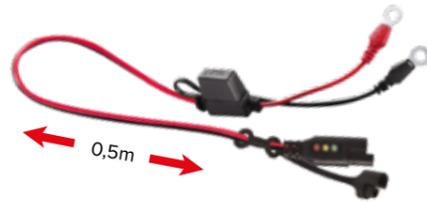
UNITECK

- Tests, charges at 100%, avoids sulphation and stratification, maintains the charge and improves the battery's lifespan.
- Automatically memorizes and restarts with the last mode in use in case of power failure
- Polarity reversals, short circuits, thermal, sparks protection
- Protected against dust and water projections (IP65)
- Controlled by a microprocessor

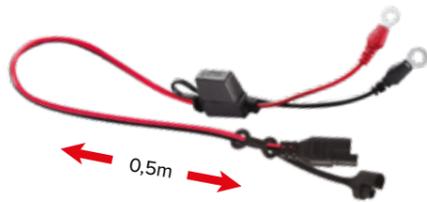
## ACCESSORIES FOR UNICHARGE



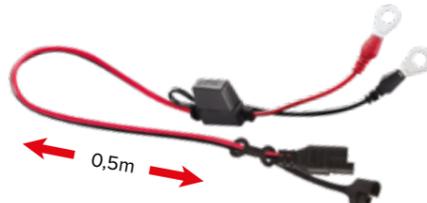
Standard eyelet connection  
Length 0,5m  
for Unicharge 1.5.12 only (included with charger)  
Ref 0583



Eyelet connection  
with Charge control technology and M6 terminals  
Length 0,5m  
for Unicharge 4.12/8.12 only (included with charger)  
Ref 0590



Eyelet connection  
with M6 lugs  
Length 0,5m  
For UNICHARGE 4.12/8.12  
Ref 5007



Eyelet connection  
with M8 lugs  
Length 0,5m  
For UNICHARGE 4.12/8.12  
Ref 5014

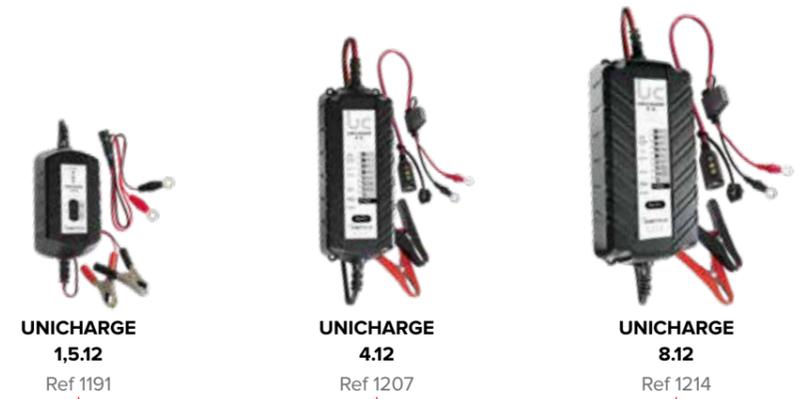


Cable extension  
Length 2.5m  
For UNICHARGE 4.12/8.12  
Ref 5021



Cigarette-lighter cable  
Length 0.5m  
For UNICHARGE 4.12/8.12  
Ref 5038

## APPLICATIONS



### System

|                     |                           |                           |                           |
|---------------------|---------------------------|---------------------------|---------------------------|
| AC input voltage    | 230 V AC ±10%<br>50Hz     | 230 V AC ±10%<br>50Hz     | 230 V AC ±10%<br>50Hz     |
| DC output voltage   | 6 V-12 V                  | 6 V-12 V                  | 12 V                      |
| Maximum power       | 28 W                      | 75 W                      | 150 W                     |
| Charging technology | automatic,<br>multi-stage | automatic,<br>multi-stage | automatic,<br>multi-stage |

### Battery

|                          |                            |                            |                            |
|--------------------------|----------------------------|----------------------------|----------------------------|
| Battery types            | lead-acid liquid, AGM, gel | lead-acid liquid, AGM, gel | lead-acid liquid, AGM, gel |
| Accepted battery voltage | 6 V-12 V                   | 6 V-12 V                   | 12 V                       |
| Battery capacity         | 8-40 Ah                    | 2-120 Ah                   | 10-250 Ah                  |

### Charge

|                         |       |                                |                                |
|-------------------------|-------|--------------------------------|--------------------------------|
| Charging intensity      | 1,5 A | 1/4 A                          | 2/8 A                          |
| Charging stages         | 4     | 8                              | 9                              |
| Minimum battery voltage | 3,5 V | 0V (manual)<br>5 V (automatic) | 0V (manual)<br>5 V (automatic) |

### Connections

|         |     |                          |                          |
|---------|-----|--------------------------|--------------------------|
| Clamps  | yes | yes                      | yes                      |
| Eyelets | yes | yes, with Charge control | yes, with Charge control |

### Mechanical characteristics

|                          |            |                 |                 |
|--------------------------|------------|-----------------|-----------------|
| Protection rating        | IP65       | IP65            | IP65            |
| Operating temperature    | -10°/+50°C | -10°/+50°C      | -10°/+50°C      |
| Storage temperature      | -20°/+70°C | -20°/+70°C      | -20°/+70°C      |
| Dimensions in mm (wxhxd) | 109×47×85  | 176,6×72,4×48,9 | 202,6×92,5×59,1 |
| Weight                   | 250 g      | 530 g           | 740 g           |

### Warranty

|        |         |         |         |
|--------|---------|---------|---------|
| Period | 2 years | 2 years | 2 years |
|--------|---------|---------|---------|

## BATTERY ISOLATORS



| UNIMOS 80.24/2 | UNIMOS 120.24/2 | UNIMOS 160.24/3 | UNIMOS 200.24/3 |
|----------------|-----------------|-----------------|-----------------|
| Ref 1399       | Ref 1511        | Ref 1405        | Ref 1412        |

| System            | UNIMOS 80.24/2 | UNIMOS 120.24/2 | UNIMOS 160.24/3 | UNIMOS 200.24/3 |
|-------------------|----------------|-----------------|-----------------|-----------------|
| Technology        | MOS            | MOS             | MOS             | MOS             |
| Operating voltage | 12/24 V        | 12/24 V         | 12/24 V         | 12/24 V         |
| Max. intensity    | 80 A           | 120 A           | 160 A           | 200 A           |

| Battery                  | UNIMOS 80.24/2 | UNIMOS 120.24/2 | UNIMOS 160.24/3 | UNIMOS 200.24/3 |
|--------------------------|----------------|-----------------|-----------------|-----------------|
| Accepted battery voltage | 12/24 V        | 12/24 V         | 12/24 V         | 12/24 V         |
| Number of outputs        | 2              | 2               | 3               | 3               |

| Charge                                | UNIMOS 80.24/2       | UNIMOS 120.24/2         | UNIMOS 160.24/3         | UNIMOS 200.24/3         |
|---------------------------------------|----------------------|-------------------------|-------------------------|-------------------------|
| Max. current                          | 80 A                 | 120 A                   | 160 A                   | 200 A                   |
| voltage drop at end of charging cycle | 10 A<br>20 A<br>50 A | 0 V<br>0,01 V<br>0,05 V | 0 V<br>0,01 V<br>0,05 V | 0 V<br>0,01 V<br>0,05 V |

| Alternator                            | UNIMOS 80.24/2 | UNIMOS 120.24/2 | UNIMOS 160.24/3 | UNIMOS 200.24/3 |
|---------------------------------------|----------------|-----------------|-----------------|-----------------|
| With excitation current (IG terminal) | yes            | yes             | yes             | yes             |
| Without excitation current            | yes            | yes             | yes             | yes             |
| Max. current                          | 80 A           | 120 A           | 160 A           | 200 A           |

| Mechanical characteristics | UNIMOS 80.24/2 | UNIMOS 120.24/2 | UNIMOS 160.24/3 | UNIMOS 200.24/3 |
|----------------------------|----------------|-----------------|-----------------|-----------------|
| Operating temperature      | -20°/+60°C     | -20°/+60°C      | -20°/+60°C      | -20°/+60°C      |
| Storage temperature        | -30°/+80°C     | -30°/+80°C      | -30°/+80°C      | -30°/+80°C      |
| Dimensions in mm (wxhxd)   | 110×70×35      | 110×70×35       | 145×85×35       | 145×85×35       |
| Weight                     | 125 g          | 135 g           | 300 g           | 300 g           |

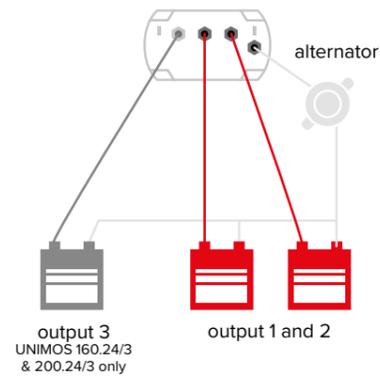
| Warranty | UNIMOS 80.24/2 | UNIMOS 120.24/2 | UNIMOS 160.24/3 | UNIMOS 200.24/3 |
|----------|----------------|-----------------|-----------------|-----------------|
| Period   | 2 years        | 2 years         | 2 years         | 2 years         |



**Battery voltage reference cable UNIMOS**  
Essential for the operation of battery isolator UNIMOS with battery charger or solar charge controller. It transforms your battery charger or your solar charge regulator into multi-output products.  
Ref 2303



## CENTRALISED CHARGING MANAGEMENT



## OPTIMISED RESTITUTION

| Load distributor            |                            |                         |
|-----------------------------|----------------------------|-------------------------|
| with a diode                | with a standard MOS system | UNIMOS                  |
| compactness                 |                            |                         |
| --                          | +                          | +++                     |
| restituted charging power   |                            |                         |
| -<br>loss 3 > 6%            | +<br>loss 0,5 > 4%         | +++<br>loss 0,01 > 0,5% |
| restituted charging voltage |                            |                         |
| -<br>loss 0,7 V             | +<br>loss 0,1 > 0,2 V      | +++<br>loss 0,01 V      |

## PERFECT CHARGE

UNIMOS guarantees a 100% charge of your battery

| Load distributor  |                            |             |
|---|----------------------------|-------------|
| with a diode  | with a standard MOS system | UNIMOS      |
| alternator charging power                               |                            |             |
| 14,2 V  | 14,2 V                     | 14,2 V      |
| voltage drop due to cable (2%)                          |                            |             |
| -0,3 V  | -0,3 V                     | -0,3 V      |
| voltage drop due to distributor                         |                            |             |
| -0,7 V  | -0,2 V                     | -0,01 V     |
| output voltage from distributor                         |                            |             |
| 13,2 V  | 13,7 V                     | 13,9 V      |
| Battery's charging level (end of charge 13,9V floating) |                            |             |
| 80%<br>-0,7 V   | 90%<br>-0,2 V              | 100%<br>0 V |

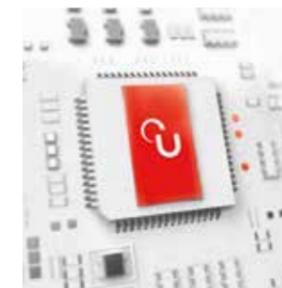
## UNIMOS battery isolators

# COMPACTNESS & PERFORMANCE



Designed, made in France

## MOS LOW VOLTAGE DROP TECHNOLOGY



The UNIMOS range is revolutionizing the market of battery isolators. UNIMOS distributes the charge of your alternator, battery charger or solar charge controller on each of your batteries without power loss while isolating each battery to prevent them from unloading each other.

Thanks to its latest generation electronics (Low Voltage Drop MOSFET) combined with its power connectors directly soldered on the electronic board, UNIMOS offers:

- exceptional compactness (up to ×5 smaller),
- up to ×10 less power loss compared to other MOSFET battery Isolators on the market,
- a faster charge,
- a gain in energy and / or fuel.



100% Exceptional efficiency

Direct to PCB power connector for faster energy transfer without loss of power

Low voltage drop MOS technology for a switching without voltage drop

Exceptional compactness

100% made in France



**System**

|                                    |   |                         |
|------------------------------------|---|-------------------------|
| Battery voltage                    | 12V DC  |                         |
| Operating voltage                  | 9-15V DC  |                         |
| Technology                         | Single microprocessor controlled high power relay |                         |
| Relay self consumption open/closed | 10 mA / 600 mA                                    | 0 mA / 580 mA           |
| Disconnection voltage              | 12,8V   | 12,8V                   |
| Connection / reconnection          | 13,4V   | +APC/86 terminal active |
| Connection delay                   | 10 s. +/- 5%                                      | 10 s. +/- 5%            |
| Nominal current                    | 160A  | 160A                    |
| Peak current                       | 500A during 1s at 23°C                            | 500A during 1s at 23°C  |
| Performance                        | 100 000 contacts                                  | 100 000 contacts        |

**Connection on the vehicle or charger**

|                           |                    |                    |
|---------------------------|--------------------|--------------------|
| Recommended cable section |                    |                    |
| 1 m                       | 6 mm <sup>2</sup>  | 6 mm <sup>2</sup>  |
| 2 m                       | 10 mm <sup>2</sup> | 10 mm <sup>2</sup> |
| 3 m                       | 16 mm <sup>2</sup> | 16 mm <sup>2</sup> |
| 4 m                       | 25 mm <sup>2</sup> | 25 mm <sup>2</sup> |
| 5 m                       | 35 mm <sup>2</sup> | 35 mm <sup>2</sup> |
| 6 m                       | 50 mm <sup>2</sup> | 50 mm <sup>2</sup> |

**Mechanical characteristics**

|                                 |                     |                     |
|---------------------------------|---------------------|---------------------|
| International protection rating | IP53                | IP53                |
| Plastic material                | PA66 - GF30         | PA66 - GF30         |
| Battery connectors              | M6 copper connector | M6 copper connector |
| Other terminals                 | Faston 6,3 x 0,8    | Faston 6,3 x 0,8    |
| Operating temperature           | -40°C - + 85°C      | -40°C - + 85°C      |
| Dimensions in mm (wxhxd)        | 77x46x16 mm         | 77x46x16 mm         |
| Weight                          | 300 g               | 300 g               |

**Warranty**

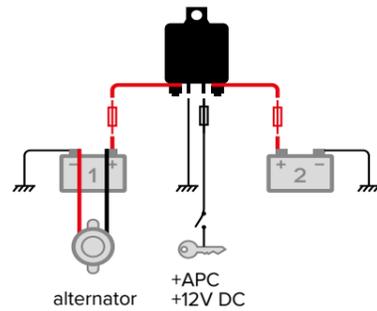
|        |         |         |
|--------|---------|---------|
| Period | 2 years | 2 years |
|--------|---------|---------|



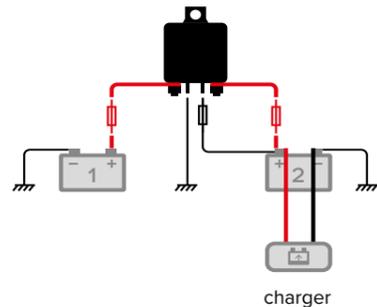
**Isolator/ combiner fuse protection kit**  
 Protects your installation and your battery against malfunctions (short circuit, battery fault, overcurrent ...).  
 Included: fuse and fuse holder (150A x2 + 5A x1)  
 Ref 1313



**USE WITH VEHICLE WITH ALTERNATOR**



**OFF-GRID USE**



**MONO-BLOCK RELAY OF HIGH POWER**



Unlike low cost combiner which integrates 2 low power relays in parallel, UNISPLIT has a high power mono-block relay thus avoiding all synchronization risks, for more reliability.

**UNISPLIT combiner/splitter**

**PERFORMANCE & ROBUSTNESS**

UNISPLIT is the ideal combiner/separator for your applications on vehicles, boats or isolated sites. Equipped with a high power monobloc relay (160A), UNISPLIT 160.12 has been developed to guarantee optimum operation on most alternators, even those of the most recent vehicles with a charging current greater than 120A.

UNISPLIT thus allows :

- to charge an entire battery bank as soon as a load (alternator, charger...) is detected on the main battery by coupling the batteries together,
- to avoid self-discharge by disconnecting them as soon as the charge is stopped

For applications on vehicles, thanks to its Save Batt. UNISPLIT couples the batteries only after the starting phase.

UNISPLIT thus avoids all the important current calls of the starter (>500A during several seconds) that are harmful to the separator-couplers and service batteries (technology not adapted for this use).



|   | Standards                              |   |
|---|--|---|
|   | Euro 1 - 5<br>(Vehicle < 15 sept 2015) | Euro 6 +<br>(Vehicle < 15 sept 2015)  |
| <b>Operation Alternator</b>                   | Always ON if engine on                 | Intermittently if the engine is on:<br>-After starting up until partial charge (14.2 V - 14.6 V very punctually)<br>-If battery 1 is about 50% discharged<br>-During braking or deceleration phases |
| <b>Alternator charging voltage alternator</b> | 14,2 - 14,6 V                          | Depending on the case 14,2 - 14,6 V very punctual and not in the duration, otherwise 12,4 - 12,8 V  |
| <b>Uniteck combiner compatibility</b>         | UNISPLIT 160.12                        | <b>UNISPLIT 160.12 EURO 6</b>   |



- Controlled by microprocessor for a smart coupling
- High power monobloc relay Resin electronic board
- Broad range of operating temperature (-40/+85°C)
- Operates with an alternator and/or charger

Quality guaranteed by Uniteck, Packaged in France

EN 61000-6-3 : 2007  
 EN 6100-6-1 : 2007  
 95/54/EC : 1995  
 ISO 8092 : 2005



NEW



| UNILEDBAR 18.24                      | UNILEDBAR 36.24                      | UNILEDBAR 54.24                      |
|--------------------------------------|--------------------------------------|--------------------------------------|
| Ref 2051 (White)<br>Ref 2723 (Black) | Ref 2068 (White)<br>Ref 2730 (Black) | Ref 2075 (White)<br>Ref 2747 (Black) |

| System        | UNILEDBAR 18.24 | UNILEDBAR 36.24 | UNILEDBAR 54.24 |
|---------------|-----------------|-----------------|-----------------|
| Technology    | LED             | LED             | LED             |
| Input Voltage | 10-30V DC       | 10-30V DC       | 10-30V DC       |
| Power         | 18 W            | 36 W            | 54 W            |

| Battery | UNILEDBAR 18.24 | UNILEDBAR 36.24 | UNILEDBAR 54.24 |
|---------|-----------------|-----------------|-----------------|
| Voltage |                 | 12/24V          |                 |

| Light              | UNILEDBAR 18.24 | UNILEDBAR 36.24  | UNILEDBAR 54.24  |
|--------------------|-----------------|------------------|------------------|
| Leds               | CREE leds - USA |                  |                  |
| Number of leds     | 6 x 3W          | 12 X 3W          | 18 X 3W          |
| Lumens             | 1260 lm         | 2520 lm          | 3780 lm          |
| Beam               | Large - 60°     |                  |                  |
| Scope (Lux - Diam) |                 |                  |                  |
| 5 m                | 79 lx<br>176 cm | 164 lx<br>184 cm | 230 lx<br>183 cm |
| 10 m               | 20 lx<br>351 cm | 41 lx<br>368 cm  | 58 lx<br>367 cm  |
| 15 m               | 9 lx<br>527 cm  | 18 lx<br>551 cm  | 26 lx<br>545 cm  |
| 25 m               | 3 lx<br>878 cm  | 7 lx<br>919 cm   | 9 lx<br>916 cm   |
| Color              | Cold White      |                  |                  |
| Light              | 6000 K          |                  |                  |
| Lifespan           | > 50 000 h      |                  |                  |

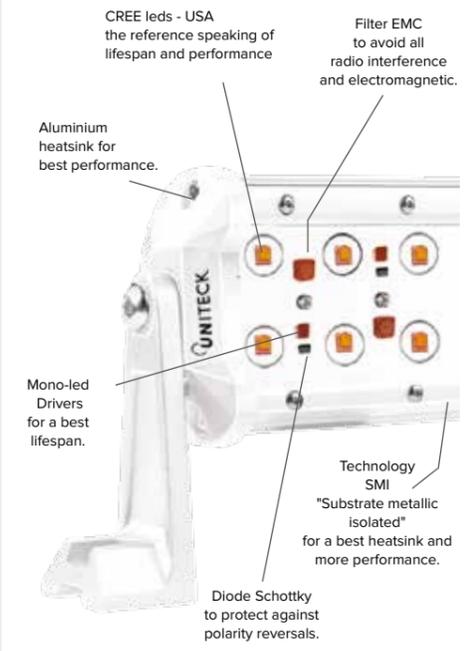
| Protections  | UNILEDBAR 18.24 | UNILEDBAR 36.24 | UNILEDBAR 54.24 |
|--|-----------------|-----------------|-----------------|
| Radio and electromagnetic interferences protection |                 | Yes             |                 |
| Over and under-voltage protection                  |                 | Yes             |                 |
| Polarity reversal protection                       |                 | Yes             |                 |

| Mechanical characteristics      | UNILEDBAR 18.24        | UNILEDBAR 36.24 | UNILEDBAR 54.24 |
|---------------------------------|------------------------|-----------------|-----------------|
| Materials                       |                        | Polycarbonate   |                 |
| Structure-Heatsink              |                        | Aluminium 6063  |                 |
| Mounting bracket                |                        | Inox 316L       |                 |
| Wiring                          |                        |                 |                 |
| Length                          | 1.5 m                  |                 |                 |
| Type                            | H05-RNF                |                 |                 |
| Section                         | 2X0,75 mm <sup>2</sup> |                 |                 |
| International Protection Rating | IP67                   |                 |                 |
| Dimensions in mm (wxhxd)        | 99x73x107              | 167x73x107      | 235x73x107      |
| Weight                          | 0,8 kg                 | 1,1 kg          | 1,4 kg          |

| Warranty | UNILEDBAR 18.24 | UNILEDBAR 36.24 | UNILEDBAR 54.24 |
|----------|-----------------|-----------------|-----------------|
| Period   | 2 years         | 2 years         | 2 years         |



### ELECTRONIC AND HIGH-TECH CONSTRUCTION



### QUALITY AND LONGEVITY

| Spotlight Led                |                |
|------------------------------|----------------|
| Low Cost                     | UNILEDBAR      |
| Quality of intern electronic | +++            |
| Materials quality            | +++            |
| Lifespan of led              | +++            |
| < 30 000 hours               | > 50 000 hours |
| +                            | +++            |
| Short                        | 1,5 m          |

Quality guaranteed by Uniteck  
Made in P.R.C.

EN 55015 : 2013  
EN 61547 : 2009  
EN 61000-3-2 : 2006 + A1 : 2009 + A2 : 2009  
EN 61000-3-3 : 2013

### UNILEDBAR led spotlight

# ROBUSTNESS & POWER

UNILEDBAR is the last generation high performance 12/24V spotlight led range.

Made with the best led-technology of the market in reference to their lighting quality and their lifespan (CREE Led - USA).

UNILEDBAR generates a consistent luminous beam similar to the natural brightness. The visual field is completely enlightened, which offers perfect visibility while avoiding ocular fatigue.

Waterproof (IP67) and corrosion-resistant (aluminium structure, inox mounting brackets, ...), UNILEDBAR is made for all outdoor uses even the most challenging (boating, campervan, truck, ...).

The UNILEDBAR range is certified by E-mark R10, which is a more restrictive norm than the standard EMC (Electromagnetic Compatibility), normally required by the automobile industry for the original equipment market and aftermarket.

Its commissioning is made easier thanks to its 1,5m cable.



CREE leds Technology for more lighting power and a longer lifespan.

Advanced electronic (leds drivers, EMC filter ...)

Waterproof (IP67) and corrosion resistant.

Protected against overvoltage, short circuits, polarity reversals.

E-mark certified CEM automobile conformity

Quality guaranteed by Uniteck  
Made in P.R.C.

EN 55015 : 2013  
EN 61547 : 2009  
EN 61000-3-2 : 2006 + A1 : 2009 + A2 : 2009  
EN 61000-3-3 : 2013





#### System

|                    |           |           |           |           |           |           |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Technology         | LED       | LED       | LED       | LED       | LED       | LED       |
| Operating voltage  | 10-30V DC |
| Maximum power      | 18W       | 18W       | 12W       | 12W       | 26W       | 26W       |
| Actual consumption | 9W        | 9W        | 10W       | 10W       | 15W       | 15W       |

#### Battery

|                          |           |           |           |           |           |           |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Accepted battery voltage | 12 or 24V |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|

#### Lighting

|                       |                          |                          |                             |                             |                             |                             |
|-----------------------|--------------------------|--------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Number of leds        | 91 x 0,2W                | 91 x 0,2W                | 58 x 0,2W                   | 58 x 0,2W                   | 134x0,2W                    | 134x0,2W                    |
| Lumens                | 650lm                    | 650lm                    | 400lm                       | 400lm                       | 600lm                       | 600lm                       |
| Adjustable brightness | no                       | yes                      | no                          | yes                         | no                          | yes                         |
| Beam                  |                          |                          |                             |                             |                             |                             |
| Bright color          | Cold white<br>5800-6250K | Cold white<br>5800-6250K | Neutral white<br>3800-4250K | Neutral white<br>3800-4250K | Neutral white<br>3800-4250K | Neutral white<br>3800-4250K |
| Lifetime              | >50 000 hours            | >50 000 hours            | >50 000 hours               | >50 000 hours               | >50 000 hours               | >50 000 hours               |

#### Mechanical characteristics

|                              |                         |                         |                         |                         |                         |                         |
|------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Materials                    |                         |                         |                         |                         |                         |                         |
| Lenses                       | Polycarbonate           | Polycarbonate           | Polycarbonate           | Polycarbonate           | Polycarbonate           | Polycarbonate           |
| Body - Dissipators           | ABS                     | ABS                     | ABS + Aluminium         | ABS + Aluminium         | ABS + Aluminium         | ABS + Aluminium         |
| Integrated switch            | no, remote connection   | yes, tactile            | no, remote connection   | yes, tactile            | no, remote connection   | yes, tactile            |
| Cable                        |                         |                         |                         |                         |                         |                         |
| Length                       | 22cm                    | 22cm                    | 22cm                    | 22cm                    | 22cm                    | 22cm                    |
| Type                         | simple strand           |
| Section                      | 2 x 0,33mm <sup>2</sup> |
| Operating temperature        | -20°C/+80 °C            |
| Protection class             | IP67                    | IP67                    | IP67                    | IP67                    | IP67                    | IP67                    |
| Dimensions (L x W x H) in mm | Ø 130x12                | Ø 130x12                | 300x54x12               | 300x54x12               | 600x54x12               | 600x54x12               |
| Weight                       | 140 g                   | 140 g                   | 275 g                   | 275 g                   | 550 g                   | 550 g                   |

#### Warranty

|        |         |         |         |         |         |         |
|--------|---------|---------|---------|---------|---------|---------|
| Period | 2 years |
|--------|---------|---------|---------|---------|---------|---------|

### Led ceiling lights UNILEDLIGHT

## MODERN & ULTRA-COMPACT

UNILEDLIGHT is the latest generation of high performance 12/24V LED lighting.

Its advanced electronic design uses the best LED technology on the market the best led technology on the market in terms of lighting quality and longevity (SMD technology).

UNILEDLIGHT generates a homogeneous light beam homogeneous light beam very close to natural luminosity, which can be adjusted, either via a remote switch or with its integrated touch switch (depending on the model). Its small size allows a perfect visibility even in the most restricted areas.

Thanks to its waterproof (IP67) and corrosion-resistant electronics, UNILEDLIGHT is perfectly adapted for all the most demanding interior applications (boating, leisure and industrial vehicles...).

The UNILEDLIGHT range is certified E-mark R10, a more restrictive standard than the standard EMC (Electromagnetic Compatibility). This standard is particularly demanded by the automotive industry, both by vehicle manufacturers and aftermarket installers / suppliers.



SMD technology, for a high quality of light and a very good longevity

Easy to install

Waterproof (IP67) and corrosion resistant.

Adjustable brightness switch (depending on model)

Operating temperature range : -20°C / +80°C

E-mark certified CEM automobile conformity

Quality guaranteed by Uniteck, Made in P.R.C.

**UNILEDBULBS led bulbs**

# POWER & LONGEVITY

UNILEDBULB is the last generation high performance 12V/24V bulb.

UNILEDBULB is perfectly made for all uses (campervan, boating...)

With its LED technology, UNILEDBULB only consumes 3 or 6W for an equivalent restored power to 30 or 60W (depending on UNILEDBULB 3.24 or 6.24 model).



LED Technology

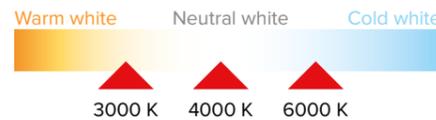
Angle 200°

E27 base

**IP33** For an indoor use

Quality guaranteed by Uniteck, Made in P.R.C.

**COLOR TEMPERATURE**



|  | UNILEDBULB<br>3.24 W<br>Ref 2549 | UNILEDBULB<br>3.24 N<br>Ref 5090 | UNILEDBULB<br>7.24 W<br>Ref 2556 | UNILEDBULB<br>7.24 N<br>Ref 5106 |
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|

|                        | 3 W        |               | 7 W        |               |
|------------------------|------------|---------------|------------|---------------|
| <b>System</b>          |            |               |            |               |
| Technology             | LED        | LED           | LED        | LED           |
| Operating voltage      | 12-24V     | 12-24V        | 12-24V     | 12-24V        |
| Base                   | E27        | E27           | E27        | E27           |
| Power                  | 3 W        |               | 7 W        |               |
| <b>Light</b>           |            |               |            |               |
| Lumens                 | 270 lm     |               | 630 lm     |               |
| Color                  | Warm white | Neutral white | Warm white | Neutral white |
| Angle                  | 200°       | 200°          | 200°       | 200°          |
| Light                  | 3000 K     | 4000 K        | 3000 K     | 4000 K        |
| Lifetime               | >30 000 h  | >30 000 h     | >30 000 h  | >30 000 h     |
| <b>Dimensions (mm)</b> |            |               |            |               |
| Height                 | 79 mm      |               | 112 mm     |               |
| Diameter               | 44,5 mm    |               | 60 mm      |               |
| <b>Period</b>          | 2 years    |               |            |               |

**UNIDETECT motion detector**

# WATERPROOF & ADJUSTABLE

Ideal for use in combination with lights, alarms or video surveillance. The Passive infrared (PIR) technology automatically switches your 12V electrical device (eg alarm, spot ...) on, day and night, as soon as it detects a moving heat source within its range.

Protected against rain (IP44), UNIDETECT is suitable for indoor and outdoor use. It can be wall mounted or ceiling mounted. Its high-end sensor guarantees a wide area and detection range.

Adjustable for more precision:

- it operates either 24H / 24 or according to a predetermined brightness level,
- the switching on time is also adjustable.



Wide detection angle

Long range

Adjustable detection period (day and/or night)

Adjustable switching on time

Protected against rain

Broad range of operating temperature

Quality guaranteed by Uniteck Made in Taiwan

|  | UNIDETECT<br>5.24<br>Ref 1719 | UNIDETECT<br>10.12<br>Ref 0668 |
|--|-------------------------------|--------------------------------|
|--|-------------------------------|--------------------------------|

|   | 5.24                      | 10.12                    |
|---|---------------------------|--------------------------|
| <b>System</b>                               |                           |                          |
| Battery voltage                             | 12/24 V                   | 12 V                     |
| Max. current                                | 5 A                       | 10 A                     |
| Self-consumption                            | 0,2 mA                    | 2 mA                     |
| Protection class                            | IP44                      |                          |
| Operating temperature                       | -20°C to + 50°C           | -20°C to + 45°C          |
| <b>Detector</b>                             |                           |                          |
| Detection zone                              | 180°                      | 120°                     |
| Detection range                             | 1 to 10 m                 |                          |
| Communication time setting                  | 6 s to 12 min             |                          |
| Recommended mounting height                 | 2 m                       |                          |
| Adjustment of the sensitivity to brightness | 10 to 1000 Lux (continue) | 5 to 1000 Lux (continue) |
| <b>Mechanical characteristics</b>           |                           |                          |
| Dimensions (h x w x d)                      | 60x133x103 mm             | 82x60x117 mm             |
| Weight                                      | 150 g                     | 150 g                    |
| <b>Warranty</b>                             |                           |                          |
| Period                                      | 2 years                   | 2 years                  |



**NEW**

**UNITIMER programmer**

# PRECISION & MULTI-PURPOSE

UNITIMER is the ideal electronic programmer for your network, or photovoltaic installations or 12 or 24 V network. UNITIMER turns your 12V electrical devices automatically and accurately on and off. Its applications are many: lighting, watering, fountains, preheating, light display, alarm, video surveillance...

This way UNITIMER saves your energy for more amplitude of operation.

UNITIMER has many advantages:

- more than 17 different ignition and extinction programs available (weekend, everyday choice, multi-day ...),
- LCD display with transparent protective cover,
- NO or NC connection (NO = normally opened, NC = normally closed) for more security depending on your uses,
- built-in lithium battery to preserve your programs in case of power failure.



## + UNITECK

- Up to 17 programs
- Low self-consumption
- Back up on Lithium battery
- Broad range of operating temperature (-10/+40°C)

Quality guaranteed by Uniteck  
Made in P.R.C.



|                                   | UNITIMER 16.12           | UNITIMER 16.24 |
|-----------------------------------|--------------------------|----------------|
|                                   | Ref 1221                 | Ref 1382       |
| <b>System</b>                     |                          |                |
| Input voltage                     | 12 V                     | 24 V           |
| Accepted voltage range            | 10-15 V                  | 20-30 V        |
| Max. current                      | 16 A                     |                |
| Self-consumption:                 |                          |                |
| -Relay ON position                | >0,6 W (50mA)            | >0,6 W (25mA)  |
| -Relay OFF position               | >0,08 W (8mA)            | >0,08 W (4mA)  |
| Protection class                  | IP44                     |                |
| Operating temperature             | -10°C à + 40°C           |                |
| <b>Programmer</b>                 |                          |                |
| Number of programs                | 17 ignitions/extinctions |                |
| Inter-program interval            | 1 min                    |                |
| Backup battery                    | Battery CR2032 (3 years) |                |
| <b>Mechanical characteristics</b> |                          |                |
| Dimensions (W x H x D)            | 86,5x36x65,5 mm          |                |
| Weight                            | 110 g                    |                |
| <b>Warranty</b>                   |                          |                |
| Period                            | 2 years                  | 2 years        |

## THE SOLAR KITS



**VEHICLE KIT**

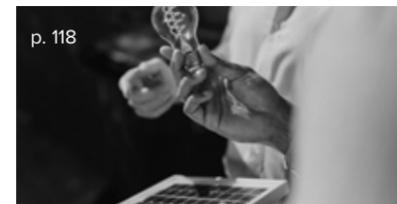


**SHED KIT**



**BOATING KIT**

## UNITECK SIMPLIFIES YOUR CHOICE

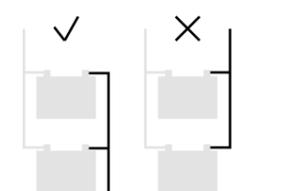


**UNIMAGIC - CALCULATION OF YOUR INSTALLATION**

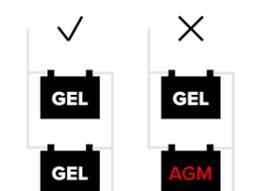


**RECYCLING**

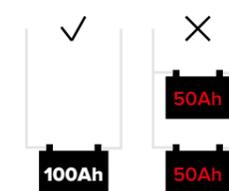
**Battery connection**



Prefer a diagonal wiring for a uniform charge and discharge.



Do not pair batteries with different capacities, different ages or different technologies.



At equal capacity, prefer a big battery instead of two small ones connected in parallel.

**Panel orientation and inclination (annual usage)**

|    | 0°   | 30°   | 60°  | 90°  |
|----|------|-------|------|------|
| E  | 93 % | 90 %  | 78 % | 55 % |
| SE | 93 % | 96 %  | 88 % | 66 % |
| S  | 93 % | 100 % | 91 % | 68 % |
| SW | 93 % | 96 %  | 88 % | 66 % |
| W  | 93 % | 90 %  | 78 % | 55 % |

# VEHICLES



## ENSURE YOUR ELECTRICAL AUTONOMY

The Uniteck vehicle kits guarantee the best electrical autonomy on the market while preserving the lifespan of your battery.

The latest-generation MPPT controllers, test your battery, recharge it to 100%, desulfate it, delaminate it, maintain its charge and improve its service life.

The optimized MPPT program, coupled with the fastest microprocessor on the market, checks in real time (every 100 ms), the maximum power point of the panel.

This guarantees up to 40% more energy in the winter and 15% more energy in the summer compared to a PWM controller, even in changing weather conditions.

Thanks to its Back Contact technology, the UNITECK BC solar panels have the best performance on the market.

Equipped with 4 or 6mm<sup>2</sup> cables with quick solar connectors fitted as standard, Uniteck kits are easily upgradable for more power.

| Your electrical devices                        | Voltage (V)                | Average current (A) | Efficiency | Power (Watt) | Time of use (h/day) | Consumption/d (Wh/day) | Battery capacity (Ah/day) |
|--|----------------------------|---------------------|------------|--------------|---------------------|------------------------|---------------------------|
| <b>Lighting</b>                                | Square                     | 12                  | 1          | 12           | 3                   | 35                     | 6                         |
|  | Bunk                       | 12                  | 1          | 12           | 3                   | 35                     | 6                         |
|  | Bathroom                   | 12                  | 1          | 12           | 1                   | 12                     | 2                         |
|  | Kitchen                    | 12                  | 1          | 12           | 1                   | 12                     | 2                         |
|  | Chart table                | 12                  | 1          | 12           | 2                   | 25                     | 4                         |
| <b>Comfort</b>                                 | Fan                        | 12                  | 5          | 60           | 1                   | 60                     | 10                        |
|  | Air conditioning           | 230                 | 3          | 830          | 3                   | 2500                   | 417                       |
|  | Water pump (WC/freshwater) | 12                  | 6          | 70           | 0,25                | 20                     | 3                         |
|  | Kettle                     | 230                 | 6,5        | 1900         | 0,1                 | 190                    | 30                        |
|  | Hairdryer                  | 230                 | 2,8        | 800          | 0,1                 | 80                     | 13                        |
| Refrigerator (40W/60W with gas-electric timer) | 12                         | 3,4                 | 1          | 40           | 8                   | 320                    | 55                        |
| <b>Electronics</b>                             | LCD Tv (55cm)/turned on    | 12                  | 2,5        | 30           | 6                   | 180                    | 30                        |
|  | LCD Tv (55cm)/ on standby  | 12                  | 1          | 12           | 18                  | 215                    | 36                        |
|  | Mobile phone               | 230                 | 0,1        | 30           | 1                   | 30                     | 5                         |
|  | Radio/CD player            | 12                  | 1          | 12           | 3                   | 35                     | 6                         |
|  | Microcomputer turned on    | 230                 | 0,3        | 90           | 3                   | 270                    | 45                        |
| Microcomputer on standby                       | 230                        | 0,02                | 0,8        | 5            | 21                  | 105                    | 17                        |

Calculation explanation  $V \times A \div \% = W \times (h/d) = (Wh/d) \div 12 V \div 50\% = (Ah)$   
 \*Recommended self-discharge battery ratio

**i** Cost of an electrical connection in a resting area or camping plot : 4€/day, or 120€ for 30 days per year.



## SOLAR KITS FOR VEHICLES

### PANEL

Two technologies to be adapted to the space constraints and the desired design.



MONOCRYSTALLINE



BACK CONTACT

### MOUNTING BRACKET

Several types of panel mounting brackets depending on the available space.



RECLINABLE



FIXED



GLUE AND DEGREASER

### CONTROLLER

MPPT technology to optimize panel production and battery charging.

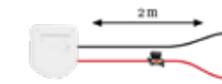


MPPT WITH LCD DISPLAY

### WIRING



PANEL > CONTROLLER



CONTROLLER > BATTERY



CABLE PASSAGE



- Design and performance, high efficiency cells with black back sheet
- Excellent impact and weight resistance (tempered glass 3.2 + aluminium frame)
- TÜV certified waterproof junction box with hot-spot protection
- Exceptional output even under weak light

- Aerodynamic and soundless support for less wind and noise disturbance
- Robust and easy to install stand
- Panel ventilation for more production, up to 30% more than a panel glued to the roof

- Advanced MPPT technology (Additional energy: 40% in winter and 15 in summer)
- Tests, charges to 100%, desulfates, destratifies, maintains charge and improve the life span.
- Perfect charge for all types of lead batteries (AGM, GEL, liquid)

- Quick and easy to install, connectors already crimped, ready to use
- No power loss (tinned copper cable + adapted section)
- Cable and accessories resistant to UV and extreme conditions (-40 °C to 120 °C)



**SET UP YOUR VEHICLE KIT**

|                              |   | 100 W   | 150 W    | 2 x 100 W | 200 W     | 2 x 150 W | 300 W     | 450 W     | 600 W     |
|------------------------------|---|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                              | <b>Solar panel</b>                                    |         |          |           |           |           |           |           |           |
|                              | UNISUN 100.12M ref. 0446                              | x1      |          | x2        |           |           |           |           |           |
|                              | or  |         |          | or        |           |           |           |           |           |
|                              | UNISUN 120.12BC ref. 1245                             | x1      |          | x2        |           |           |           |           |           |
|                              | UNISUN 150.12M ref. 0453                              |         | x1       |           |           | x2        |           | x3        |           |
|                              | or  |         | or       |           |           | or        |           | or        |           |
|                              | UNISUN 165.12BC ref. 1528                             |         | x1       |           |           | x2        |           | x3        |           |
| UNISUN 200.12BC ref. 3324    |   |         |          | x1        |           |           |           |           |           |
| UNISUN 200.24M ref. 1337     |   |         |          |           | x1        |           |           |           |           |
| UNISUN 300.12M ref. 2013     |   |         |          |           |           | x1        |           | x2        |           |
|                              | <b>Mounting bracket</b>                               |         |          |           |           |           |           |           |           |
|                              | UNIFIX C100 ref. 1962                                 | x1      |          | x2        |           |           |           |           |           |
|                              | UNIFIX C150 ref. 1979                                 |         | x1       |           |           | x2        |           | x3        |           |
|                              | UNIFIX C200 ref. 1986                                 |         |          |           | x1        |           |           |           |           |
|                              | UNIFIX C300 ref. 2129                                 |         |          |           |           |           | x1        |           | x2        |
| UNIFIX 1.C 40 ref. 1849      |   |         |          | x1        |           |           |           |           |           |
|                              | <b>Wiring</b>   |         |          |           |           |           |           |           |           |
|                              | UNICONNECT 1.4E ref. 1955                             | x1      | x1       | x1        | x1        | x1        | x1        |           |           |
|                              | Parallel connectors kit ref. 0231                     |         |          | x1        |           | x1        |           |           | x1        |
|                              | ref. 0163   |         |          |           |           |           |           | x1        |           |
|                              | Battery connection kit 16.2M ref. 1535                |         |          |           |           |           |           | x1        | x1        |
|                              | UNICABLE 651BR ref. 1023                              |         |          |           |           |           |           | x1        | x1        |
| Roof-pass ref. 0248          |   |         |          |           |           |           | x1        | x1        |           |
|                              | <b>Charge controller</b>                              |         |          |           |           |           |           |           |           |
|                              | UNIMPPT 60/10.24L ref. 3287                           | x1      | x1       |           |           |           |           |           |           |
|                              | or  |         | or       |           |           |           |           |           |           |
|                              | UNIMPPT 60/20.24L ref. 3294                           |         | x1       | x1        | x1        | x1        | x1        |           |           |
| UNIMPPT 100/30.24L ref. 3300 |   |         |          |           |           | x1        | x1        |           |           |
| UNIMPPT 100/40.24L ref. 3317 |   |         |          |           |           |           | x1        | x1        |           |
|                              | <b>Produced power Wh/d (north-south of France)</b>    |         |          |           |           |           |           |           |           |
|                              | January/February                                      | 80-120  | 120-180  | 160-240   | 160-240   | 240-360   | 240-360   | 360-540   | 480-720   |
|                              | March/October   | 300-400 | 450-600  | 600-800   | 600-800   | 900-1200  | 900-1200  | 1350-1800 | 1800-2400 |
|                              | July/August   | 500-700 | 750-1050 | 1000-1400 | 1000-1400 | 1500-2100 | 1500-2100 | 2250-3150 | 3000-4200 |
|                              | <b>Injected capacity Ah/d (north-south of France)</b> |         |          |           |           |           |           |           |           |
|                              | January/February                                      | 6-10    | 10-15    | 13-20     | 13-20     | 20-30     | 20-30     | 30-45     | 40-60     |
|                              | March/October   | 25-33   | 38-50    | 50-65     | 50-65     | 76-100    | 76-100    | 110-150   | 150-200   |
|                              | July/August   | 40-58   | 62-87    | 80-155    | 80-155    | 124-174   | 124-174   | 180-260   | 250-350   |

# SHED



## ENSURE YOUR AUTONOMY FOR LEISURE

The Uniteck shed kits guarantee the best electrical autonomy on the market while preserving the lifespan of your battery.

The latest-generation MPPT controllers test your battery, recharge it 100%, desulfate it, delaminate it, maintain its charge and improve its service life. The optimized MPPT program coupled with the fastest microprocessor on the market checks in real time (every 100 ms), the maximum power point of the panel. This way it guarantees up to 40% more energy in the winter and 15% more energy in the summer compared to a PWM controller, even in changing weather conditions.

The UNITECK solar panels guarantee exceptional efficiency, even in very low sun or extreme heat. Equipped with 6mm<sup>2</sup> cables with quick solar connectors fitted as standard, Uniteck kits are easily upgradable for more power.

The mounting brackets with a multi-position tilt system optimize the electrical performance of your installation.



## SOLAR KITS FOR SHEDS

### PANELS

Two technologies to be adapted to the space constraints and the desired design.



MONOCRYSTALLINE



BACK CONTACT

### MOUNTING BRACKET

Several types of solar panel mounting depending on the space available.



FLOOR AND WALL MOUNTING



FLOOR, WALL AND/OR POLE MOUNTING



FLOOR FIXING BY BALLAST

### CONTROLLER

MPPT technology to optimize panel production and battery charging.

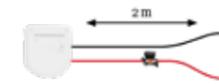


MPPT WITH LCD DISPLAY

### CONNECTICS



PANEL > CONTROLLER



CONTROLLER > BATTERY



CABLE PASSAGE

| Your electrical devices                 | Voltage (V) | Average current (A) | Efficiency | Power (Watt) | Time of use (h/day) | Daily consumption (Wh/day) | Battery capacity (Ah/day) |
|---|-------------|---------------------|------------|--------------|---------------------|----------------------------|---------------------------|
| <b>Lighting</b>                         |             |                     |            |              |                     |                            |                           |
| Led (6W)                                | 230         | 0,02                | 0,8        | 6            | 4                   | 25                         | 4                         |
| lamp post with energy saving bulb (25W) | 230         | 0,1                 | 0,8        | 30           | 4                   | 120                        | 19                        |
| Incandescent lamp (70W)                 | 230         | 0,3                 | 0,8        | 85           | 4                   | 340                        | 58                        |
| Halogen lamp (300W)                     | 230         | 1,3                 | 0,8        | 375          | 4                   | 1500                       | 249                       |
| <b>Comfort</b>                          |             |                     |            |              |                     |                            |                           |
| Refrigerator (100 l - 120 kW/year)      | 230         | 0,05                | 0,8        | 14           | 24                  | 335                        | 55                        |
| Fan                                     | 230         | 70                  | 0,8        | 40           | 4                   | 160                        | 27                        |
| <b>Electronics</b>                      |             |                     |            |              |                     |                            |                           |
| Mobile phone                            | 230         | 0,1                 | 0,8        | 30           | 1                   | 30                         | 5                         |
| Camera                                  | 230         | 0,1                 | 0,8        | 30           | 1                   | 30                         | 5                         |
| Radio/CD player                         | 12          | 1                   | 1          | 12           | 4                   | 48                         | 8                         |
| Microcomputer on standby                | 230         | 0,02                | 0,8        | 5            | 23                  | 115                        | 20                        |
| Active microcomputer                    | 230         | 0,3                 | 0,8        | 90           | 1                   | 90                         | 15                        |
| Lcd TV (55cm) turned on                 | 230         | 0,2                 | 1          | 45           | 2                   | 90                         | 15                        |
| Lcd TV (55 cm) on standby 1A            | 230         | 0,003               | 1          | 1            | 22                  | 22                         | 4                         |
| <b>handiwork</b>                        |             |                     |            |              |                     |                            |                           |
| Hedge trimmer                           | 230         | 2,1                 | 0,8        | 600          | 1                   | 600                        | 100                       |
| Drilling machine                        | 230         | 2,1                 | 0,8        | 600          | 1                   | 600                        | 100                       |

Calculation explanation  $V \times A \div \% = W$   $\times (h/d) = Wh/d \div 12 V \div 50\% = Ah$

\*Recommended self-discharge battery ratio

**i** Cost of a traditional electrical connection (ex. : garden shed located at 30m of the house) : circuit breaker 40€, cable 2,5€/m or 75€ total length, trench 15€/m or 450€ total length. Total : 565€



- Design and performance, high efficiency cells with black back sheet
- Excellent impact and weight resistance (tempered glass 3.2 + aluminium frame)
- TÜV certified waterproof junction box with hot-spot protection
- Exceptional output even under weak light

- Tiltable stand to optimize electrical performance
- Corrosion resistant Galvanized steel and screws
- Easy to install and flexible mounting (floor, wall and post)

- Advanced MPPT technology (Additional energy: 40% in winter and 15 in summer)
- Tests, charges to 100%, desulfates, destratifies, maintains charge and improve the life span
- Perfect charge for all types of lead batteries (AGM, GEL, liquid)

- Quick and easy to install, connectors already crimped, ready to use
- No power loss (tinned copper cable + adapted section)
- Cable and accessories resistant to UV and extreme conditions (-40 °C to 120 °C)



**SET UP YOUR SHED KIT**

|   |                              | 20 W      | 50 W    | 100 W   | 150 W    | 300 W     | 450 W     | 600 W     | 1200 W    |
|---|------------------------------|-----------|---------|---------|----------|-----------|-----------|-----------|-----------|
|  <p><b>Solar panel</b></p>                                   | UNISUN 20.12M                | ref. 0071 | x1      |         |          |           |           |           |           |
|   | UNISUN 50.12M                | ref. 0088 |         | x1      |          |           |           |           |           |
|   | UNISUN 100.12M               | ref. 0446 |         |         | x1       |           |           |           |           |
|   | UNISUN 150.12M               | ref. 0453 |         |         |          | x1        |           |           |           |
|   | UNISUN 200.12M               | ref. 1337 |         |         |          |           | x3        |           |           |
|   | UNISUN 300.12M               | ref. 2013 |         |         |          |           | x1        | x2        | x4        |
|  <p><b>Mounting bracket</b></p>                             | UNIFIX 20                    | ref. 0262 | x1      |         |          |           |           |           |           |
|   | UNIFIX 50                    | ref. 0279 |         | x1      |          |           |           |           |           |
|   | UNIFIX 100B                  | ref. 0644 |         |         | x1       |           |           |           |           |
|   | UNIFIX 150B                  | ref. 0545 |         |         |          | x1        |           |           |           |
|   | UNIFIX 300B                  | ref. 1092 |         |         |          |           | x3        |           |           |
|   | UNIFIX 800 EGF               | ref. 2105 |         |         |          |           |           | x2        | x2        |
|  <p>Concrete slab support</p> <p>Ballast box</p>            | ref. 2679                    |           |         |         |          |           |           | or        | x2        |
|   | ref. 2112                    |           |         |         |          |           |           | x2        | x2        |
|  <p><b>Wiring</b></p>                                      | UNICONNECT 1.4E              | ref. 1955 | x1      |         |          |           |           |           |           |
|   | UNICONNECT 1.6               | ref. 0200 |         | x1      | x1       | x1        |           |           |           |
|   | Parallel connector kit       | ref. 0231 |         |         |          |           |           |           |           |
|   |                              | ref. 0163 |         |         |          |           |           | x1        | x1        |
|   | Battery connection kit 16.2M | ref. 1535 |         |         |          |           |           | x1        | x1        |
|   | UNICABLE 651BR               | ref. 1023 |         |         |          |           |           | x1        | x1        |
|   | Roof-pass                    | ref. 0248 |         |         |          |           |           | x1        | x1        |
|   | UNICABLE 612BR               | ref. 0873 |         |         |          |           |           | x3        | x2        |
|   | UNICABLE 632BR               | ref. 2143 |         |         |          |           |           |           |           |
|   | UNICABLE 681BR               | ref. 0880 |         |         |          |           |           | x1        | x1        |
| UNICABLE SP 2,5,0,5   | ref. 1740                    | x1        |         |         |          |           |           |           |           |
|  <p><b>Charge controller</b></p>                           | UNIMPPT 60/10.24L            | ref. 3287 | x1      | x1      | x1       | x1        |           |           |           |
|   | UNIMPPT 60/20.24L            | ref. 3294 |         |         |          |           |           |           |           |
|   | UNIMPPT 100/30.24L           | ref. 3300 |         |         |          |           | x1        |           |           |
|   | UNIMPPT 100/40.24L           | ref. 3317 |         |         |          |           |           | x1        | x1        |
|  <p><b>Produced power Wh/d (north-south of France)</b></p> | January/February             | 16-24     | 40-60   | 80-120  | 120-180  | 240-360   | 360-540   | 480-720   | 960-1440  |
|   | March/October                | 60-80     | 150-200 | 300-400 | 450-600  | 900-1200  | 1350-1800 | 1800-2400 | 3600-4800 |
|   | July/August                  | 100-140   | 250-350 | 500-700 | 750-1050 | 1500-2100 | 2250-3150 | 3000-4200 | 6000-8400 |
| <p><b>Injected capacity Ah/d (north-south of France)</b></p>  | January/February             | 1-2       | 3-5     | 6-10    | 10-15    | 20-30     | 30-45     | 40-60     | 80-120    |
|   | March/October                | 5-7       | 12-17   | 25-33   | 38-50    | 75-100    | 113-150   | 150-200   | 300-400   |
|   | July/August                  | 8-12      | 20-29   | 42-58   | 62-87    | 125-175   | 187-262   | 250-350   | 500-700   |

# BOATING



## ENSURE YOUR ELECTRICAL SECURITY

Uniteck boating kits guarantee the best electrical autonomy on the market while preserving the lifespan of your battery.

The latest-generation MPPT controllers test your battery, recharge it to 100%, desulfate it, delaminate it, maintain its charge and improve its service life.

The optimized MPPT program coupled with the fastest microprocessor on the market checks in real time (every 100 ms), the maximum power point of the panel.

This guarantees up to 40% more energy in the winter and 15% more energy in the summer compared to a PWM controller, even in changing weather conditions.

Thanks to their Back Contact technology, the UNITECK BC solar panels have the best performances on the market making it lighter and having less wind resistance. Equipped with 6mm<sup>2</sup> cables with quick solar connectors fitted as standard, Uniteck kits are easily upgradable for more power.

The adjustable and tiltable pushpit mounting brackets optimize electrical performance with up to 50% more energy than an identical fixed installation.



## SOLAR KITS BOATING

### PANELS

Two technologies to be adapted to the space constraints and the desired design.



MONOCRISTALLINE



BACK CONTACT

### MOUNTING BRACKET

Several types of solar panel mounting depending on the chosen location.



RECLINABLE & STEERABLE FOR PUSHFIT FIXATION



FIXED FOR DOUBLE BAR ARCH



TILTABLE FOR PUSHFIT AND ARCH MOUNTING

### CONTROLLER

MPPT technology to optimize panel production and battery charging

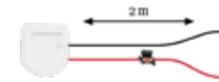


MPPT WITH LCD DISPLAY

### CONNECTICS



PANEL > CONTROLLER



CONTROLLER > BATTERY



CABLE PASSAGE

| Your electrical devices            | Voltage (V) | Average current (A) | Efficiency | Power (Watt) | Time of use (h/day) | Consumption/day (Wh/day) | Battery capacity (Ah/day) | Sailing boat <7,5m (<24 feet) | Sailing boat >8m (>26 feet) |
|------------------------------------|-------------|---------------------|------------|--------------|---------------------|--------------------------|---------------------------|-------------------------------|-----------------------------|
| <b>Lighting</b>                    |             |                     |            |              |                     |                          |                           |                               |                             |
| Square                             | 12          | 1                   | 1          | 12           | 6                   | 72                       | 12                        | •                             | –                           |
| Bunk (consumption/bunk)            | 12          | 1                   | 1          | 12           | 6                   | 72                       | 12                        | •                             | •                           |
| Bathroom + Kitchen                 | 12          | 2                   | 1          | 24           | 1                   | 24                       | 4                         | –                             | •                           |
| Deck searchlight (35W)             | 12          | 3                   | 1          | 36           | 1                   | 36                       | 6                         | –                             | •                           |
| Chart table                        | 12          | 0,4                 | 1          | 5            | 1                   | 5                        | 1                         | –                             | •                           |
| Instruments (compass...)           | 12          | 0,4                 | 1          | 5            | 6                   | 30                       | 5                         | –                             | •                           |
| <b>Security</b>                    |             |                     |            |              |                     |                          |                           |                               |                             |
| Navigation lights (25W)            | 12          | 2                   | 1          | 24           | 10                  | 240                      | 40                        | •                             | •                           |
| Anchor lights (10W)                | 12          | 0,8                 | 1          | 10           | 8                   | 80                       | 13                        | •                             | •                           |
| Stern lights (10W)                 | 12          | 0,8                 | 1          | 10           | 10                  | 100                      | 17                        | •                             | •                           |
| Bilge pump 40W                     | 12          | 3,5                 | 1          | 42           | 0,3                 | 11                       | 2                         | •                             | •                           |
| VHF on standby/emitting            | 12          | 0,1/5               | 1          | 1,2/60       | 24/0,5              | 30/30                    | 5/5                       | –                             | •                           |
| <b>Electronics</b>                 |             |                     |            |              |                     |                          |                           |                               |                             |
| Mobile phone                       | 230         | 0,1                 | 0,8        | 30           | 1                   | 30                       | 5                         | •                             | •                           |
| Pilot                              | 12          | 0,5                 | 1          | 60           | 6                   | 360                      | 1                         | –                             | •                           |
| Navigation system                  | 12          | 0,8                 | 1          | 10           | 8                   | 80                       | 13                        | –                             | •                           |
| Radio/CD player                    | 12          | 1                   | 1          | 12           | 1                   | 12                       | 2                         | •                             | •                           |
| Loch Speedo                        | 12          | 0,1                 | 1          | 1,2          | 8                   | 10                       | 2                         | –                             | •                           |
| Radar                              | 12          | 3                   | 1          | 36           | 8                   | 288                      | 48                        | –                             | •                           |
| Simple GPS                         | 12          | 0,3                 | 1          | 3,7          | 8                   | 30                       | 5                         | •                             | •                           |
| card reader                        | 12          | 2                   | 1          | 24           | 8                   | 190                      | 32                        | –                             | •                           |
| Sounder                            | 12          | 0,2                 | 1          | 2,4          | 8                   | 20                       | 3                         | –                             | •                           |
| Microcomputer on standby/turned on | 230         | 0,8                 | 0,02/0,3   | 5/90         | 23/1                | 115/90                   | 20/15                     | •                             | •                           |

Calculation explanation  $V \times A \div \% = W \times (h/d) = (Wh/d) \div 12 V \div 50\% = (Ah)$

\*Recommended self-discharge battery ratio



- Design and performance, high efficiency cells with black back sheet
- Excellent impact and weight resistance (tempered glass 3.2 + aluminium frame)
- TÜV certified waterproof junction box with hot-spot protection
- Exceptional output even under weak light

- 20 to 50% performance gain by tilting the panel
- Corrosion resistant (Marine stainless steel)
- Adaptable to all balconies from Ø 20 to 45 mm

- Advanced MPPT technology (Additional energy: 40% in winter and 15 in summer)

- Tests, charges to 100%, desulfates, destratifies, maintains charge and improve the life span.

- Perfect charge for all types of lead batteries (AGM, GEL, liquid)

- Quick and easy to install, connectors already crimped, ready to use

- No power loss (tinned copper cable + adapted section)

- Cable and accessories resistant to UV and extreme conditions (-40 °C to 120 °C)



**SET UP YOUR BOATING KIT**

Pushpit

Arch

20 W    50 W    80 W    100 W    100 W    150 W    200 W    2 x 100 W    300 W    2 x 150 W    400 W    600 W

**Solar panel**

|                 |           |    |    |  |    |  |  |  |  |  |  |  |
|-----------------|-----------|----|----|--|----|--|--|--|--|--|--|--|
| UNISUN 20.12M   | ref. 0071 | x1 |    |  |    |  |  |  |  |  |  |  |
| UNISUN 50.12M   | ref. 0088 |    | x1 |  |    |  |  |  |  |  |  |  |
| UNISUN 55.12BC  | ref. 1238 |    | or |  |    |  |  |  |  |  |  |  |
| UNISUN 80.12M   | ref. 0095 |    | x1 |  |    |  |  |  |  |  |  |  |
| UNISUN 100.12M  | ref. 0446 |    |    |  | x1 |  |  |  |  |  |  |  |
| UNISUN 120.12BC | ref. 1245 |    |    |  | or |  |  |  |  |  |  |  |
| UNISUN 150.12M  | ref. 0453 |    |    |  | x1 |  |  |  |  |  |  |  |
| UNISUN 200.24M  | ref. 1334 |    |    |  |    |  |  |  |  |  |  |  |
| UNISUN 165.12BC | ref. 1528 |    |    |  |    |  |  |  |  |  |  |  |
| UNISUN 200.12BC | ref. 3324 |    |    |  |    |  |  |  |  |  |  |  |
| UNISUN 300.12M  | ref. 2013 |    |    |  |    |  |  |  |  |  |  |  |

**Mounting bracket**

|                 |           |    |    |    |    |  |  |  |  |  |  |  |
|-----------------|-----------|----|----|----|----|--|--|--|--|--|--|--|
| UNIFIX 20.1WB   | ref. 1009 | x1 |    |    |    |  |  |  |  |  |  |  |
| UNIFIX 50.2WB   | ref. 1016 |    | x1 |    |    |  |  |  |  |  |  |  |
| UNIFIX 100.1WB  | ref. 1153 |    |    | x1 | x1 |  |  |  |  |  |  |  |
| UNIFIX 100WP    | ref. 0859 |    |    |    |    |  |  |  |  |  |  |  |
| UNIFIX 150WP    | ref. 0514 |    |    |    |    |  |  |  |  |  |  |  |
| UNIFIX 200WP    | ref. 1450 |    |    |    |    |  |  |  |  |  |  |  |
| UNIFIX 300WP    | ref. 2136 |    |    |    |    |  |  |  |  |  |  |  |
| UNIFIX 100.1WPB | ref. 2792 |    |    |    |    |  |  |  |  |  |  |  |
| UNIFIX 150.1WPB | ref. 2808 |    |    |    |    |  |  |  |  |  |  |  |
| UNIFIX 200.1WPB | ref. 2815 |    |    |    |    |  |  |  |  |  |  |  |
| UNIFIX 300.1WPB | ref. 2822 |    |    |    |    |  |  |  |  |  |  |  |

**Wiring**

|                              |           |    |    |    |    |    |    |    |    |    |    |    |
|------------------------------|-----------|----|----|----|----|----|----|----|----|----|----|----|
| UNICONNECT 1.6               | ref. 0200 | x1 |
| Parallel connectors kit      | ref. 0231 |    |    |    |    |    |    |    |    |    |    |    |
| Battery connection kit 16.2M | ref. 1535 |    |    |    |    |    |    |    |    |    |    |    |
| UNICABLE 681BR               | ref. 0880 |    |    |    |    |    |    |    |    |    |    |    |
| UNICABLE SP 2,5,0,5          | ref. 1740 | x1 |    |    |    |    |    |    |    |    |    |    |
| Roof-pass                    | ref. 0248 |    |    |    |    |    |    |    |    |    |    |    |

**Charge controller**

|                    |           |    |    |    |    |    |    |  |  |  |  |  |
|--------------------|-----------|----|----|----|----|----|----|--|--|--|--|--|
| UNIMPPT 60/10.24L  | ref. 3287 | x1 | x1 | x1 | x1 | x1 | x1 |  |  |  |  |  |
| UNIMPPT 60/20.24L  | ref. 3294 |    |    |    |    |    |    |  |  |  |  |  |
| UNIMPPT 100/30.24L | ref. 3300 |    |    |    |    |    |    |  |  |  |  |  |
| UNIMPPT 100/40.24L | ref. 3317 |    |    |    |    |    |    |  |  |  |  |  |

**Produced power Wh/d (north-south of France)**

|                  |         |         |         |         |         |          |           |           |           |           |           |           |
|------------------|---------|---------|---------|---------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| January/February | 16-24   | 40-60   | 64-96   | 80-120  | 80-120  | 120-180  | 160-240   | 160-240   | 240-360   | 240-360   | 320-480   | 480-720   |
| March/October    | 60-80   | 150-200 | 240-320 | 300-400 | 300-400 | 450-600  | 600-800   | 600-800   | 900-1200  | 900-1200  | 1200-1600 | 1800-2400 |
| July/August      | 100-140 | 250-350 | 400-560 | 500-700 | 500-700 | 750-1050 | 1000-1400 | 1000-1400 | 1500-2100 | 1500-2100 | 2000-2800 | 3000-4200 |

**Injected capacity Ah/d (north-south of France)**

|                  |      |       |       |       |       |       |        |        |         |         |         |         |
|------------------|------|-------|-------|-------|-------|-------|--------|--------|---------|---------|---------|---------|
| January/February | 1-2  | 3-5   | 5-8   | 6-10  | 6-10  | 10-15 | 13-20  | 13-20  | 20-30   | 20-30   | 26-40   | 40-60   |
| March/October    | 5-7  | 12-17 | 20-26 | 25-33 | 25-33 | 38-50 | 50-67  | 50-67  | 75-100  | 75-100  | 100-133 | 150-200 |
| July/August      | 8-12 | 20-29 | 33-46 | 42-58 | 42-58 | 62-87 | 83-116 | 83-116 | 125-175 | 125-175 | 166-233 | 250-350 |





# UNIMAGIC

## CALCULATION OF YOUR INSTALLATION

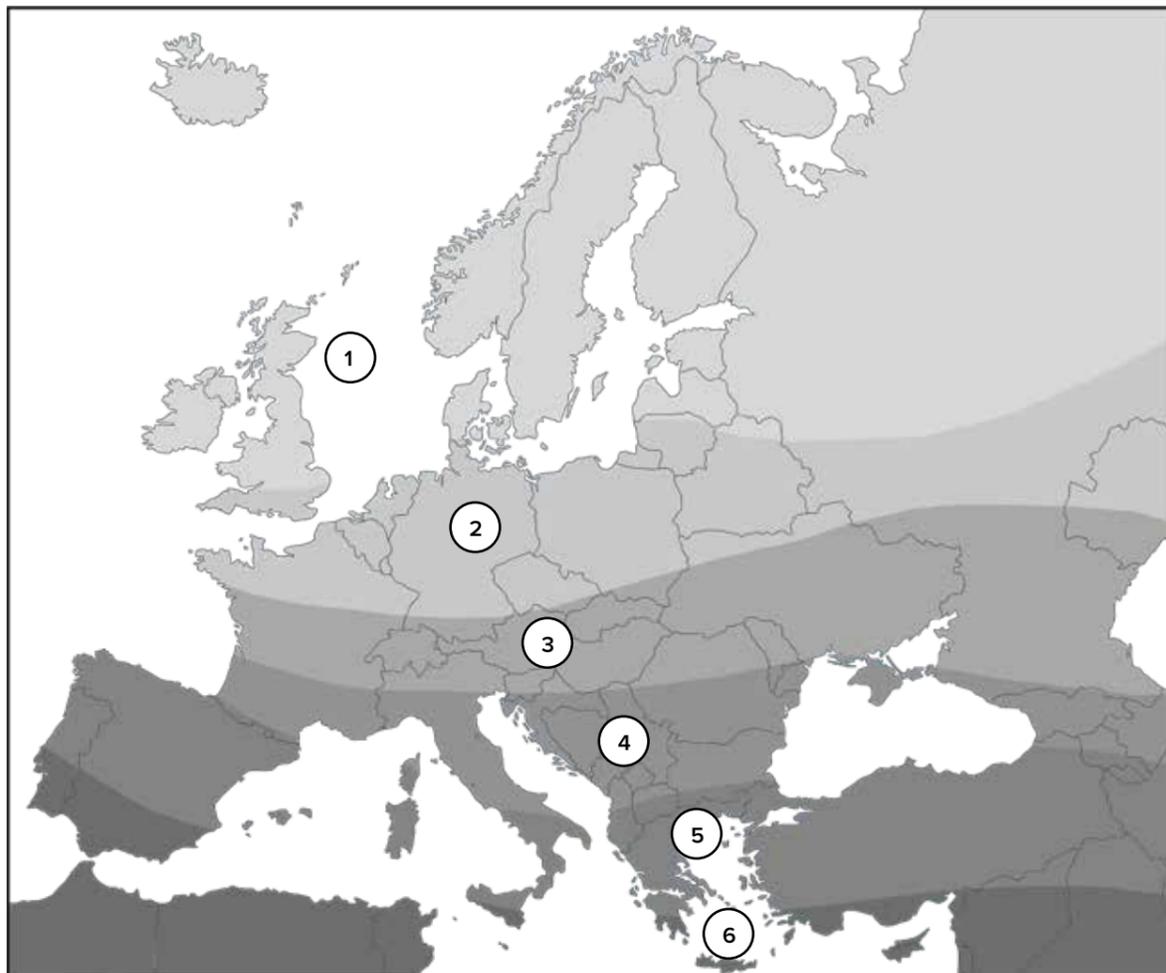
Here are four key factors to consider when measuring/calculating your solar installation.

- your consumption per day (B),
- geographical area (A),
- season of use (C),
- frequency of use (7/7 or week-end)

**i** For heating system (oven, hot water, ...etc.), we recommend you to use gas.

### A CHOOSE YOUR GEOGRAPHICAL AREA

The choice of the geographical area (A), will allow you to find your production coefficient (C) and safety coefficient (D) (p.120). Identifying your geographical area (A), this will allow you to determine the number of days of backup power in case of no sunlight



### B CALCULATE YOUR CONSUMPTION/J

Indicate your daily consumption in watts hour per day (Wh/d)

|         | LIGHTS <b>i</b> LED                           | Power (W) <input type="text"/>   | X Duration (h) <input type="text"/>        | X Quantity <input type="text"/> | SUBTOTAL <input type="text"/>   |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|---------|---|--|--|---------------------------------|---------------------------------|--------|-------------|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|---------------------------------|
|         |   | Power (W) <input type="text"/>   | X Duration (h) <input type="text"/>        | X Quantity <input type="text"/> | SUBTOTAL <input type="text"/>   |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         |   |  |  |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | TV SCREEN <b>i</b> LED ≈ 50W                  | Power (W) <input type="text"/>   | X Duration of use (h) <input type="text"/> |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | TABLET <b>i</b> ≈ 10W                         | Power (W) <input type="text"/>   | X Duration of use (h) <input type="text"/> |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | FRIDGE <b>i</b> A++                           | <table border="1"> <thead> <tr> <th></th> <th>Winter</th> <th>Aut./Spring</th> <th>Summer</th> </tr> </thead> <tbody> <tr> <td>50 L</td> <td>300 W</td> <td>400 W</td> <td>500 W</td> </tr> <tr> <td>100 L</td> <td>400 W</td> <td>560 W</td> <td>700 W</td> </tr> <tr> <td>150 L</td> <td>500 W</td> <td>750 W</td> <td>1000 W</td> </tr> </tbody> </table> |  |                                 |                                 | Winter | Aut./Spring | Summer | 50 L | 300 W | 400 W | 500 W | 100 L | 400 W | 560 W | 700 W | 150 L | 500 W | 750 W | 1000 W | TOTAL <input type="text"/> Wh/d |
|         | Winter  | Aut./Spring  | Summer                                     |                                 |                                 |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
| 50 L    | 300 W   | 400 W  | 500 W                                      |                                 |                                 |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
| 100 L   | 400 W   | 560 W  | 700 W                                      |                                 |                                 |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
| 150 L   | 500 W   | 750 W  | 1000 W                                     |                                 |                                 |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | MICROWAVE <b>i</b> max 900W                   | Power (W) <input type="text"/>   | X Duration of use (h) <input type="text"/> |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | PHONE / SMARTPHONE <b>i</b> ≈ 5W              | Power (W) <input type="text"/>   | X Duration of use (h) <input type="text"/> |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | COMPUTER <b>i</b> LAPTOP ≈ 60W DESKTOP ≈ 150W | Power (W) <input type="text"/>   | X Duration of use (h) <input type="text"/> |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
| DIVERSE |   |  |  |                                 |                                 |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | Power (W) <input type="text"/>                | X Duration of use (h) <input type="text"/>   |  |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | Power (W) <input type="text"/>                | X Duration of use (h) <input type="text"/>   |  |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | Power (W) <input type="text"/>                | X Duration of use (h) <input type="text"/>   |  |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |
|         | Power (W) <input type="text"/>                | X Duration of use (h) <input type="text"/>   |  |                                 | TOTAL <input type="text"/> Wh/d |        |             |        |      |       |       |       |       |       |       |       |       |       |       |        |                                 |

**i** Calculation reminder :

|         |         |   |
|---------|---------|---|
| Current | Amperes | A |
| Power   | Watts   | W |
| Voltage | Volts   | V |

Watts = Volts x Amperes

**i** Read an identification plate : example with a drill

|                    |                      |                  |
|--------------------|----------------------|------------------|
| Model : XP 670     |                      |                  |
| 230V =             | 50Hz                 | 2,8A 600W        |
| Voltage (in volts) | Current (in amperes) | Power (in watts) |

**TOTAL B**  Wh/d



# UNIMAGIC

## CALCULATION OF YOUR INSTALLATION

### C CHOOSE YOUR PRODUCTION COEFFICIENT

For your solar panel choice, it is important to consider in the calculation :  
The season and the geographical area of use (A).

| A → Area | Summer |   |   |     |   |   | Spring |   |   |   |     |   | Autumn |   |   |     |   |   | Winter |     |   |     |     |     |
|----------|--------|---|---|-----|---|---|--------|---|---|---|-----|---|--------|---|---|-----|---|---|--------|-----|---|-----|-----|-----|
|          | 1      | 2 | 3 | 4   | 5 | 6 | 1      | 2 | 3 | 4 | 5   | 6 | 1      | 2 | 3 | 4   | 5 | 6 | 1      | 2   | 3 | 4   | 5   | 6   |
| → Coef.  | 3,5    | 4 | 5 | 4,5 | 4 |   | 2      | 3 | 4 | 4 | 4,5 |   | 1      | 2 | 3 | 3,5 | 4 |   | 0,5    | 0,7 | 1 | 1,5 | 1,8 | 2,5 |

**i** On an annual use or several seasons, the sunshine coefficient to be taken into account in your calculations is always the lowest.  
Eg : In Béziers, in South of France, a solar panel 100W produces 5 times more, so 500 W/day.

### D CHOOSE YOUR SAFETY COEFFICIENT

For your battery choice, it is important to consider in the calculation: the season and the geographical zone of use (A), which will make it possible to know the number of days of safety storage in case of no sunlight.

| A → Area   | Summer |   |   |   |   |   | Spring |   |   |     |   |   | Autumn |     |   |   |   |   | Winter |   |   |   |   |   |
|------------|--------|---|---|---|---|---|--------|---|---|-----|---|---|--------|-----|---|---|---|---|--------|---|---|---|---|---|
|            | 1      | 2 | 3 | 4 | 5 | 6 | 1      | 2 | 3 | 4   | 5 | 6 | 1      | 2   | 3 | 4 | 5 | 6 | 1      | 2 | 3 | 4 | 5 | 6 |
| → Coef.    | 2,5    |   |   | 2 |   |   | 3,5    |   |   | 2,5 |   |   | 5      | 3,5 |   | 3 |   |   | 8      | 5 | 4 |   | 3 |   |
| Days equi. | 3      |   |   | 2 |   |   | 5      |   |   | 3   |   |   | 8      | 5   |   | 4 |   |   | 12     | 8 | 6 |   | 4 |   |

**i** On an annual use or several seasons, the battery security coefficient to be taken into account in your calculation is always the highest.

### MEMO POINT

**A** =  Geographical area

**B** =  Consumption/day

**C** =  Production coef.

**D** =  Safety coef.

### WEEK-END USE

**Panel need**

**B**  × **2** / **5** / **C**  =  **Your need in W**

Total consum. / day      2 days week-end      5 days week      Season coef.

Recommended inclination in France : 0° to 30° in Summer - 30° to 40° in Spring - 40° to 50° in Autumn - 60° in Winter

**Battery need**

**B**  / **12V** × **2** × **2** =  **Your need in Ah**

Total consum. / day      Battery voltage      2 days week-end      50% discharge

### 7/7 USE

**Panel need**

**B**  / **C**  =  **Your need in Wc**

Total Consum. / day      Season coef.

Recommended inclination in France : 0° to 30° in Summer - 30° to 40° in Spring - 40° to 60° in Autumn - 60° in Winter

**Battery need**

**B**  / **12V** × **D**  × **2** =  **Your need in Ah**

Total consum. / day      Battery voltage      Season coef.      50% discharge

# IN A CSR APPROACH



## Work & Disability, equal rights and opportunities

Since the creation of the company, UNITECK has been involved in helping, supporting and integrating people with disabilities through work.

In our desire to produce completely Made in France, even if this is impossible for the production of certain products such as solar panels, 60% of our products and also our components are manufactured and assembled in France.

For this we work in close collaboration with french settlement word and labour assistance service (ESAT) for the packaging of our products and for the maintenance of our premises. We mainly work with two ESATs: ESAT Via Europa in Vendres and ESAT Thierry Albouy in Béziers.

The ESAT welcomes adults with intellectual and/or psychological disabilities, aged between 18 and 60.

We are committed to this approach and beyond with the provision of staff from ESAT to work on site. We set up equipment and processes adapted to the safety and well-being of the workers.



## Environmental impact

As a manufacturer of green energy equipment, the environmental impact of our production and products is particularly important to us.

Recycling is a key part of UNITECK's efforts to reduce our impact on the environment.

To do this, we are members of the French collection organization for all waste electrical and electronic equipment (WEEE):

- SOREN for the recycling of solar panels,
- ECOSYSTEM for electronic products,
- ECOLOGIC for lighting products,



If this waste is the subject of such attention and has its own channel, it is because it is full of various recyclable materials (plastics, glass, ceramics, etc.), including ferrous metals or rare or precious metals (copper, gold, silver, palladium, platinum, etc.). They are also sometimes hazardous waste, composed of substances that are toxic for human health or harmful for the environment (various gases, arsenic, mercury, PCBs and brominated flame retardants, luminescent powders from screens...).

In France, a little more than half of WEEE is now collected, for a recovery rate that reaches 83% (Ademe).

The unique identifier **FR007647\_05A7VM** attesting to the registration in the register of producers of the WEEE sector, pursuant to Article L.541-10-13 of the Environmental Code has been assigned by ADEME to the company UNITECK (Siret 789 348 711 00027).

This identifier attests to its compliance with its obligation to register with the register of producers of Electrical and Electronic Equipment and to make its declarations of marketing to the eco-organizations.

# RECYCLING OF UNITECK PRODUCTS



The products, subject to the WEEE regulation, bear the appropriate logo. These products will be recycled and should not be thrown away with the household waste.

## The solar panels



### WHAT DO WE DO WITH THE USED PANELS?

In France, there is a non-profit eco-organization that collects all types of solar panels in order to recycle them: Soren, formerly PV Cycle.

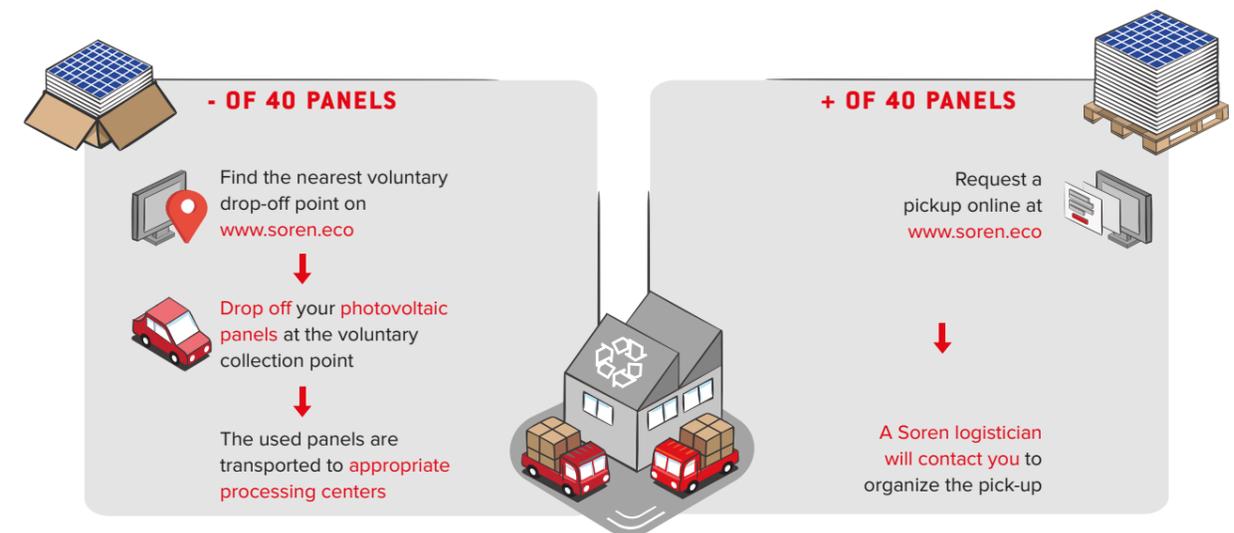
The fee linked to the ecoparticipation\* when purchasing solar panels allows to finance the recycling of the panel at the end of its life.

The return is carried out independently of the brand, the date of placing on the market or technology.

The holder must ensure that the conditions of return are fully respected.

These are available on the Soren website: [www.soren.eco/collecte/conditions-de-reprise](http://www.soren.eco/collecte/conditions-de-reprise)

For others countries, please check your country recycling drop-off point for solar panel.



\*The amount of the royalty, when purchasing the product, is decided by a dedicated state committee, which is in contact with the various industry players.

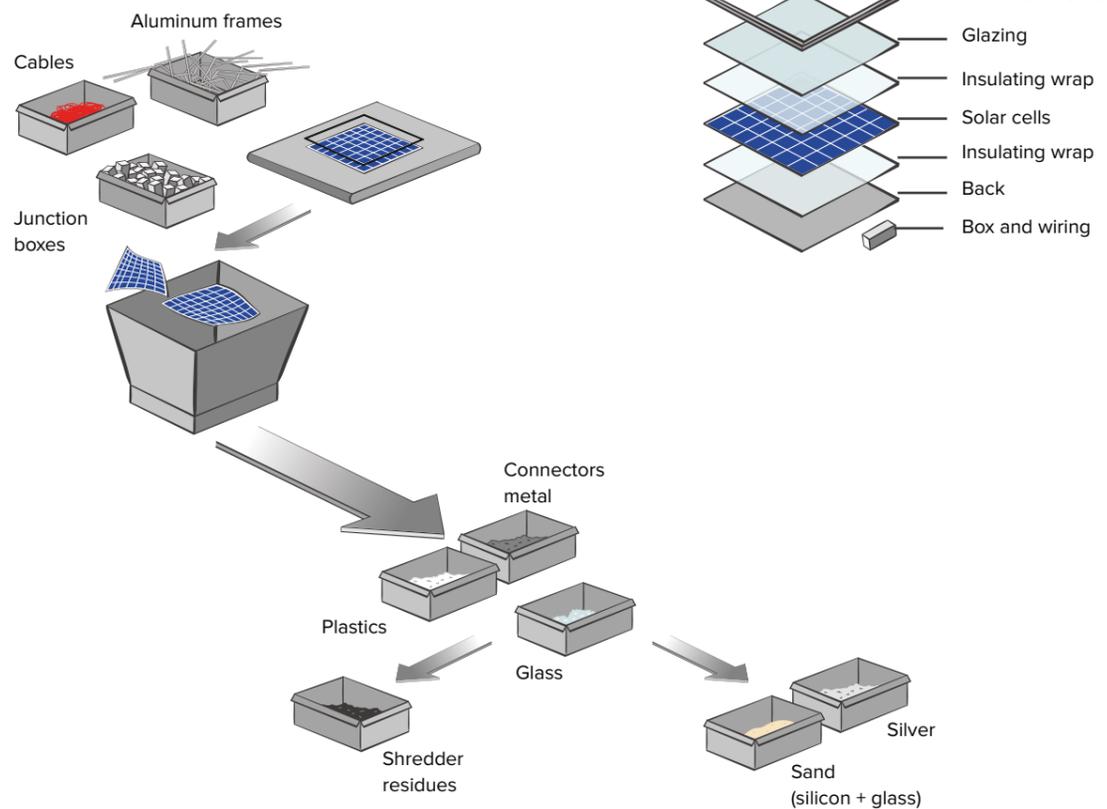
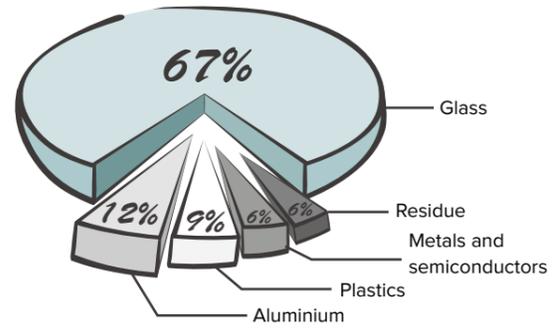


## RECYCLING SOLAR PANELS

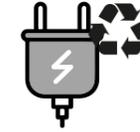
Almost the entire panel is now recycled (about 94%). Of these components, only 6% are not recyclable and come mainly from the grinding residues.

The glass is transformed into clean cullet and recovered in the glass industry. The frame is sent to an aluminum refinery and the plastic is used as a recovery fuel in cement plants. The silicon goes into the precious metals industry, while the cables and connectors are sold as copper shot.

The panels are separated from their aluminum frame, junction box and wiring, this is called the pre-disassembly. They are then crushed to obtain fractions, which are then sorted using various methods (vibration, sieving, eddy current, optical sorting...). The secondary raw materials can be used for new purposes.



## Electronic products ( controllers, converters,...)



### WHAT DO WE DO WITH USED ELECTRICAL APPLIANCES?

In France, there is a non-profit eco-organization that collects all types of electrical appliances in order to recycle them: **Ecologic**. The fee linked to the eco-participation\* when purchasing electronic products helps finance the recycling of the product at the end of its life. To find the nearest voluntary drop-off point, go to : [www.ecologic-france.com/citoyens/ou-deposer-mes-dechets.html](http://www.ecologic-france.com/citoyens/ou-deposer-mes-dechets.html)

### RECYCLING ELECTRICAL EQUIPMENT

Electronic devices contain recyclable materials (glass, plastic, copper, aluminum, etc.), but also toxic products (lead, cadmium, etc.), hence the importance of depositing them properly at appropriate recycling points.

## Lighting (bulbs, tubes, ...)



### WHAT DO WE DO WITH THE USED LIGHTING?

In France, there is a non-profit eco-organization that collects all types of lighting in order to recycle them: **Ecosystem**. The fee linked to the eco-participation\* when purchasing lighting allows to finance the recycling of the product at the end of its life. To find the nearest voluntary drop-off point, go to : [www.ecosystem.eco/fr/recherche-point-de-collecte](http://www.ecosystem.eco/fr/recherche-point-de-collecte)

For others countries, please check your country recycling drop-off point for lighting.

### RECYCLING BULBS

Compact fluorescent bulbs, fluorescent tubes, LED bulbs and tubes must be recycled. The image of a crossed-out rubbish bin that can be seen on the lights and/or their packaging means that they should not be thrown away with the household waste. Consisting mainly of glass, plastic and metal, the collected bulbs and tubes are now recovered at nearly 90%.



## The batteries



### WHAT DO WE DO WITH USED BATTERIES?

In France, to find the nearest voluntary collection point, go to : [www.jerecyclamespiles.com/collecter-cest-facile/ou-deposer-mes-piles-et-batteries-usagees/](http://www.jerecyclamespiles.com/collecter-cest-facile/ou-deposer-mes-piles-et-batteries-usagees/)

The waste collection centers are also collection points for used batteries and have specially adapted locations.

For others countries, please check your country recycling drop-off point for batteries.

### RECYCLING BATTERIES

Unlike lithium batteries, lead-acid batteries are recyclable and many players are part of this circular economy.

The recycling rate is between 60% and 90% depending on the type of lead batteries. The lead element is infinitely recyclable without any loss of quality. It is the best recycled metal in the world with one of the most controlled recycling processes in industrial and environmental terms. More than 60% of the world's production comes from recycling and this rate is growing every year.

The recycling of batteries is done in several stages: the lead materials, the oxidised materials and the metal parts are sent to a foundry.

These metals are then reused in the manufacture of everyday objects such as stainless steel cutlery, hardware, car plates, ship hulls, new batteries or compounds for photovoltaic panels.

The electrolyte from the batteries is cleaned, reprocessed and reused, and the plastic from the casings is recycled by specialised plastic recovery units.





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