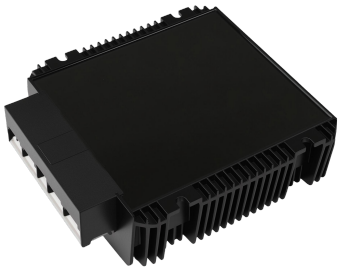
BIDIRECTIONAL CHARGING / 12 V TO 24 V

Bidirectional DC/DC Charger

SKU: WTDC-12-24V-50A





50 A
FORWARD CHARGING
Up to 50 A / 29.2 V CC-CV

100 A
REVERSE CHARGING
Up to 100 A / 14.4 V CC-CV

IP65
ENCLOSURE PROTECTION
Natural cooling / 60 mm profile

KEY SPECIFICATIONS

SYSTEM ARCHITECTURE & CHARGING	
Vehicle battery / A side	**12 V AGM/GEL**
Auxiliary battery / B side	**25.6 V, 8S LiFePO4**
Rated charging power	**1,500 W**
Forward charging / A to B	**29.2 V, up to 50 A (CC-CV)**
Reverse charging / B to A	**14.4 V, up to 100 A (CC-CV)**
Charging functions	**Lithium full-charge cutoff; AGM/GEL float charging**

ELECTRICAL PERFORMANCE	
DC input voltage range	**10-60 VDC**
Peak DC input voltage	**60 VDC**
Maximum input current	**105 A at Vin = 10 V**
Power efficiency	**96% at Vin = 12 VDC**
Built-in input fuse	**150 A (positive input)**
Ripple & noise / A to B	**220-600 mV p-p**
No-load current	**150 mA at Vin = 12 VDC**

Factory settings for WT-24BC1500M. Actual current depends on input voltage, battery state and temperature.

AUTOMATIC DRIVE / PARK OPERATION

Control & Installation

SKU: WTDC-12-24V-50A

ACC / RMT OPERATING MODES

ACC	RMT	CHARGING DIRECTION	APPLICATION
ON	ON or OFF	Forward / A to B	**Charge the auxiliary battery while driving.**
OFF	ON	Reverse / B to A	**Maintain the starter battery while parked.**
OFF	OFF	Stopped	**Disable forward and reverse charging.**

Signal levels: ON = 10-60 VDC; OFF = 0-8 VDC. Reverse charging requires ACC OFF and RMT ON.

FACTORY VOLTAGE THRESHOLDS

DIRECTION	INPUT STARTUP VOLTAGE	INPUT LOW-VOLTAGE CUTOFF
Forward / A to B	13 V at battery A	**12 V or lower at battery A**
Reverse / B to A	25 V at battery B	**24 V or lower at battery B**

PHYSICAL & INSTALLATION

MECHANICAL DATA	
Dimensions	**200 × 178 × 60 mm**
Weight	**≤2.7 kg**
Operating temp.	**-40 to +55 °C**
Enclosure rating	**IP65**
Cooling	**Natural**
Power cables	**4 AWG input / output**
Cable length >1 m	**Use a thicker cable**

MANAGEMENT & PROTECTION

FUNCTIONS & INTERFACES	
Protections	**Short circuit / over-voltage / over-current: auto recovery**
Temperature	**Automatic power derating**
Control features	**Current soft start; power-on delay; V/I calibration**
Monitoring	**Built-in Bluetooth / app; RS485 functions optional**
Reverse sleep	**Supported**
Warranty	**2 years, limited**

8-PIN CONTROL HARNESS

1 RED	2 BLACK	3 BLUE	4 GREY	5 YELLOW	6 GREEN	7 WHITE	8 ORANGE
RS485+	**RS485-**	**CANH**	**CANL**	**ACC**	**RMT**	**BAT-**	**PG**
A / +	B / -	Reserved*	Reserved*	Forward	Reverse	Reserved*	Reserved*

* CANH, CANL, BAT- and PG are left unconnected for the standard quick-start installation. Insulate unused wires.