

BÉZIERS - FRANCE



 **UNITECK**

FRENCH MANUFACTURER
OF OFF-GRID SMALL POWER
SOLAR EQUIPMENT



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

Uniteck is an innovative French industrial company specialized in small power solar energy, whose headquarters are located in Béziers (34). Based on their 10-year old experience in the professional charger field, founders have created a tailor made range of products for the following target markets: campervan, boating, road signs and small domestic applications.

Uniteck markets all the products required for a complete and efficient solar installation, including :

- solar charge controllers, designed and made in France
- high efficiency solar panels
- advanced inverters
- many mountings brackets and high quality accessories

Uniteck stands as the reference supplier of solar solutions thanks to their products :

- easy to use and reliable
- with ergonomic and discreet design
- and totally safe for the user.

Béziers-France :
Headquarters and sales management /
Mechanical, plastic and electronic
design department



Logistics /
Production department



Shanghai-China :
Sourcing /
Quality control department



THE SMALL OFF-GRID SOLAR POWER
SOLUTIONS EXPERT

CAMPERVAN



BOATING



ROAD SIGNS



DOMESTIC APPLICATIONS



LEISURE



UNISUN M vs BC
SAVING MONEY vs SAVING SPACE

Unisun M Monocrystalline module : series connection on the front face of the cells



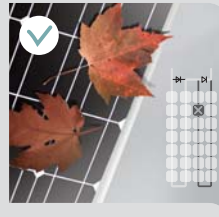
10% of the surface is occupied by the electrical connections

Unisun BC Back contact module : series connection on the back of the cells



no masked area on the front face

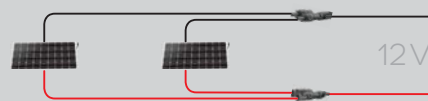
| | | |
|---|------------------------------|------------------------------|
| Ex. panel using 125 x 125 cells | Unisun M monocrystalline | Unisun BC back contact |
| intensity (Imp) | 2,5-2,8 A | 3,2-3,3 A |
| voltage (Vmp) | 0,5-0,52 V | 0,56-0,57 V |
| electrical contact | front face | back face |
| cell efficiency | 16-18,5 % | 20-21,5 % |
| number of cells for battery charging applications | 36 cells (36 x 0,5 V) = 18 V | 32 cells (32 x 0,7 V) = 18 V |
| saving space | ++ | +++ |
| saving money | +++ | ++ |



Anti Hot-spot system
Protection against hot-spots and surges

EVOLUTIONARY COMBINATIONS

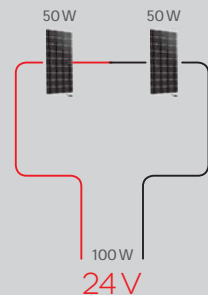
Parallel connection : for more W power



UNISUN 20.12M
UNISUN 50.12M
UNISUN 145.12M
UNICONNECT 1.6
PARALLEL CONNECTORS KIT

| | | | | | |
|-------------------------|-----|-----|------|------|------|
| | 20W | 40W | 100W | 150W | 290W |
| UNISUN 20.12M | x1 | x2 | - | - | - |
| UNISUN 50.12M | - | - | x2 | x3 | - |
| UNISUN 145.12M | - | - | - | - | x2 |
| UNICONNECT 1.6 | x1 | x1 | x1 | x1 | x1 |
| PARALLEL CONNECTORS KIT | - | x1 | - | x2 | x1 |

Series connection : for your 24V batteries



THE UNISUN RANGE,
HIGH PERFORMANCE

Unisun is the high performance monocrystalline panel range for leisure (boating and campervan), off-grid and road signs applications.

Their multi-layer structure ensures exceptional outputs, even under weak light or heat conditions.

Their high transmissibility tempered glass and their anodized aluminium frame preserve them from external attacks (impacts, oxidation, corrosion).

Adaptable for more power, connecting them in series or in parallel is facilitated thanks to their fast solar connectors.

The 50W and 100W models are available in standard monocrystalline cells and back contact monocrystalline cells. Unisun Back Contact (electrical contact on the back face) benefits from all the surface of the cell to absorb the light energy. For the same power, thanks to their higher efficiency (power/surface ratio), the back contact panels offer the advantage to be compact and therefore ideal for applications for which size and weight are selection criterions.

HIGH QUALITY
STRUCTURE AND
CONNECTION

Excellent impact and weight resistance (snow, hail, impacts)

Excellent performance under weak light conditions

Corrosion-resistant Anodized aluminium frame

Watertight case IP 65

- 3,2mm tempered glass, high transmissibility (low iron content)
- EVA resin, 0,45mm
- High efficiency cells
- EVA resin, 0,45mm
- Stand (anodized aluminium)
- Frame
- Fast solar connectors

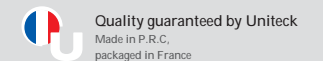




| | UNISUN 5.12M REF O491 | UNISUN 10.12 P REF O507 | UNISUN 10.12 M REF O798 | UNISUN 20.12 M REF O071 | UNISUN 20.24 M REF O804 | UNISUN 50.12 M REF O088 | UNISUN 50.12 BC REF 1238 | UNISUN 80.12 M REF O095 | UNISUN 100.12 M REF O446 | UNISUN 100.12 BC REF 1245 | UNISUN 145.12 M REF O453 |
|---|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|------------------------------|-----------------------------|
| Electrical performance | | | | | | | | | | | |
| Max. power (Pm)* | 5W | 10W | 10W | 20W | 20W | 50W | 50W | 80W | 100W | 100W | 145W |
| Power tolerance* | 0/+3% | 0/+3% | 0/+3% | 0/+3% | 0/+3% | 0/+3% | 0/+3% | 0/+5% | 0/+3% | 0/+3% | 0/+5% |
| Operating voltage | 12V | 12V | 12V | 12V | 24V | 12V | 12V | 12V | 12V | 12V | 12V |
| Technology | mono | poly | mono | mono | mono | mono | back contact | mono | mono | back contact | mono |
| Voltage at Max. Power (Vmp)* | 17,4V | 17,4V | 17,6V | 17,6V | 35,2V | 18,5V | 17,6V | 17,5V | 18,7V | 17,8V | 18,15V |
| Intensity at Max. Power (Imp)* | 0,29A | 0,57A | 0,57A | 1,14A | 0,57A | 2,7A | 2,84A | 4,57A | 5,43A | 5,62A | 7,99A |
| Voltage in Open Circuit (Voc)* | 21,6V | 21,6V | 21,77V | 21,7V | 43,54V | 22,7V | 21,2V | 21,9V | 22,4V | 21,6V | 21,72V |
| Intensity in Short Circuit (Icc/Isc)* | 0,32A | 0,65A | 0,65A | 1,26A | 0,65A | 2,84A | 3,05A | 4,95A | 5,66A | 5,97A | 8,41A |
| Min. Intensity Controller IMR (=Imp +25%) | 0,36A | 0,71A | 0,71A | 1,43A | 0,71A | 3,38A | 3,55A | 5,71A | 6,78A | 7,25A | 9,98A |
| Cells efficiency | 18% | 17% | 18,4% | 15,8% | 18,4% | 18,8% | 21,5% | 15,8% | 18,5% | 21% | 18,4% |
| Modules efficiency* | 7,5% | 8,8% | 12,5% | 10,08% | 12,5% | 14,2% | 16,5% | 12,1% | 15,5% | 17,3% | 15,2% |
| Temperature characteristics | | | | | | | | | | | |
| Operating temperature | -40 °C to +85 °C | -40 °C to +85 °C | -40 °C to +85 °C | -40 °C to +80 °C | -40 °C to +85 °C | -40 °C to +80 °C | -40 °C to +80 °C | -40 °C to +80 °C | -40 °C to +85 °C | -40 °C to +80 °C | -40 °C to +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 |
| Temperature coefficient : | | | | | | | | | | | |
| - Pm | -0,48%/°C | -0,47%/°C | -0,48%/°C | -0,50%/°C | -0,48%/°C | -0,50%/°C | -0,38%/°C | -0,50%/°C | -0,48%/°C | -0,38%/°C | -0,48%/°C |
| - Voc | -0,34%/°C | -0,34%/°C | -0,34%/°C | -0,35%/°C | -0,34%/°C | -0,35%/°C | -0,28%/°C | -0,35%/°C | -0,34%/°C | -0,28%/°C | -0,34%/°C |
| - Icc | 0,037%/°C | 0,045%/°C | 0,037%/°C | 0,060%/°C | 0,037%/°C | 0,060%/°C | 0,057%/°C | 0,060%/°C | 0,037%/°C | 0,057%/°C | 0,037%/°C |
| Mechanical characteristics | | | | | | | | | | | |
| Panel frame | anodized alu. | anodized alu. | anodized alu. | anodized alu. | anodized alu. | anodized alu. | anodized alu. | anodized alu. | anodized alu. | anodized alu. | anodized alu. |
| Cells dimensions | 62,5×15,6 mm | 78×26 mm | 62,5×31,25 mm | 62,5×62,5 mm | 125×15,5 mm | 125×62,5 mm | 125×62,5 mm | 156×78 mm | 125×125 mm | 125×125 mm | 156×156 mm |
| Number of cells | 36 (4×9) | 36 (4×9) | 36 (4×9) | 36 (4×9) | 72 (4×18) | 36 (4×9) | 32 (4×8) | 36 (4×9) | 36 (4×9) | 32 (4×8) | 36 (4×9) |
| Module dimension | 216×306×18 mm | 310×368×18 mm | 310×383×3 mm | 660×310×35 mm | 660×310×35 mm | 640×550×35 mm | 550×550×35 mm | 960×550×35 mm | 1200×550×35 mm | 1050×550×35 mm | 1482×676×35 mm |
| Cable length (with connectors) | - | - | 900 mm | 300 mm | 900 mm | 900 mm | 900 mm | 900 mm | 900 mm | 900 mm | 900 mm |
| Module weight | 0,8kg | 1,5 kg | 1,5 kg | 2,5 kg | 2,5 kg | 4,5 kg | 4 kg | 7 kg | 8 kg | 7,5 kg | 11,5 kg |

* According to Standard Test Conditions (STC) : irradiance 1000 W/m², AM=1.5, cell temperature 25°C
 ** Nominal Operating Cell Temperature: irradiance 800 W/m², wind speed 1 m/s, ambient temperature 25 °C

Gencod : in front of the 4-digit reference, add the number 376023335





PARALLEL MULTI PANELS OPTION

UNICABLE 612 BR
2 x 1 m extension, 6 mm², black + red
REF. O873

PARALLEL CONNECTORS KIT
REF. O231

2 panels : ref. o231 x1
3 panels : ref. o231 x2

OPTION



WATERPROOF ROOF PASS
UV resistant
(for 4-6 mm² cable)
REF. O248

PANEL(S) > CHARGE CONTROLLER



UNICABLE 651 BR - 5 M
2 x 5 m, 6 mm², black + red
REF. 1023

UNICABLE 681 BR - 8 M
2 x 8 m, 6 mm², black + red
REF. O880

UNICABLE 6101 BR - 10 M
2 x 10 m, 6 mm², black + red
REF. O897

UNICABLE 6151 BR - 15 M
2 x 15 m, 6 mm², black + red
REF. O903

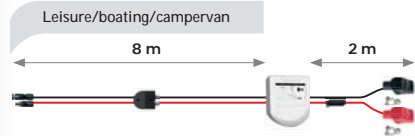
THE UNICONNECT/UNICABLE RANGE,
HIGH PERFORMANCE
FAST SOLAR
WIRING

CHARGE CONTROLLER



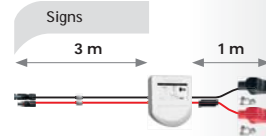
MONO PANEL CONNECTION KITS

Ready-to-use connection kits. They simply and quickly connect to the panels and the charge controller via their fast solar connectors (fitted as standard). With a 6 mm² section, they optimize your electrical performances. They are equipped with a fuse kit to protect your installation and your battery, provided with a roof pass (Uniconnect 1.6) or cable glands (Uniconnect Signs) and battery terminals.



UNICONNECT 1.6

included :
• Panel > charge controller connection :
2 x 8 m of cable, 6 mm² with connectors + waterproof roof pass
• Charge controller > battery connection :
2 x 2 m of cable + battery terminals + fuse protection kit
REF. O200



UNICONNECT SIGNS

included :
• Panel > charge controller connection :
2 x 3 m of cable, 6 mm² with connectors + cable glands
• Charge controller > battery connection :
2 x 1 m of cable + battery terminals + fuse protection kit
REF. O811

CHARGE CONTROLLER > BATTERY(IES)

2M BATTERY CONNECTION KIT
2 x 2 m of cable + 2 battery terminals + 1 fuse protection kit
REF. O347

4M BATTERY CONNECTION KIT
2 x 4 m of cable + 2 battery terminals + 1 fuse protection kit
REF. O354



BATTERY



Unicable 6B100, black, 6 mm², 100m coil
REF. O774

Unicable 6R100, red, 6 mm², 100m coil
REF. O781

Fast solar connectors kit, 1 male + 1 female
REF. O712



Battery terminals (+ and -)
REF. 1122



Cable fuse protection kit (fuse holder + fuse)
REF. O330



Sika Flex multi-materials professional high performance glue (aluminium, steel, plastic). Ideal for the fixation of campervan mounting brackets, roof pass/bulkhead...
REF. 1177

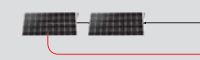
3 fuses 60A/32V
REF. 1160

Parallel/series connection



100W/12V + 100W/12V = 200W/12V

Parallel connection : use the parallel connectors kit (ref. O231) + extension if needed (ref. O873).



100W/12V + 100W/12V = 200W/24V

Series connection : connect your panels together

THE UNIFIX RANGE, ENSURE THE FIXATION OF YOUR PANELS



SPECIAL CAMPERVAN



Compact

"Easy Change" system for your maintenance or cleaning operations

UV and corrosion resistant PA66 plastic + fiberglass
Stainless steel fastening

Easy to install

THE PANEL MOUNTING BRACKET WHICH SIMPLIFIES THE FIXATION AND THE MAINTENANCE

Unifix 1C is the innovative mounting bracket for campervan solar panels. It sticks to the roof of your vehicle. To set it, Unifix 1C only requires 2 operations (clean and stick) instead of 3 usually (clean, prepare and stick). Its compact design allows you to place several panels, even on a surface cluttered with various components. With its "Easy Change" system, you can easily replace or remove your panel for maintenance or cleaning operations.

Included : 4 panels mountings + Sika degreaser + Sika glue



UNIFIX 1C REF O255

SPECIAL LEISURE

Basic range



Possible ballast

UNIFIX 100B
panel 560 mm max
for Unisun 20.12M(x2)/
50.12M/50.12BC/80.12M/
100.12M/100.12BC
REF O644

UNIFIX 145B
panel 700 mm max
for Unisun 145.12M
REF O545

UNIFIX 250B
panel 1100 mm max (=250 W)
can be weighted on the ground
for Unisun 100.12M(x2)/100.12BC(x2)/145.12M
REF 1092

Robust and easy to install, the basic Unifix is the economic mounting bracket, ideal to fix your panels on all flat surfaces (wall, concrete floor, timber frame). Its multi-position inclination system allows you to optimize your electrical performances. The 250B model can also be weighted on the ground, on a lawn or on sand.

Corrosion resistant galvanised steel + stainless steel fastening

Adjustable from 0 to 90° (except 250B : 30 to 60°)

Easy to install

Wall mounting

Floor mounting

SPECIAL LEISURE

Universal range

Robust and easy to install, the universal Unifix is the ideal mounting bracket to fix your panels on all flat surfaces (wall, concrete floor, timber frame) or on round masts (diam. 40 to 60mm).

Its multi-position inclination system allows you to optimize your electrical performances.

Universal, with its innovative design, the Unifix accepts some panels of other brands with different dimensions.



UNIFIX 20
for Unisun 20.12M
REF O262

UNIFIX 50
for Unisun 50.12M/
50.12BC
REF O279

UNIFIX 100
for Unisun 80.12M/
100.12M/100.12BC
REF O316



Corrosion resistant galvanised steel + stainless steel fastening



Adjustable from 0 to 90°



Easy to install



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



Wall mounting



Floor mounting

Multi-position inclination system to optimize your electrical performances



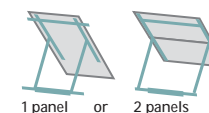
Robust and powerful fastening on round masts thanks to the included flanges



Can be fixed on all sign masts (flanges not included)

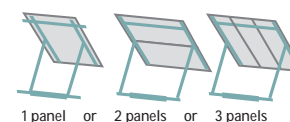


UNIFIX 200
for Unisun 80.12M (x2)/
100.12M (x2)/100.12BC (x2)/145.12M
REF O361



1 panel or 2 panels

UNIFIX 300
for Unisun 80.12M (x3)/
100.12M (x3)/100.12BC (x3)/
145.12M (x2)
1 panel 1200 mm max (=300W)
REF O378



1 panel or 2 panels or 3 panels



SPECIAL BOATING

Balcony fixation



Designed,
made in
France

The Unifix WB mounting brackets range is ideal to fix your rigid solar panels on your balconies. Made of 316L polished stainless steel, they are robust and totally protected against corrosion. Thanks to their universal fixation system, the Unifix WB models can be fixed on all single tube (20.1WB/50.2WB/100.1WB models) or double tube balconies (100.2WB model).

With an adjustable tilt for the 20.1WB and the 100.1WB, with adjustable tilt and swivel for the 50.2WB and 100.2WB, the Unifix WB optimize your electrical performances and thus increase your production up to 50% compared to an identical fixed installation.



Corrosion resistant
Marine stainless steel



Easy to
install



Adjustable tilt
from 0 to 90°



Adjustable swivel to 180°
(Unifix 50.2WB & 100.2WB)



Adaptable on all balconies
from Ø 22 to 28 mm



UNIFIX 20.1 WB
for Unisun 10.12M/20.12M/20.24M
REF 1009

UNIFIX 50.2 WB
for Unisun 50.12M/50.12BC
REF 1016



UNIFIX 100.1 WB
for Unisun 50.12M/50.12BC/
80.12M/100.12M/100.12BC
REF 1153



Arch fixation

The Unifix WP mounting brackets are ideal to fix your rigid solar panels on your arch. Made of 316L polished stainless steel, they are robust and totally protected against corrosion.



UNIFIX 100 WP
for Unisun 50.12M/50.12BC/
80.12M/100.12M/100.12BC
REF O859

UNIFIX 145 WP
for Unisun 145.12M
REF O514



Corrosion resistant
Marine stainless steel



Easy to
install



Adaptable on all arches
Ø 20 to 40 mm

UNIFIX 100.2 WB
for Unisun
80.12M/100.12M/100.12BC
REF O309

Easily removable
and transportable
(ideal post-navigation
wintering or difficult sailing).



**ENSURE
YOUR ELECTRICAL
AUTONOMY**

PEDAGOGY
CAMPERVAN

Uniteck guarantees your electrical autonomy through easy to use high-tech products.

With their unique design, the Unisolar charge controllers perfectly fit in the passenger compartment of your vehicle and allow to simply and quickly control your electrical autonomy. Thanks to their advanced load curve that perfectly fits to any battery technology and to ambient temperature, they optimize your electrical performance while preserving the lifespan of your battery. The Unisun panels make the mounting easier, as well as the maintenance and the modularity of your installation.

This "multi-panel" solution optimizes your roof surface and gives you the possibility to upgrade your installation. The fast solar connectors equipped as standard on the panels and the innovative Unifix mounting brackets facilitate your mounting, maintenance and cleaning operations.



YOUR ELECTRICAL CONSUMERS

| | Voltage (V) | Average current (A) | Efficiency | Power (Watt) | Service life (h/d) | Consumption/d (Wh/d) | Battery capacity (Ah/d) | |
|--|----------------------------|---------------------|------------|--------------|--------------------|----------------------|-------------------------|----|
| Lighting | 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 | |
| Comfort | 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 | |
| Electronics | LCD Tv (55cm)/active | 12 | 2,5 | 30 | 6 | 180 | 30 | |
| | LCD Tv (55cm)/standby | 12 | 1 | 12 | 18 | 215 | 36 | |
| | Mobile phone | 230 | 0,1 | 0,8 | 30 | 1 | 30 | 5 |
| | Radio/CD receiver | 12 | 1 | 12 | 3 | 35 | 6 | |
| | Microcomputer on | 230 | 0,3 | 0,8 | 90 | 3 | 270 | 45 |
| | Microcomputer in standby | 230 | 0,02 | 0,8 | 5 | 21 | 105 | 17 |

Calculation explanation: $(V) \times (A) \div (0,8) = (W) \times (h/d) = (Wh/d) \div 12V \div 50\% = (Ah)$
 *Recommended self-discharge battery ratio

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



CONFIGURE YOUR SOLAR KIT



18V DC



12/24V DC



| SOLAR KIT | 80W | 80W EVOLUTIONARY 240W | 100W | 100W EVOLUTIONARY 300W | 145W | 200W | 290W |
|---|----------|-----------------------------|----------|------------------------------|----------|-----------|-----------|
| SOLAR PANEL | | | | | | | |
| UNISUN 80.12M REF.0095 | x1 | x1 | - | - | - | - | - |
| UNISUN 100.12M REF.0446 | - | - | x1 | x1 | - | x2 | - |
| UNISUN 100.12BC REF.1245 | - | - | OR x1 | OR x1 | - | OR x2 | - |
| UNISUN 145.12M REF.0453 | - | - | - | - | x1 | - | x2 |
| MOUNTING BRACKET | | | | | | | |
| UNIFIX 1.C REF.0255 | x1 | x1 | x1 | x1 | x1 | x2 | x2 |
| WIRING | | | | | | | |
| UNICONNECT 1.6 REF.0200 | x1 | x1 | x1 | x1 | x1 | x1 | x1 |
| PARALLEL CONNECTORS KIT REF.0231 | - | - | - | - | - | x1 | x1 |
| CHARGE CONTROLLER | | | | | | | |
| UNISOLAR 10.24 REF.0002 (single battery) | x1 | - | x1 | - | x1 | - | - |
| UNISOLAR 20.24 REF.0019 (single battery) | - | x1 | - | x1 | - | x1 | x1 |
| UNISOLAR 20.24D REF.0026 (double battery) | OR x1 | OR x1 | OR x1 | OR x1 | OR x1 | OR x1 | OR x1 |
| PRODUCED POWER Wh/d (north-south) | | | | | | | |
| January/February | 65-85 | 65-85 | 80-120 | 80-120 | 115-175 | 160-240 | 230-350 |
| March/October | 240-320 | 240-320 | 300-400 | 300-400 | 430-580 | 600-800 | 860-1160 |
| July/August | 400-560 | 400-560 | 500-700 | 500-700 | 720-1080 | 1000-1400 | 1400-2160 |
| INJECTED CAPACITY Ah/d (north-south) | | | | | | | |
| January/February | 5-7 | 5-7 | 6-10 | 6-10 | 10-15 | 13-20 | 20-30 |
| March/October | 18-22 | 18-22 | 25-33 | 25-33 | 35-50 | 50-65 | 70-100 |
| July/August | 30-35 | 30-35 | 40-58 | 40-58 | 60-85 | 80-155 | 120-170 |

ENSURE YOUR ELECTRICAL AUTONOMY

PEDAGOGY BOATING

The Uniteck solar solution provides the power supply required for your security devices.

The Uniteck panels have been designed to make the mounting, the maintenance and the modularity of your installation easier. This "multi panel" solution allows to optimize the available surface and the development of your installation by coupling different panel sizes as you desire.

The Unisolar charge controllers optimize your electrical performances while preserving the lifespan of your battery thanks to their load curve that fits to all battery technologies and to the ambient temperature. Their unique design perfectly fits in the passenger compartment of your vehicle which allows you a quick control of your battery charge level. Thanks to its resin electronic card and its marine connectors, the 20.24W model is the reference product for boating.



YOUR ELECTRICAL CONSUMERS

| | Voltage (V) | Average current (A) | Efficiency (%) | Power (Watt) | Time of use (h/d) | Consumption/day (Wh/d) | Battery capacity (Ah/d) | Sailing boat <7.5m (<24 feet) | Sailing boat <8m (<26 feet) |
|-----------------------------|--------------------------|---------------------|----------------|--------------|-------------------|------------------------|-------------------------|-------------------------------|-----------------------------|
| Lighting | Square | 12 | 1 | 12 | 6 | 72 | 12 | * | - |
| | Bunk (consumption/bunk) | 12 | 1 | 12 | 6 | 72 | 12 | X1/2 | X2/6 |
| | 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 | - |
| Security | Instruments (compass...) | 12 | 0,4 | 1 | 5 | 6 | 30 | 5 | - |
| | 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 | * |
| Electronics | VHF In standby/emission | 12 | 0,1/5 | 1 | 1,2/60 | 24/0,5 | 30/30 | 5/5 | - |
| | 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 Receiver | 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 | - |
| | Surveyor | 12 | 0,2 | 1 | 2,4 | 8 | 20 | 3 | - |
| Microcomputer in standby/on | 230 | 0,8 | 0,02/0,3 | 5/90 | 23/1 | 115/90 | 20/15 | * | |

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



CONFIGURE YOUR SOLAR KIT



18V DC



12/24V DC



| SOLAR KIT | BALCONY | | | | ARCH | | | |
|---|---------|---------|---------|---------|---------|----------|-----------|-----------|
| | 20W | 50W | 80W | 100W | 100W | 145W | 200W | 290W |
| SOLAR PANEL | | | | | | | | |
| UNISUN 20.12M REF.0071 | *1 | - | - | - | - | - | - | - |
| UNISUN 50.12M REF.0088 | - | *1 | - | - | - | - | - | - |
| UNISUN 50.12BC REF.1238 | - | *1 | - | - | - | - | - | - |
| UNISUN 80.12M REF.0095 | - | - | *1 | - | - | - | - | - |
| UNISUN 100.12M REF.0446 | - | - | - | *1 | *1 | - | *2 | - |
| UNISUN 100.12BC REF.1245 | - | - | - | *1 | *1 | - | *2 | - |
| UNISUN 145.12M REF.0453 | - | - | - | - | - | *1 | - | *2 |
| MOUNTING BRACKET | | | | | | | | |
| UNIFIX 20.1WB REF.1009 (tilt adjust : 90°) | *1 | - | - | - | - | - | - | - |
| UNIFIX 50.2WB REF.1016 (swivel adjust : 180°, tilt adjust : 90°) | - | *1 | - | - | - | - | - | - |
| UNIFIX 100.1WB REF.1153 (tilt adjust : 90°) | - | *1 | *1 | - | - | - | - | - |
| UNIFIX 100.2WB REF.0309 (swivel adjust : 180°, tilt adjust : 90°) | - | - | *1 | *1 | - | - | - | - |
| UNIFIX 100WP REF.0859 | - | - | - | - | *1 | - | *2 | - |
| UNIFIX 145WP REF.0514 | - | - | - | - | - | *1 | - | *2 |
| WIRING | | | | | | | | |
| UNICONNECT 1.6 REF.0200 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 |
| PARALLEL CONNECTORS KIT REF.0231 | - | - | - | - | - | - | *1 | *1 |
| CHARGE CONTROLLER | | | | | | | | |
| UNISOLAR 10.24 (single battery) REF.0002 | *1 | *1 | *1 | *1 | *1 | *1 | - | - |
| UNISOLAR 20.24 (single battery) REF.0019 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 |
| UNISOLAR 20.24W (resin, single battery) REF.0057 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 |
| UNISOLAR 20.24D (double battery) REF.0026 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 |
| PRODUCED POWER Wh/d (north-south) | | | | | | | | |
| January/February | 15-25 | 40-60 | 65-95 | 80-120 | 80-120 | 115-175 | 160-240 | 230-350 |
| March/October | 60-80 | 150-200 | 180-320 | 300-400 | 300-400 | 430-580 | 600-800 | 860-1160 |
| July/August | 100-150 | 230-350 | 400-560 | 500-700 | 500-700 | 720-1080 | 1000-1400 | 1400-2160 |
| INJECTED CAPACITY Ah/d (north-south) | | | | | | | | |
| January/February | 1-2 | 3-5 | 5 | 6-10 | 6-10 | 10-15 | 13-20 | 20-30 |
| March/October | 5-7 | 12-17 | 18 | 25-33 | 25-33 | 35-50 | 50-65 | 70-100 |
| July/August | 8-12 | 20-29 | 30 | 40-58 | 40-58 | 60-85 | 80-155 | 120-170 |

ENSURE YOUR AUTONOMY FOR LEISURE

PEDAGOGY LEISURE

The Unitek solar solution ensures your electrical autonomy thanks to a range of easy-to-use high-tech products characterized by discrete designs.

The Unitek kits have been conceived to make the mounting, the maintenance and the modularity of your installation easier. This "multi panel" solution allows to optimize your available surface and to simply and quickly upgrade your installation by coupling new panels thanks to their fast solar connectors.

With their advanced load curve that fits to all battery technologies and to the ambient temperature, the Unisolar charge controllers optimize your electrical performances while preserving the lifespan of your battery. Their unique design perfectly fits in the passenger compartment of your vehicle which allows an easy quick control of your battery charge level.



YOUR ELECTRICAL CONSUMERS

| | Voltage (V) | Average current (A) | Efficiency | Power (Watt) | Time of use (h/d) | Daily consumption (Wh/d) | Battery capacity (Ah/d) |
|----------------|---|---------------------|------------|--------------|-------------------|--------------------------|-------------------------|
| Lighting | Led (6W) | 230 | 0,02 | 0,8 | 6 | 4 | 25 |
| | Street lamp with energy saving lamp (25W) | 230 | 0,1 | 0,8 | 30 | 4 | 120 |
| | Incandescent bulb (70W) | 230 | 0,3 | 0,8 | 85 | 4 | 340 |
| | Halogen floor (300W) | 230 | 1,3 | 0,8 | 375 | 4 | 1500 |
| Comfort | Refrigerator (100 l - 120 kW/year) | 230 | 0,05 | 0,8 | 14 | 24 | 335 |
| | Fan | 230 | 70 | 0,8 | 40 | 4 | 160 |
| Electronics | Mobile phone | 230 | 0,1 | 0,8 | 30 | 1 | 30 |
| | Camera | 230 | 0,1 | 0,8 | 30 | 1 | 30 |
| | Radio/CD Receiver | 12 | 1 | 1 | 12 | 4 | 48 |
| | Microcomputer in standby | 230 | 0,02 | 0,8 | 5 | 23 | 115 |
| | Active microcomputer | 230 | 0,3 | 0,8 | 90 | 1 | 90 |
| | Lcd TV in service (55cm) / Use | 230 | 0,2 | 1 | 45 | 2 | 90 |
| Do-it-yourself | Lcd TV in service (55cm) / Standby 1A | 230 | 0,003 | 1 | 1 | 22 | 4 |
| | Hedge trimmer | 230 | 2,1 | 0,8 | 600 | 1 | 600 |
| | Drilling machine | 230 | 2,1 | 0,8 | 600 | 1 | 600 |

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

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



CONFIGURE YOUR SOLAR KIT



18V DC



12/24V DC



| SOLAR KIT | 20W | 50W | 80W | 100W | 100W | 145W | 200W | 290W |
|---|------------------|-------------------|-------------------|------|-------------------|-------------------|-------------------|------|
| | EVOLUTIONARY 60W | EVOLUTIONARY 150W | EVOLUTIONARY 240W | | EVOLUTIONARY 300W | EVOLUTIONARY 290W | EVOLUTIONARY 300W | |
| SOLAR PANEL | | | | | | | | |
| UNISUN 20.12M REF.0071 | *1 | - | - | - | - | - | - | - |
| UNISUN 50.12M REF.0088 | - | *1 | - | - | - | - | - | - |
| UNISUN 50.12BC REF.1238 | - | *1 | - | - | - | - | - | - |
| UNISUN 80.12M REF.0095 | - | - | *1 | - | - | - | - | - |
| UNISUN 100.12M REF.0446 | - | - | - | *1 | *1 | - | *2 | - |
| UNISUN 100.12BC REF.1245 | - | - | - | *1 | *1 | - | *2 | - |
| UNISUN 145.12M REF.0453 | - | - | - | - | - | *1 | - | *2 |
| MOUNTING BRACKET | | | | | | | | |
| UNIFIX 20 REF.0262 | *1 | - | - | - | - | - | - | - |
| UNIFIX 50 REF.0279 | - | *1 | - | - | - | - | - | - |
| UNIFIX 100 REF.0316 | - | - | *1 | *1 | *1 | - | - | - |
| UNIFIX 100B REF.0644 | - | - | *1 | *1 | *1 | - | *2 | - |
| UNIFIX 145B REF.0545 | - | - | - | - | - | *1 | - | *2 |
| UNIFIX 200 REF.0361 | - | - | - | - | - | *1 | *1 | - |
| UNIFIX 300 REF.0378 | - | - | - | - | - | - | - | *1 |
| WIRING | | | | | | | | |
| UNICONNECT 1.6 REF.0200 | *1 | *1 | *1 | *1 | *1 | *1 | *1 | *1 |
| PARALLEL CONNECTORS KIT REF.0231 | - | - | - | - | - | - | *1 | *1 |
| CHARGE CONTROLLER | | | | | | | | |
| UNISOLAR 10.24 (single battery) REF.0002 | *1 | *1 | - | *1 | - | - | - | - |
| UNISOLAR 20.24 (single battery) REF.0019 | - | - | *1 | - | *1 | *1 | *1 | *1 |
| PRODUCED POWER Wh/d (north-south) | | | | | | | | |
| January/February | 16 | 40 | 65 | 80 | 80 | 115 | 160 | 230 |
| March/October | 60 | 150 | 240 | 300 | 300 | 435 | 600 | 870 |
| July/August | 100 | 250 | 400 | 500 | 500 | 725 | 1000 | 1450 |
| INJECTED CAPACITY Ah/d (north-south) | | | | | | | | |
| January/February | 1,5 | 3,5 | 5 | 6,7 | 6,7 | 10 | 13,4 | 20 |
| March/October | 5 | 12,5 | 18 | 25 | 25 | 36 | 50 | 70 |
| July/August | 8,5 | 21 | 30 | 42 | 42 | 60 | 84 | 120 |
| RECOMMENDED BATTERY Ah | | | | | | | | |
| min. | 20 | 60 | 90 | 120 | 120 | 150 | 170 | 190 |
| max. | 50 | 90 | 120 | 180 | 120 | 200 | 220 | 220 |



FRENCH MANUFACTURER
OF OFF-GRID SMALL POWER
SOLAR EQUIPMENT

Uniteck Sarl
PAE Mercorent
132, rue Pierre-Simon Marquis de Laplace
34500 Béziers

Tel. : +33(0)4.99.41.06.88
Fax : +33(0)4.88.04.72.20
E-mail : contact@uniteck.fr

Siren : 789 348 711
Siret : 789 348 711 00019
RCS Béziers
APE : 2790Z
Intra-community VAT : FR 83 789 348 711
Capital 100 000 €

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