DN SERIES

Bidirectional DC-DC Charger

DN1220 / DN1230 / DN1245 / DN1260	12VDC aux. bat 20A / 30A / 45A / 60A
DN2430 / DN2460	24VDC aux. bat 30A / 60A

FEATURES



- Charges auxiliary batteries while driving and maintains starter batteries when parked, with full-rated current in both directions
- All DN models are compatible with smart alternators. DN12 models support 12V alternators while DN24 models support both 12V and 24V alternators
- High efficiency up to 96%
- Automatic temperature compensation
- Built-in Bluetooth for TBB mobile app monitoring and OTA firmware upgrade
- 2 communication interfaces: 1 × CAN and 1 × Display
- One programmable dry contact output
- IP40 rated for demanding vehicle environments
- Fanless natural cooling design for completely silent operation

WORKING MODES

- **Mode 1: Alternator Charging**

  Compatible with Euro 6 smart alternators, the DN Series charges the auxiliary battery at the rated current from the vehicle alternator. Charging current is adjustable via the mobile app to match alternator performance.



- **Mode 2: Engine Start Assist**

  When the starter battery is low, the auxiliary battery can provide full-rated reverse charging to the starter battery to assist engine starting, triggered via the mobile app. The engine can be started after approximately 10 minutes of charging.



Model NO.	DN1220	DN1230	DN1245	DN1260	DN2430	DN2460
Electrical						
ALT Input Voltage (V)	10.5 ~16 @ 12V ALT				10.5 ~16 @ 12V ALT 21 ~ 32 @ 24V ALT	
Max ALT Input Current (A)	20	30	45	60	30 @ 12V ALT 30 @ 24V ALT	60 @ 12V ALT 60 @ 24V ALT
Auxiliary Battery Nominal Voltage (V)	12				24	
Auxiliary Battery Max. Charge / Discharge Current (A)	20	30	45	60	15 @ 12V ALT 30 @ 24V ALT	30 @ 12V ALT 60 @ 24V ALT
Efficiency (%)	Max. 96					
Temperature Compensation (mV / °C / 12V)	Default: -18					
Static Power (mA)	< 2					
Others						
Protection	Output short-circuit, output over-voltage, over temperature, etc.					
Operating Temperature Range (°C)	-40 ~ +70 (Derating when > 30)					
Dimensions (mm)	181 × 148 × 52			181 × 148 × 67	181 × 148 × 52	181 × 148 × 67
Weight (kg)	1.5					
IP Rating	IP40					
Cooling	Natural cooling					
Communication	Bluetooth, CAN					
Dry Contact	30V / 1A Relay × 1					
Display	4 LED					
Certificate	CE, E-mark, SAA, FCC Part 15B					