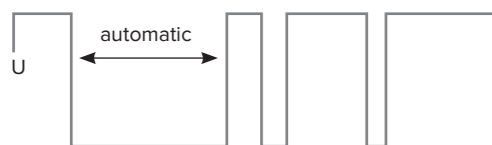


## PMW CHARGING TECHNOLOGY

\* 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

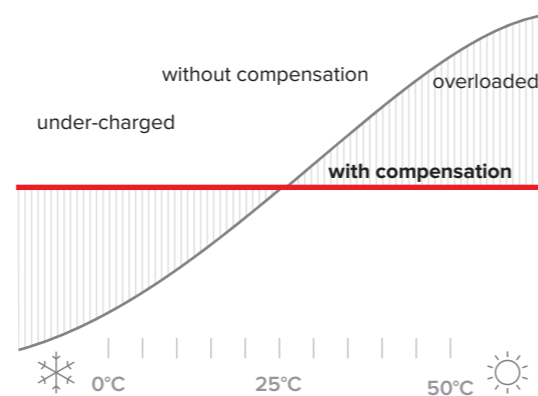
## PERFECT CHARGE ADAPTED TO BATTERY'S TECHNOLOGY

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

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>



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

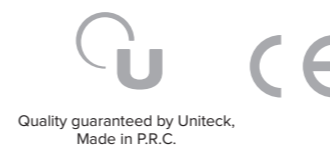
The Unisolar range revolutionizes the charge controller market.

UNISOLAR controllers incorporate an unique 6-step charging algorithm, Algotek 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.



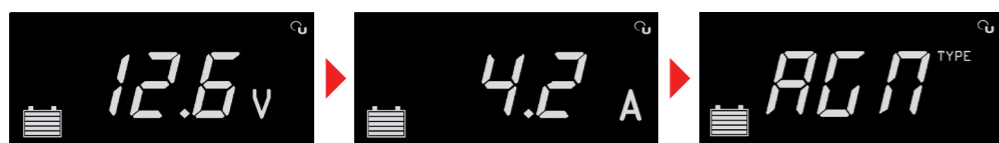
## INTUITIVE LCD DISPLAY FOR UNISOLAR L

### 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



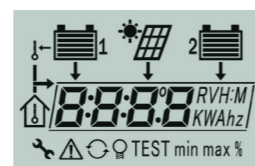
### UNISOLAR RM Remote display for Unisolar 20.24D

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    UNISOLAR 20.24 L    UNISOLAR 20.24D    UNISOLAR 30.24

Ref 4062    Ref 4079    Ref 0026    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
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\* 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.