

E-Drive System Catalogue



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About Betronic EDS

Betronic E-Drive Solutions (Betronic EDS) is a Dutch company that supplies E-Drive Systems (both hub and mid-drive motors) to the bicycle industry.

Betronic EDS is a part of the Betronic Group, an electronics development and manufacturing company, based in Amsterdam with production facilities in the Netherlands and China.

The Betronic E-Drive System consists of all essential E-Drive Components such as motor controllers, motors, batteries, control buttons and/or displays and/or control buttons, IoT-Devices, sensors, and cabling. Over the past 15 years, Betronic Group has built a solid customer portfolio in the bicycle industry. During this time we have worked with brands such as Cortina, Van Raam, Veloretti, Stella, Mokumono and Phatfour.

Design & Production

At our headquarters in Amsterdam, we have a dedicated design team with designers and software & hardware engineers. We take full responsibility for the integration of the E-Drive System and will remain the single point of contact. All the designed products will be produced in our own production facilities.

Service

Betronic EDS can support its customers with a full service proposition. This includes a dealer tool for error analysis, a webshop where all the spare parts can be obtained and a customer service desk for technical support.



E-Bike experience:

15+ years



Production sites:

Suzhou (CH), established 2019
Zwaag (NL), acquired 2023

Headcount:

100



HQ:

Amsterdam (NL)

Established:

1977

Key functions:

R&D, Business Development,
Supply Chain, HQ Functions &
Management

Headcount:

40

Betroniceds.nl

Meet the team



Paul Vroling
CEO



Laura Meuwese
Sales Manager



Pieter de Smeth
Technical Manager



Mies Versloot
**Account Manager
Supply Chain**





Our mission

"Empowering your ride"

"Our mission is to deliver innovative, connected and high-performance electric drive systems for E-Bikes. Through our cutting-edge technology and customer-oriented approach, we aim to inspire people to use the E-Bike as their preferred means of transportation."

Our Core Values

At Betronic EDS, we believe that responsibility is fundamental to our success and integrity. We are committed to:

Innovation: Continuously developing state-of-the-art technology to enhance the performance, efficiency and reliability of E-Drive Systems.

Quality: Upholding the highest standards in design, manufacturing and testing to ensure exceptional durability and performance in every product.

Customer Focus: Focusing on the needs and satisfaction of the riders by offering personalized solutions and outstanding support.

“Be the **leading partner** in E-Bike Technology and connectivity by **combining expertise**, customization and by offering a **Dutch design** & production capacity.”



Added value







Betric

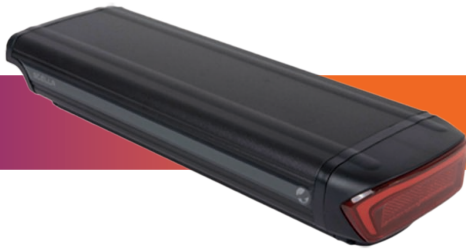
Our platform

Betric Group is in the E-Bike business since 2008. Over the years, we have developed our knowledge and skillset to compose our full E-Bike platform solution.

The E-Bike platform consists of a combination of products from Betric EDS and from our partners. The combination of all these products together work as one unified connected E-Drive system. A one-stop shop solution for E-Bike brands.



Batteries



Sensors



Displays



Product overview



Motor controller

The motor controller is the brain of our system and communicates with all components in the E-Drive system. The motor controller is configured for standard drivability by Betronic EDS but can be fully tuned and customized to create unique

driving behavior tailored to your brand. The motor controller comes with or without built-in Bluetooth and is compatible with PAS, torque, rotation, and encoder sensors.

Rated voltage	42
Low voltage protection	28 - 30
Current limit (A)	20
Rated power (W)	Max. 700
Weight (g)	215
Communication	CAN
Light support	6V 500mA
Support levels	Configurable
Dimensions (mm)	49.1 x 98.2 x 28.55 (LxWxD)





City - BM65

This city motor is the perfect solution for any urban commute and recreational use. Its weight and torque offers a perfect fit for your everyday commute.

Power (W)	200
Efficiency (%)	80
Torque (Nm)	65
Speed (km/h)	25-32
Weight (kg)	2.25
Rated voltage (V)	36
Dimensions (mm)	165 x 90 x 198 (LxWxD)



*Compact
& Light*





Trekking - BM80

A powerful ETM motor that generates around 80 NM torque at a competitive price. This motor offers the rider a supply of power when making tours in mountainous areas. It is also a preferred option for more intensive commutes and active recreational use.

Power (W)	250
Efficiency (%)	80
Torque (Nm)	80
Speed (km/h)	25-32
Weight (kg)	3.5
Rated voltage (V)	36
Dimensions (mm)	188 x 123 x 98 (LxWxD)

*Powerfull
& Silent*





Front motors

Front Hub - BFDM35

Weight (kg)	+/- 1.5
Measurements (mm)	100 x OLD 102
Rated voltage	36
Watt (W)	250
Torque (Nm)	35
Noise level (dB)	<55
Operation temperature (°C)	-20~45
Torque / Cadence sensor	Integrated



Front Hub - BFDM40

Weight (kg)	+/- 2,3
Measurements (mm)	108 x OLD 100
Rated voltage	36
Watt (W)	250
Torque (Nm)	40
Noise level (dB)	<55
Operation temperature (°C)	-20~45
Torque / Cadence sensor	Integrated





Rear Hub - BRDM30

Weight (kg)	+/- 2
Measurements (mm)	109 x OLD 100
Rated voltage	36
Watt (W)	250
Torque (Nm)	30
Noise level (dB)	<55
Operation temperature (°C)	-20~55
Torque / Cadence sensor	Integrated



Rear Hub - BRDM35

Weight (kg)	+/- 1,7
Measurements (mm)	103 x OLD 130
Rated voltage	36
Watt (W)	250
Torque (Nm)	35
Noise level (dB)	<55
Operation temperature (°C)	-20~45
Torque / Cadence sensor	Integrated



Display & Control Buttons

Betronic's EDS display features a full IPS colour screen. The display has been tested extensively, is waterproof, and is easy to adjust. Screen brightness has been optimized for outdoor use. The control buttons are ergonomically designed and can be operated well with gloves.

This product is a modular solution, meaning the display and control buttons functions as one combined setup, but it's also possible to operate with the control buttons only. This offers perfect upsell opportunities.



General

Display technology	LCD
Display Rated voltage	12
Control buttons rated voltage	12
Support levels	3-9
Communication	CAN
Weight display (g)	77
Weight control buttons (g)	29
Screen size (Inch)	2,4
Connector	Higo 5-wire

Indicators

Current speed in km/h	Yes
Average speed in km/h	Yes
Single trip distance	Yes
Total distance	Yes
Battery capacity	Yes
Light	Yes
Walk mode	Yes

Specification

Screen type	IPS Full Colour
Resolution (px)	240 x 320 px
Bluetooth	Optional
USB charge/communication	No

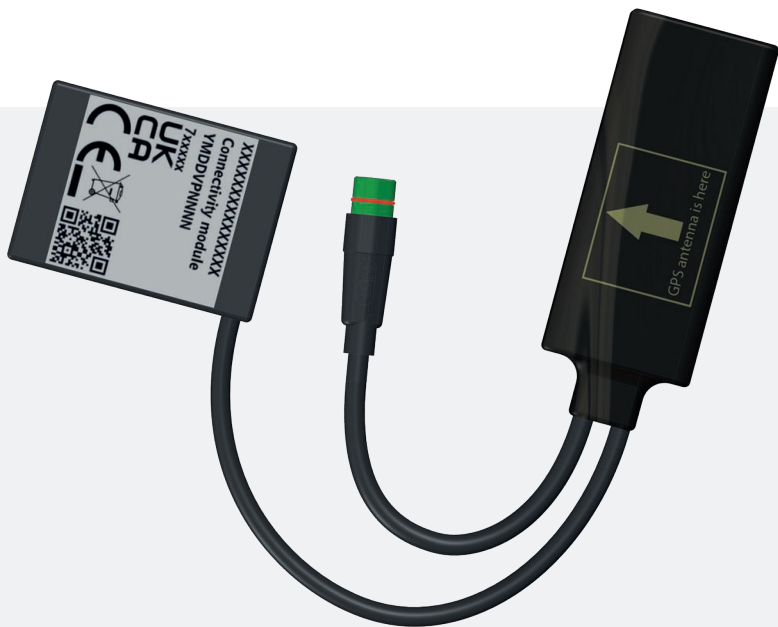


IoT Devices

Our IoT device is the hardware which makes the connected bike solution possible. The solution includes tracking the location of the bike, Geo fence, over the air updates of different E-Drive Parts, managing front and rear lights etc. The IoT device includes also Bluetooth and WiFi. Our solution can also be integrated with 3rd party E-Bike Systems like Shimano and Bafang.

Mobile communication	LTE CATM + NB-IoT
Localization	GNSS
E-Bike communication	CAN
Rated voltage	12
Finding strategy (last 100m)	BLE 5 advertising / WiFi
Backup battery (mAh)	700
Communication	Secure MQTT

Prepared for
the future of
connectivity





Connected Bike – Proven Concepts

Customer demands are changing due to being connected 24/7. The value of E-Bikes is rising, and more E-Bikes are stolen every day. This rise in theft in combination with the market demanding constant innovation makes it compelling to consider a connectivity solution.

The Betronic EDS hardware allows integration with various back end and front end providers. Betronic EDS has extensive experience in integrating with various back end and front end providers, allowing

us to offer a comprehensive package. However, customers are free to choose their preferred back end partner.

At this moment our hardware offers a direct connection to the AXA IN platform, a native smartphone app with white-label possibilities developed by Conneqtech in collaboration with KPN. Our connectivity solution turns an E-Bike into a connected bike with ease.

What AXA IN offers in a nutshell:



Theft recovery

Track & trace functionality offering near real-time 24/7 insights into your bike's current location, even when not ridden. This makes offering a theft recovery subscription possible as well.



Insurance

Direct connections with different insurance companies which offer discounts on E-Bike insurance.



Roadside assistance

Request help when stranded on the side of the road and get in contact with the right professional.



Fleet management

Integrates with fleet management solutions. Social Media integration. Allows users to share routes and performance stats.



Data analysis

Improve the quality of products and services based on extensive analytics.



Service

Betronic EDS provides full life cycle support, key services for OEM, bike brands and dealers include:

Diagnose tool

Riding behaviour can be tuned with our Smart Diagnostics Tool. It offers the possibility to configure different riding modes per user type or bike type. Speed, power and parameters for walk assist, wake function and many more can be configured in a user-friendly software tool.

The tool allows you to:

1. Update firmware and diagnose the system
2. Read error codes
3. Perform system updates
4. Perform manual system self-tests

Advice from the tool includes replacing components and creating support tickets, including a diagnostic report, frame number and shipping label.

After market webshop

Where critical components can be purchased by B2B market :

- In case of warranty: Order a product for € 0.
- In case of no warranty: A product can be ordered at an after-market price.

Customer support

At the Betronic EDS Service Department, the process begins after the dealer completes all the mandatory steps of the dealer tool. If the error case is not solved there will be a ticket to customer support. They will analyse the report. This is followed by determining whether the issue falls under warranty or not. If the product is under warranty, a discount code is issued for free ordering of the replacement product through the webshop. Inventory management ensures that all necessary components are available in the webshop. The department also provides training and technical support to ensure that all customer staff are well-equipped to handle any issues. Finally, the repair shop takes care of any necessary repairs, ensuring that all products are in top working condition.





Betronic locations

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