

VEHICLE KITS  
**2023**



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

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)
Lighting	Square	12	1	1	12	3	35	6
	Bunk	12	1	1	12	3	35	6
	Bathroom	12	1	1	12	1	12	2
	Kitchen	12	1	1	12	1	12	2
	Chart table	12	1	1	12	2	25	4
Comfort	Fan	12	5	1	60	1	60	10
	Air conditioning	230	3	0,8	830	3	2500	417
	Water pump (WC/freshwater)	12	6	1	70	0,25	20	3
	Kettle	230	6,5	0,8	1900	0,1	190	30
	Hairdryer	230	2,8	0,8	800	0,1	80	13
Electronics	Refrigerator (40W/60W with gas-electric timer)	12	3,4	1	40	8	320	55
	LCD Tv (55cm)/turned on	12	2,5	1	30	6	180	30
	LCD Tv (55cm)/ on standby	12	1	1	12	18	215	36
	Mobile phone	230	0,1	0,8	30	1	30	5
	Radio/CD player	12	1	1	12	3	35	6
	Microcomputer turned on	230	0,3	0,8	90	3	270	45
	Microcomputer on standby	230	0,02	0,8	5	21	105	17

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

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



MPPT

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

			Fixed				Fixed				Reclinable	
			100 W	150 W	2 x 100 W	200 W		2 x 150 W	300 W	450 W	600 W	300 W
	Solar panel											
	UNISUN 100.12M	ref. 0446	×1		×2							
			or		or							
	UNISUN 120.12BC	ref. 1245	×1		×2							
	UNISUN 150.12M	ref. 0453		×1				×2		×3		
				or				or		or		
	UNISUN 150.12BC	ref. 1528		×1				×2		×3		
UNISUN 200.12BC	ref. 3324				×1	or						
UNISUN 200.24M	ref. 1337					×1						
UNISUN 300.12M	ref. 2013							×1			×2	×1
	Mounting bracket											
	UNIFIX C100	ref. 1962	×1		×2							
	UNIFIX C150	ref. 1979		×1		×1		×2		×3		
	UNIFIX C200	ref. 1986					×1					
	UNIFIX C300	ref. 2129							×1		×2	
	UNIFIX 300.1C	ref. 3072										×1
	Wiring											
	UNICONNECT 1.4E	ref. 1955	×1	×1	×1	×1		×1	×1			×1
	Parallel connectors kit	ref. 0231			×1			×1			×1	
		ref. 0163								×1		
	16.2M Battery connection	ref. 1535								×1	×1	
	UNICABLE 651BR	ref. 1023								×1	×1	
Waterproof roof-pass	ref. 0248								×1	×1		
	Charge controller											
	UNIMPPT 60/10.24L	ref. 3287	×1	×1								
	UNIMPPT 60/20.24L	ref. 3294			×1	×1		×1	×1			×1
	UNIMPPT 100/30.24L	ref. 3300								×1		
	UNIMPPT 100/40.24L	ref. 3317									×1	
	Produced power Wh/d (north-south of France)											
	January/February		80-120	120-180	160-240	160-240		240-360	240-360	360-540	480-720	240-360
	March/October		300-400	450-600	600-800	600-800		900-1200	900-1200	1350-1800	1800-2400	900-1200
	July/August		500-700	750-1050	1000-1400	1000-1400		1500-2100	1500-2100	2250-3150	3000-4200	1500-2100
	Injected capacity Ah/d (north-south of France)											
	January/February		6-10	10-15	13-20	13-20		20-30	20-30	30-45	40-60	20-30
	March/October		25-33	38-50	50-65	50-65		76-100	76-100	110-150	150-200	76-100
	July/August		40-58	62-87	80-155	80-155		124-174	124-174	180-260	250-350	124-174



# UNIMAGIC

## CALCULATION OF YOUR INSTALLATION

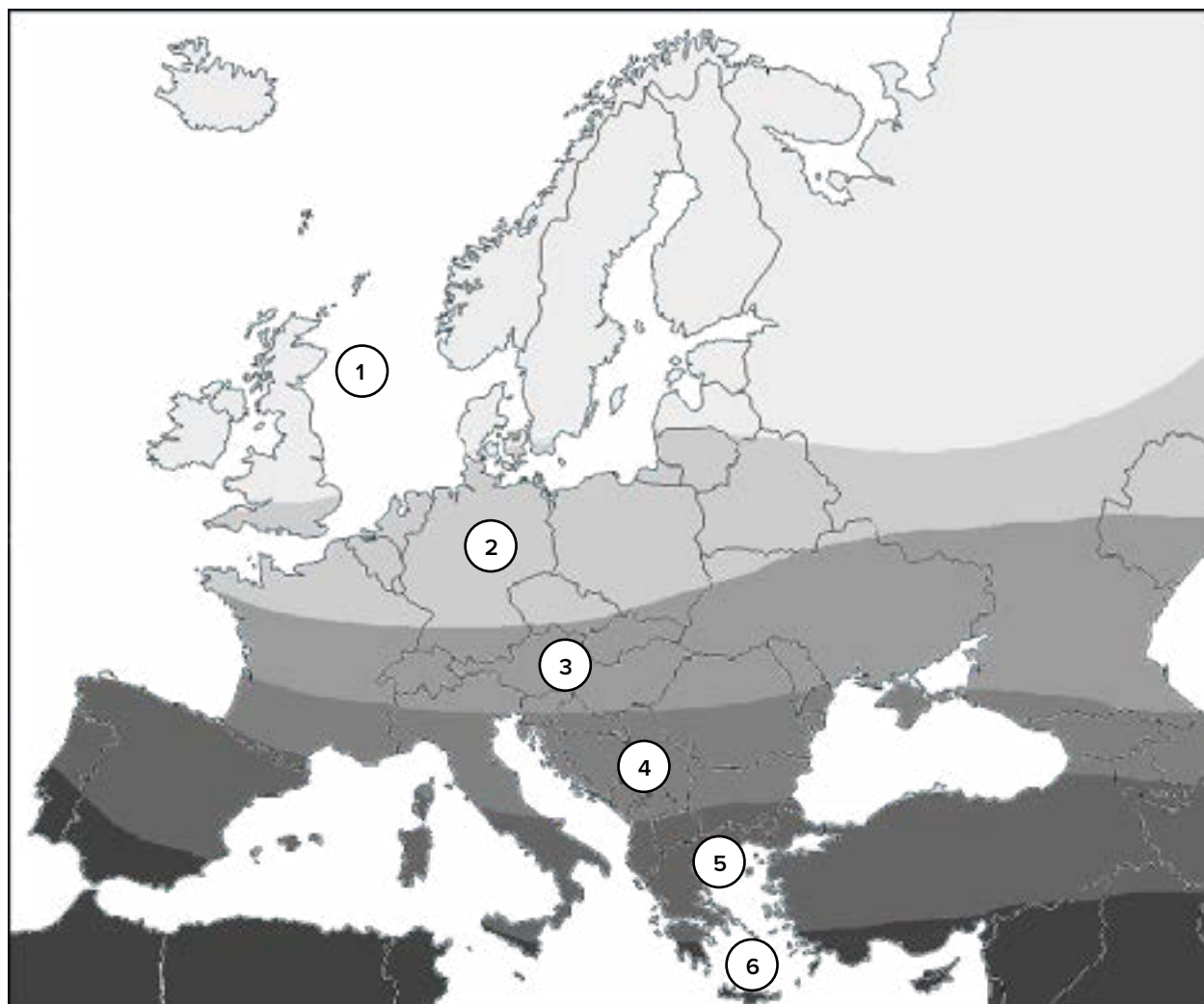
To help you in the sizing of your solar installation, 4 factors should be considered :

- 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.96).



### B CALCULATE YOUR CONSUMPTION/J

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

	LIGHTS <b>i</b> LED				
Power (W)		X Duration (h)	X Quantity		SUBTOTAL
Power (W)		X Duration (h)	X Quantity		SUBTOTAL
					TOTAL Wh/d
	TV SCREEN <b>i</b> LED ≈ 50W				
Power (W)		X Duration of use (h)			TOTAL Wh/d
	TABLET <b>i</b> ≈ 10W				
Power (W)		X Duration of use (h)			TOTAL Wh/d
	FRIDGE <b>i</b> A++				
	Winter Aut./Spring Summer				
	50 L 300 W 400 W 500 W				TOTAL Wh/d
	100 L 400 W 560 W 700 W				
	150 L 500 W 750 W 1000 W				
	MICROWAVE <b>i</b> max 900W				
Power (W)		X Duration of use (h)			TOTAL Wh/d
	PHONE / SMARTPHONE <b>i</b> ≈ 5W				
Power (W)		X Duration of use (h)			TOTAL Wh/d
	COMPUTER <b>i</b> LAPTOP ≈ 60W DESKTOP ≈ 150W				
Power (W)		X Duration of use (h)			TOTAL Wh/d
DIVERSE					
Power (W)		X Duration of use (h)			TOTAL Wh/d
Power (W)		X Duration of use (h)			TOTAL Wh/d
Power (W)		X Duration of use (h)			TOTAL Wh/d
Power (W)		X Duration of use (h)			TOTAL 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 → Zone	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 → Zone	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

C = Production coef.

B = Consumption/day

D = Safety coef.

### WEEK-END USE

**Panel need**

**B**  **x** **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** **x** **2** **x** **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** **x** **D**  **x** **2** **=**  **Your need in Ah**

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





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