

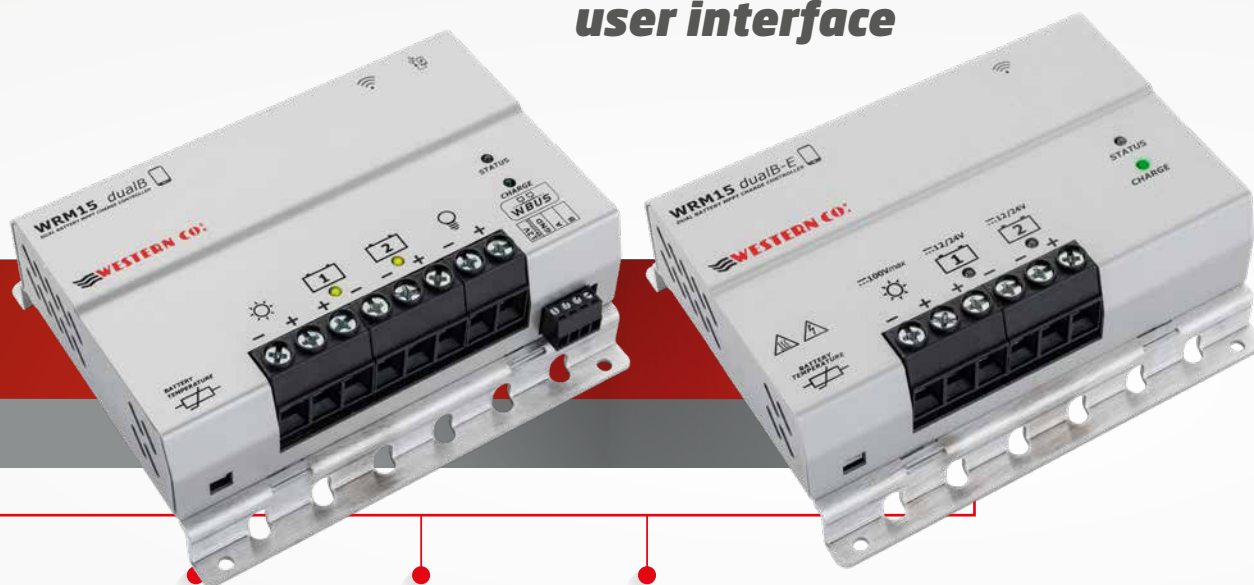
WRM15 dualB WRM15 dualB-E [MPPT]

Code
WRM15 dualB: 014988
WRM15 dualB-E: 015993



◦ dual battery

◦ bluetooth user interface



Descrizione prodotto

WRM15 dualB è un dispositivo in grado di caricare fino a due batterie da modulo fotovoltaico. È appositamente progettato per essere impiegato a bordo di imbarcazioni o camper dove si hanno due batterie: la prima dedicata ad alimentare i servizi di bordo e la seconda per l'accensione del motore e servizi motore. Il **WRM15 dualB** normalmente dà priorità alla carica della batteria 1 (i servizi di bordo) e in seguito gestisce la batteria 2 (avviamento). La batteria 2 è comunque costantemente monitorata e, qualora la sua tensione scenda sotto un certo livello di tensione minimo, entra subito in carica. Il **WRM15 dualB** è monitorato tramite un'applicazione installata su smartphone Android/iOS che si connette tramite Bluetooth Low Energy al dispositivo e permette di visualizzare lo stato di funzionamento interno e di impostare alcune

[eng] Product description

WRM15 dualB is a device able to charge up to two batteries from PV module. It is specially designed for application on boat or camper where there are two batteries: the first one is for feeding the on-board services and the other for starting the engine and engine services. **WRM15 dualB** normally gives priority to the battery 1 (on-board services) and then manages the battery 2 (starter). Battery 2 is still constantly monitored and, if its voltage drops below a certain minimum voltage level, it starts to charge. **WRM15 dualB** is monitored through an application installed on Android/iOS smartphones that connects via Bluetooth Low Energy to the device and allows to visualize the operating status and set some of its functionalities. Two versions of the controller are available, one

[fra] Description du produit

WRM15 dualB est un dispositif capable de charger jusqu'à deux batteries à partir d'un module photovoltaïque. Il est spécialement conçu pour être utilisé à bord des bateaux ou des caravanes où il y a deux batteries; la première est destinée à alimenter les services à bord et la deuxième à démarrage des moteurs. Le dispositif **WRM15 dualB** donne normalement priorité à la charge de la batterie 1 (services à bord) puis il gère la batterie 2 (démarrage) La batterie 2 est quand même constamment suivie et si sa tension descend au-dessous d'un certain seuil de tension minimum, elle entre immédiatement en charge. Le dispositif **WRM15 dualB**, est surveillé grâce à une application installée sur smartphone Android/iOS qui se connecte par Bluetooth Low Energy au dispositif et permet de visualiser l'état de fon-

sue funzionalità. Sono disponibili due versioni del regolatore: una denominata **WRM15 dualB** e una **WRM15 dualB-E** che si differenziano perché la versione dualB implementa in più l'uscita carico con diversi programmi di gestione e una porta USB per la ricarica di smartphone, tablet o battery bank.

called **WRM15 dualB** and the other one's **WRM15 dualB-E**, which differ because the dualB version also implements the load output and a USB port for charging smartphones, tablets or battery banks.

ctionnement interne et de définir certaines de ses fonctionnalités.

Deux versions du contrôleur sont disponibles, l'une appelée **WRM15 dualB** et **WRM15 dualB-E**, qui se distinguent par le fait que la version dualB implémente en outre la sortie de charge avec différents programmes de gestion et un port USB pour charger un smartphone, une tablette ou une batterie.

Caratteristiche prodotto

[eng] Product features

[fra] Caractéristiques du produit



Step-down MPPT technology



Max PV module power:
250W for 12V battery
500W for 24V battery



18 programs to manage the load
(available only on WRM15 dualB version)



12V/24V battery auto-detect voltage



Bluetooth remote control application



Temperature-compensated charge voltage



USB port to charge mobile devices
(available only on WRM15 dualB version)



Internal blocking diode



Protections:
Low voltage load disconnect
Over-temperature
Battery polarity inversion
Output overload protection
(available only on WRM15 dualB version)



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



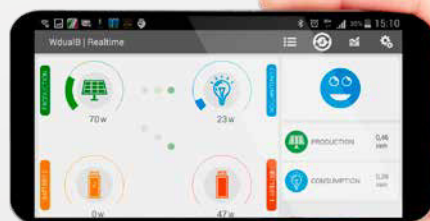
IP20 metal box



WBUS protocol with RS485
communication port
(available only on WRM15 dualB version)

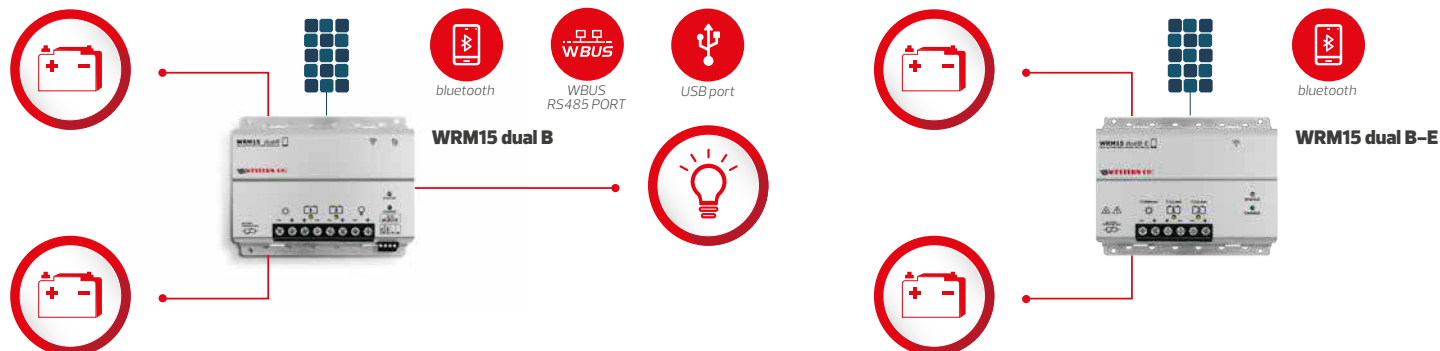


APP WRM Monitor



USER MANUAL
WRM15 dualB
WRM15 dualB-E

Schema logico

[eng]
Logic diagram[fra]
Schéma logique**WRM15 dual B/WRM15 dual B-E**

Caratteristiche elettriche

[eng]
Electrical specifications[fra]
Fonctionnalités électroniques

		12V Nominal battery voltage			24V Nominal battery voltage		
		Min	Typ	Max	Min	Typ	Max
Battery voltage	V_{batt}	10.0V	-	17.0V	20.0V	-	34.0V
Max PV open circuit voltage	V_{pan}	-	-	100V	-	-	100V
Max PV current	I_{pan}	-	-	15A	-	-	15A
Max PV power	P_{max}	-	-	250W	-	-	500W
Battery charge current	I_{ch}	-	-	15A	-	-	15A
Load output voltage*	V_{LOAD}	-	V_{batt}	-	-	V_{batt}	-
Load output current*	I_{LOAD}	-	-	15A	-	-	15A
Charging voltage at 25°C - SEAL program (default)	V_{EoC}	-	14.4V	-	-	28.8V	-
Charging voltage at 25°C - FLOOD program	V_{EoC}	-	14.8V	-	-	29.6V	-
Charging voltage for Li program	V_{EoC}	14.0V	-	14.7V	28.0V	-	29.4V
Battery V_{EoC} temperature compensation	V_{tadj}	-	-24 mV/°C	-	-	-48 mV/°C	-
Float phase voltage	V_{Flt}	-	$V_{EoC} - 0.6V$	-	-	$V_{EoC} - 1.2V$	-
Absorption phase time length (adjustable)	T_{abs}	1h	-	8h	1h	-	8h
Low battery voltage load disconnect (adjustable)*	V_{lb}	10.8V	11.4V (default)	12.2V	21.6V	22.8V (default)	24.4V
Low battery voltage load reconnect*	V_{elb}	12.4V	13.8V	13.8V	24.8V	27.6V	27.6V
Night detection voltage $V_{night} = V_{day} - 0.8V$ *	V_{night}	1.6V	-	8.8V	4.0V	-	18.4V
Day detection voltage (adjustable)*	V_{day}	2.4V	4.8V (default)	9.6V	4.8V	9.6V (default)	19.2V
Self-consumption	I_q	-	12.7mA ($V_{batt} 14.0V$)	-	-	17.7mA ($V_{batt} 28.0V$)	-
Operating temperature:	T_{amb}	-40°C	-	50°C	-40°C	-	50°C
Max power loss	P_{loss}	-	-	20W	-	-	29W
Wireless cross section	P_{diss}	1mm ²	-	10mm ²	1mm ²	-	10mm ²
Weight		515g					
Protection degree		IP20					
Dimensions		146x121x49mm					

*available only in WRM15 dualB version