

Bosch eBike Systems

Technical features



BOSCH

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Product description

The Bosch eBike System comprises the Drive Unit with motor, control unit and sensors, as well as the Battery Pack and the HMI, which enables the operation of the system at the handle bar, and furthermore can be used as a bicycle computer.

The special frame interface of the Drive Unit qualifies the system as initial equipment only, no add-on kit is available. The Bosch eBike System is suitable for the usage with derailleur and gear hubs.

Realization of the driver's wish

The direct sensing of the driver's wish (torque, pedalling power and speed) together with the intelligent control of the powerful motor offer outstanding performance.

The heart of the system, the Drive Unit, is positioned in the middle of the frame. The light weight and the powerful Battery Pack result in a high-efficient and instantaneous reaction to the driver's wish and furthermore in an always ideal cruising range.

The system also suits perfectly for the use with child trailers or child seats.

Outstanding characteristics

- ▶ Enhanced driving-fun with powerful engine-support
- ▶ Total control in demanding situations
- ▶ Powerful, comfortable and instant support in a full range of speed
- ▶ Maximum safety via 3-sensor-concept and cell protection
- ▶ Steady and immediate reaction to driver's wishes

Free choice of assistance mode and assistance level

The Bosch eBike System offers 4 different modes that result in an ideal assistance profile related to the driving situation.

Mode	Assistance profile
Eco	appreciated support at maximum efficiency for maximum cruising range
Tour	smooth riding – ideal for touring and trekking going for a long cruising range
Sport	powerful support – sportive riding off road as well in urban traffic (start/stop)
Speed	maximum power supporting highest cadence for ambitious sportive riding

Subsequently shown is the assistance level in relation to the assistance mode (data in table refer to derailleur):

Level	Assistance mode			
	Eco	Tour	Sport	Speed
1	30%	60%	75%	90%
2	60%	95%	110%	160%
3	100%	140%	200%	250%

Cruising Range:

The reachable cruising range can be up to 145 km.

Technical features of the Bosch eBike System components

Drive unit:

- ▶ Middle motor
- ▶ Support up to 25 km/h
- ▶ Motor:
 - Rated or nominal power: 250 W
 - 40 Nm nominal/50 Nm peak
 - The supporting torque is directly transferred on the crank.
- ▶ Sensors:
 - Torque
 - Pedal speed
 - Speed
- ▶ Weight: < 4 kg (excluding fixation set)
- ▶ Design cover available in defined battery colours

HMI:

- ▶ Drive control
- ▶ Bicycle computer showing speed (current & average), distance (trip & total) and remaining cruising range
- ▶ Battery monitoring
- ▶ Choice of mode and assistance level
- ▶ Size: (W) 55 mm x (H) 69,5 mm x (D) 15,5 mm
- ▶ Weight: < 150 g
- ▶ The HMI is removable and serves as a system key.

Battery pack:

- ▶ Lithium-Ion battery, 288 Wh, 36 V, 8 Ah
- ▶ 2 Battery versions: rack type and standard
- ▶ Size of standard battery:
 - (H) < 260 mm x (L) < 90 mm x (W) < 85 mm
 - (Without connector holder and lock cover)
- ▶ Size of rack type battery:
 - (H) < 45 mm x (L) < 360 mm x (W) < 110 mm
- ▶ The standard battery version is available in three colours:
 - White (RAL 9003)
 - Black (Pantone Black 6C)
 - Silver (over coated, RAL9006)

- ▶ The rack type battery is Black (Pantone Black 6C).
- ▶ Turn on/off button; State of charge is shown directly on the battery pack via 5 LED.
- ▶ We guarantee 500 full load cycles or 200 Wh after two years (70% remaining battery capacity).
- ▶ Weight: ca. 2,5 kg
- ▶ Battery cell management (ECP) offers protection of
 - Unbalanced battery cells
 - Overcharging
 - Under voltage
 - Overheating
 - Short circuit
- ▶ Charger
 - Supply voltage 110 or 230 V (AC)
 - Charging time: max. 2,5 hrs (1 h = 50%, 4 A)
 - Size: (L) 150 mm x (W) 83 mm x (H) 47,5 mm
 - Weight: < 1 kg
- ▶ Diagnosis tools
 - PC-aided diagnosis

Valid for all Bosch eBike System components:

- ▶ Comply with CE and UL safety norms
- ▶ Operating temperature: –5 °C...40 °C
- ▶ Storage temperature and passive mode: surrounding temperature, determined by lowest range (charger): –10 °C...50 °C
- ▶ Maintenance free and water resistant

The Bosch eBike System isn't just about support for the rider – it's about support for the dealer as well.

With the diagnosis tool the IBD (independent bicycle dealer) can read out the system data. Errors can be diagnosed quickly and replacement parts ordered through the service hotline. For all questions regarding the system and diagnosis there will be a hotline for dealers starting in March 2011, furthermore system trainings are offered.

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