

## SOLAR PWM CHARGE CONTROLLER


**PV CHARGE REGULATORS**


Il **WR60** è un regolatore per la carica di batterie da modulo fotovoltaico da impiegare in grandi impianti ad isola con moduli fotovoltaici fino a 2,8 kW e con tensioni di sistema a 12V, 24V e 48V.

E' il regolatore PWM WESTERN CO di taglia più grande, specificamente progettato per applicazioni industriali quali alimentazioni di ponti Radio/TV, segnaletica stradale o alimentazione di intere abitazioni stand-alone.

Il circuito di ricarica **PWM** del **WR60** fornisce una tensione di carica compensata in temperatura.

L'uscita carico può essere attivata secondo numerosi programmi selezionabili dall'utente.

Il WR60 rileva lo stato giorno/notte in base alla tensione di pannello, quindi non è necessario collegare ulteriori sensori al regolatore.



**PWM technology**



**Max module power:**

- 700 W for 12 V battery
- 1400 W for 24 V battery
- 2800 W for 48 V battery



**19 programs to manage the load**



**12V/24V/48V battery auto-detect voltage**



**48 signs LCD graphic display user interface**



**Internal blocking diode**



**Protections:**

- Low battery load-disconnect
- Over-temperature
- Battery polarity inversion
- Output overload protection



**Pb-lead acid, Pb-AGM, Pb-gel batteries and Lithium batteries**



**IP20 metal box**



**Temperature-compensated charge voltage**

*The **WR60** is a PV charge controller for application in big stand-alone systems with PV modules up to 2.8 kW and voltage at 12V, 24V or 48V. This is the biggest charge controller in WESTERN CO range, specifically designed for industrial applications such as Radio/TV-link controller, road signs or for the supply of homes completely stand-alone.*

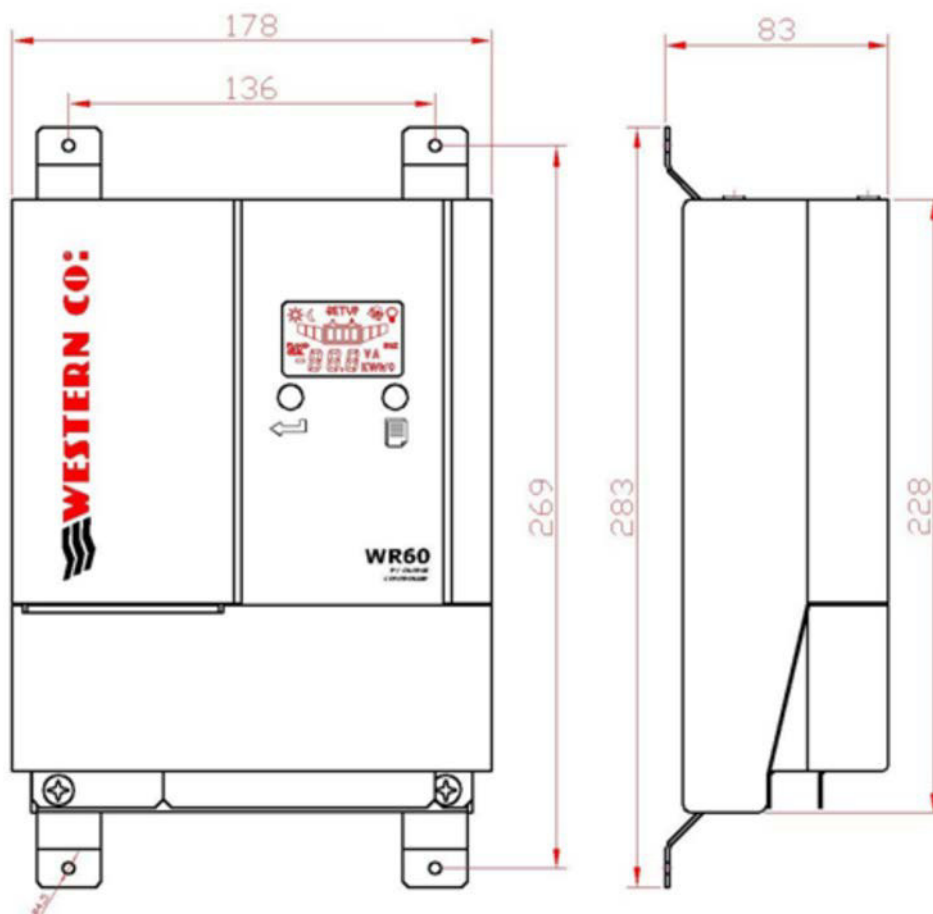
*The **WR60's** charge circuit is **PWM** type with a temperature-compensated charge voltage.*

*Output load can be activated according to various userselectable programs.*

*The **WR60** detects day/night status according to the voltage .of the PV module so it is not necessary to connect sensorsto the controller*

		12V battery nominal voltage			24V battery nominal voltage			48V battery nominal voltage		
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Battery voltage	Vbatt	-	12.0V	-	-	24.0V	-	-	48.0V	-
PV Open circuit voltage	Vpan	-	22V	100V	-	44V	100V	-	88V	100V
Panel current	Ipan	-	-	60.0A	-	-	60.0A	-	-	60.0A
Max panel power	Pmax	-	-	800W	-	-	1,6KW	-	-	3,2KW
Load output voltage	Vload	-	Battery voltage	-	-	Battery voltage	-	-	Battery voltage	-
Load current	Iload	-	-	10.0A	-	-	10.0A	-	-	10.0A
Charge voltage at 25°C – SEAL program (default)	Vch	-	14.4V	-	-	28.8V	-	-	57.6V	-
Charge voltage at 25°C - FLOOD program	Vch	-	14.8V	-	-	29.6V	-	-	59.2V	-
Vch charge voltage compensation function of battery temperature (Tbatt)	Vtadj	-	-24mV/°C	-	-	-48mV/°C	-	-	-96mV/°C	-
Low battery voltage (it can be set)	Vlb	11.0V	11.4V (default)	12.0V	22.0V	22.8V	24.0V	44.0V	45.6V (default)	48.0V
Low battery resume voltage (it can be set)	Vout_Jb	12.4V	13.8V (default)	13.8V	24.8V	27.6V (default)	27.6V	49.6V	55.2V (default)	55.2V
Voltage for day detection (it can be set)	Vday	2.5V	6.5V (default)	10.0V	5.0V	13.0V	20.0V	10.0V	26.0V (default)	40.0V
Voltage for night detection: Vnight = Vday –1.0V	Vnight	1.5V	9.0V	9.0V	4.0V	19.0V	19.0V	9.0V	39.0V	39.0V
Self-consumption	Isleep		12.7mA (Vbat 14,0V)						17,7mA (Vbat 28,0V)	
Operating Temperature	Tamb	-10°C	-	+60°C	-10°C	-	+60°C	-10°C	-	60°C
Dissipated power	Pdiss	-	-	20W	-	-	20 W	-	-	20 W
Terminals' section		-	-	35 mm <sup>2</sup>	-	-	35 mm <sup>2</sup>	-	-	35 mm <sup>2</sup>
IP protection degree			IP20						IP20	
Weight		-	1800 g	-	-	1800g	-	-	1800g	-

## Dimensions



**WESTERN CO.**

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