If seal is broken = stolen

protected by PentaLock

protected by PentaLock

PentaLock

MADE BY **ENGINEERS** TESTED BY **THIEVES**

Smart solutions for OEMs

Security, Convenience & Riding experience

The PentaLock platform is an integrated OEM solution located in the bottom bracket, offering **security**, **convenience** and an improved **riding experience**.

Security　　　Riding Experience　　　Convenience

Bikes	
PentaLock Unit	
Features	**Security** · Pedal lock · Alarm system · E-bike killswitch **Convenience** · One push go! · Auto-lock · App solution **Riding experience** · Digital torque · Cadence sensor · Adaptive Drive
Keys	Keyfob API

Optional insurance   Easy integration   No hidden fees or subs

Easy adaptable platform for any e-bike system

Security

PEDAL LOCK

ALARM SYSTEM

E-BIKE KILLSWITCH

Pedal lock

The immobilizer can resist > 200kg applied to the pedals.

Functions as an immobilizer disabling the e-bike functionalities.

Impossible to remove or replace unless authorized.

Alarm system

When theft is detected, ~105 dB alarm is activated.

The alarm continues to sound until the bike is left alone to deter thieves.

Utilizing proprietary sensor solutions, accidental detections are minimized.

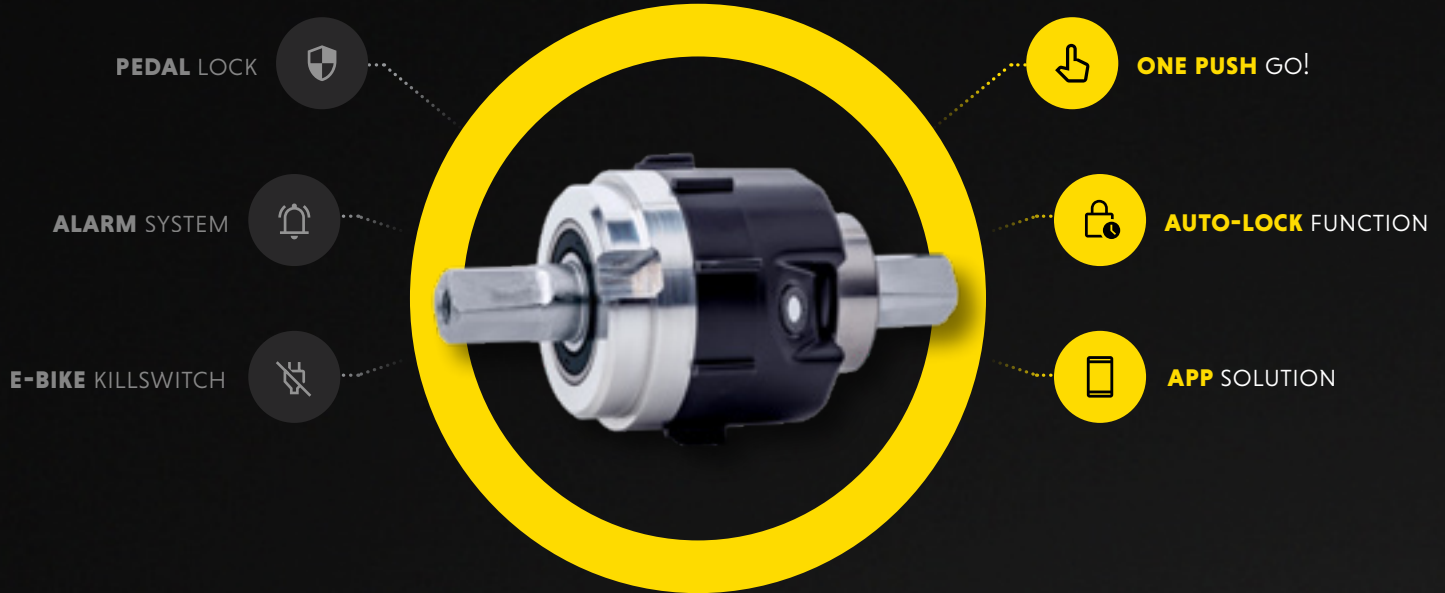## E-bike killswitch

When locked, the electrical system is deactivated.

Prevents thief interacting with bike when locked.

Enabling automatic power off through bike system.*

*if supported by select controllers

Convenience

PEDAL LOCK

ALARM SYSTEM

E-BIKE KILLSWITCH

ONE PUSH GO!

AUTO-LOCK FUNCTION

APP SOLUTION

One push go!

PentaLock only requires one click of the keyfob to lock or unlock.

Also activates electrical systems, making bike ready for use.

Small, portable and easy to use - bring the PentaLock wireless key fob anywhere.

Auto-lock function

Forgot to lock bike? No worries! PentaLock locks automatically.

If wireless key hasn't been detected in close proximity for 60 seconds...

Bike will automatically lock, ensuring user doesn't have to worry.
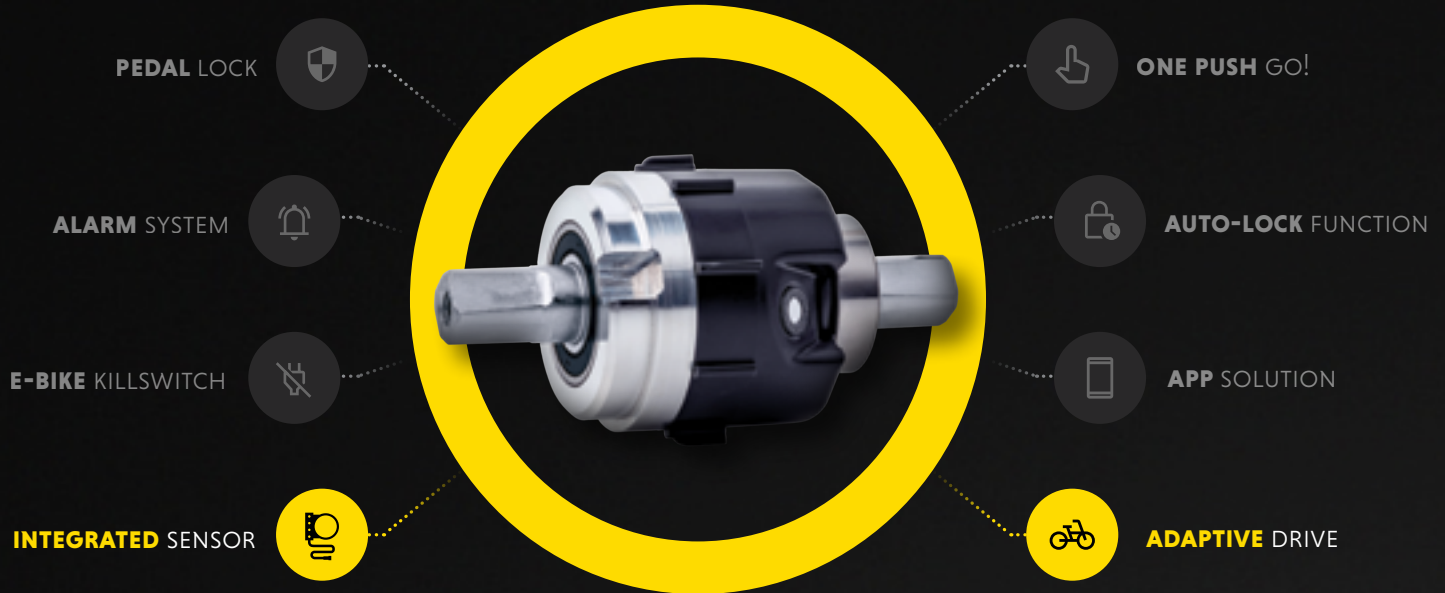
App solution

Integrate PentaLock into your own branded app.

Utilize PentaLock's API to offer more to users.

Digital solutions for any bike OEM and cyclist.

Riding Experience

PEDAL LOCK

ALARM SYSTEM

E-BIKE KILLSWITCH

INTEGRATED SENSOR

ONE PUSH GO!

AUTO-LOCK FUNCTION

APP SOLUTION

ADAPTIVE DRIVE

New

Digital torque
Algorithms process data in real-time and adjust accordingly

New

Adaptive Drive
Adaptive software platform that adjusts your ride for different riding scenarios.

Integrated sensor
Choose between digital torque or cadence sensor.

Hill Detection
Need a helping hand up a steep hill? No worries, we've got you covered!

Launch Assist
Stopped at a red light & you need to be ready to go when it turns green?

Gentle Ride
Perfect for maneuvering safely through city streets and at night.

WE INNOVATE
WE MANUFACTURE
WE HELP FROM A-Z

PentaLock can help bike manufacturers innovate and manufacture better bike solutions by assisting throughout the integration, including **frame**, **controller** and **mechanical** changes.
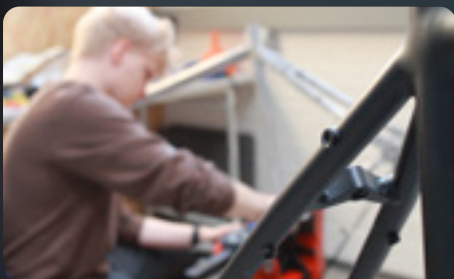
Frame integration

Frame integration prototyped from existing frame. Minor changes to aluminium frame.
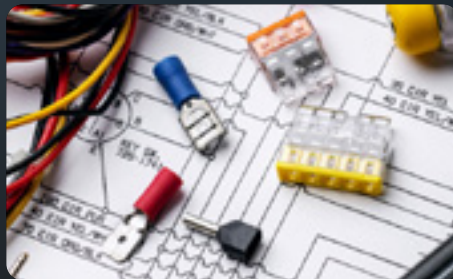
Controller integration

Compatible with Bafang controller system. PentaLock CAN-bus protocol shared with third-party controller manufacturer on request.

Mechanical adaptation

We can adapt to mechanical requirements, e.g. spindle length, fat bikes, cargo, urban, etc. at higher volumes.

watt.
Customer case

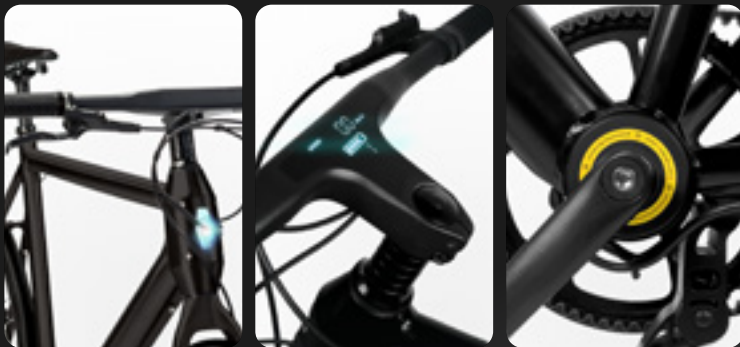WATT Mobility from the Netherlands, uses the PentaLock system in the Brooklyn bike model. PentaLock has assisted in the integration phase with frame- and controller-manufacturer, as well as bike-assembly partner, to ensure high quality.

"

PentaLock and their team is a pleasure to work with, especially thanks to their active involvement throughout the entire integration process and the high standards they strive toward in their work.

We are very excited at Watt for the added potential that the PentaLock unit has to offer our products and ultimately our customers as well.

Frans Nomden
CEO Watt Mobility

watt.

1. Meeting & collaboration

Establishing a partnership with Watt Mobility.

2. First prototype

The first prototype was made and integrated by PentaLock within two months.

3. Engineering and integration

PentaLock is actively involved in the integration process, ensuring our high standard of quality.

4. Final product and release

Watt Brooklyn Black Edition x PentaLock 2023.

3 wishes in one
adding multiple additional smart features

PAS/Torque sensor   Bottom bracket   Ring lock

PentaLock

Anti-theft alarm	Immobilizer
Killswitch	One push go!
Auto-lock function	API integration
Integrated sensor	Adaptive Drive
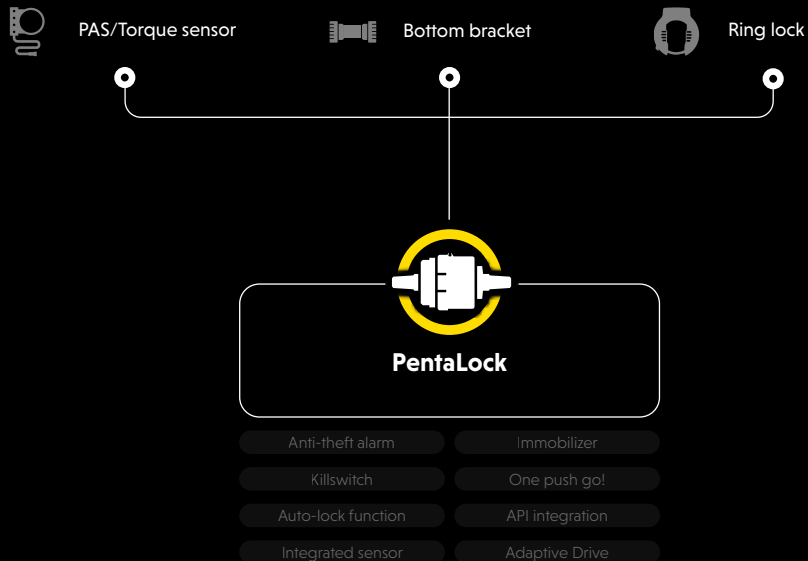
Easy assembly

PentaLock unit

Security seal

PentaLock
Wireless Key

The PentaLock wireless key fob allows users to press one button and be ready to go!

Customize the key to fit your brand with a range of colors and your logo.

PentaLock
API Solution

Integrate the PentaLock API solution into your existing app, allowing your customers to control the PentaLock unit for everyday use.

Digital insurance with **LAKA**

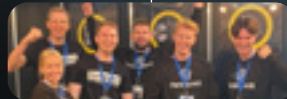# Company

2016 Founded

2019 PL1 Launch

2021 PL2 E-bikes

2023 PL3 Platform

2019 DTC Winners

2021 Eurobike

2022 Eurobike

Headquarters

🇩🇰 Aalborg, Denmark

Sales hubs in
🇩🇪 Germany
🇳🇱 Netherlands
🇵🇱 Poland

🇩🇰 Designed in Denmark

Manufactured in Asia

Future dual assembly in EU

Shipping from HK or DK

● Key market   ● Shipping   ● Manufacturing

Features

Lock bottom bracket in both directions	Yes
Max. load (while locked)	>370Nm[1]
Backwards freewheeling	Optional
E-bike kill/disable function	Yes[2]
Auto-lock function	Yes
Automatic turn off lights	Yes[2]
Automatic turn off display	Yes[2]
Smart Theft Alarm	Yes
Sound level	Up to 105 dBA
Power input	5-60V
Backup battery (UPS)	Integrated

[1] equals to >200kg of continuous load.
[2] for supported controllers

Electronics

Cadence sensor	32 PPR
Torque sensor	Digital torque
CAN-bus	Yes
Plug	Higo Mini F (8 pin male)
Cable length	Std. 0,4m | Custom on request
IP rating	IPX5[3]

[3] protection against jets from all directions

Specifications

Weight approx.	460 grams
Operating temperature	-20 ° C to +60 ° C
Type of ball bearings	6003-2RS
Bearing seal	Double sided sealed (low torque type)
Crank-arm interface	Square taper
Surface of spindle	A2B (zinc plated approx. 5 μm)
Assembly tool	Custom PentaLock tool

Tested by accredited laboratory and certification body

Interested?

Feel free to reach out!

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