

A close-up photograph of a bicycle hub assembly. A grey plastic hub cap is partially open, revealing a central axle with a nut. A bright yellow circular sticker is affixed to the inner surface of the hub cap. The sticker contains the text "protected by PentaLock" in black, repeated twice, and "If seal is broken = stolen" in the center. The background is dark and out of focus, showing parts of the bicycle frame and other components.

PentaLock

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DATASHEET

USECASES



**PUSH THE KEYFOB TO
UNLOCK THE BIKE**



**WHEN YOU ARE NOT THERE THE
ALARM AND LOCK KEEPS YOUR BIKE SAFE!**



**IF YOU WALK AWAY THE BIKE
WILL LOCK AUTOMATICALLY**

PL2 FEATURES

LOCK BOTTOMBRACKET

PentaLock blocks the pedals from turning and can withstand a load of +220kg

UNBREAKABLE LOCK

PentaLock is designed as a vital part of the bike. If a thief tries to cut the lock, the bike will become useless and unsellable

E-BIKE KILLSWITCH

Our E-bike killswitch turns off the display, motor, controller, etc. ensuring that the E-bike's functionalities won't work if stolen

ALARM SYSTEM

If an attempt of theft is detected, a +100dB alarm activates to scare off thieves

WIRELESS KEY

Just push the wireless keyfob to lock and unlock the bike, just like with a car key

TURN ON/OFF E-BIKE

When pushing the wireless keyfob, the E-bike system automatically turns on/off, one push and ready to go.

AUTO-LOCK FUNCTION

Forgot to lock your bike? no worries! PentaLock will automatically lock 30 sec after it detects your absence

INTEGRATED PAS

PentaLock has a fully integrated pedal assist sensor to activate the E-bike whilst riding



PENTALOCK DATASHEET

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PRODUCT LINE

PL1

PentaLock V1



PL1 is the first version of the PentaLock Immobilizer range, which is made for traditional bicycles. The unit is built into the frame/bottom bracket of the bike, and can lock the bottom bracket and has several smart features, like an electronic alarm system to scare of thieves, among other features.

PL2

PentaLock V2



PL2 is an upgraded version of the PL1, as the unit is made for e-bikes (with front or rear motor systems), as it now features an integrated PAS among other e-bike functionalities. The unit is built into the frame/bottom bracket of the e-bike, and can lock the same way as PL1. But now also features a lock/disable function of the complete e-bike system (display, controller, motor, etc.).

UPS

Uninterruptible Power Supply



The UPS is an optional solution, made for e-bikes using the PL2 immobilizer. Some e-bike might not need this backup function, as existing battery or controller can be used instead. The UPS functions as a back-up battery and can power the system for +3 months. The UPS is rechargeable, meaning that it charges automatically when the main e-bike battery is mounted.

B4A

BatteryPack 4x AA-batteries



The B4A is an optional solution, made for traditional e-bikes with no battery integrated. It is easily connected with the PL1 immobilizer. The battery pack can be placed in the seat tube, and uses 4 pieces of standard AA batteries, this makes it fast and easy for the cyclist to change the batteries. This battery pack can hold power of a minimum of 24 months.

SPECS



PL1



PL2

IMMOBILIZER OPTIONS

	<i>Traditional bikes</i>	<i>E-bikes</i>
Features		
Lock bottom bracket in both directions	●	●
Max. load (while locked)	>370Nm *1	
Backwards freewheeling (optional)	○	○
OTA updates through APP	●	●
E-bike kill/disable function	○	●
Auto-lock function	●	●
Automatic turn off lights	○	●
Automatic turn off display	○	●
Keyless/Proximity use (future update)	○	○
Smart Alarm	●	●
Sound level	Up to 105 dBA	
Electronics		
Battery pack	B4A	UPS
Power supply	4 x AA alkaline	1 x LiPo cell
Cadence/rotation sensor	—	●
Plug	Higo Mini B (6 pin male) or other connectors on request	
Cable length	0,4m or on request	
IP rating	IPX5 *2	
Wireless technology	Bluetooth Smart 5.0	
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. 5µm)	
Assembly tool	Custom PentaLock tool	
Manufacturer Packs		
PL1 recommended pack:	PL1, Safety Cap, 2x Keyfobs, B4A, Quick Manual	
PL2 recommended pack:	PL2, Safety Cap, 2x Keyfobs, UPS, Quick Manual	

*1 Max load: this equals more than 200 kg of continuous loading (not peak) applied on a single pedal.

*2 IP rating: protection against jets from all directions, verification by external and accredited institute pending.

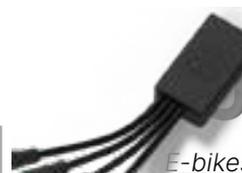
SPECS

BATTERY OPTIONS



B4A

Traditional bikes

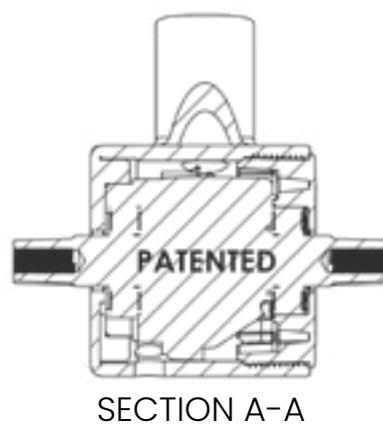
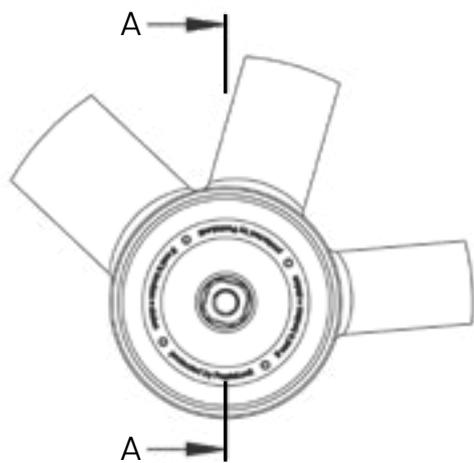
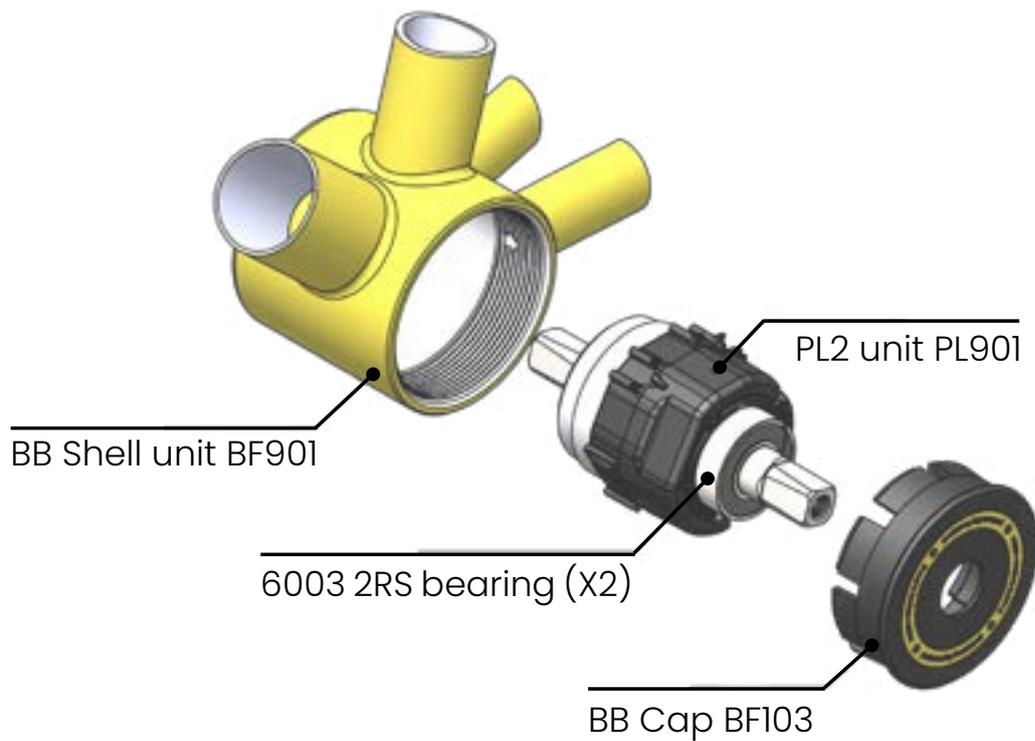


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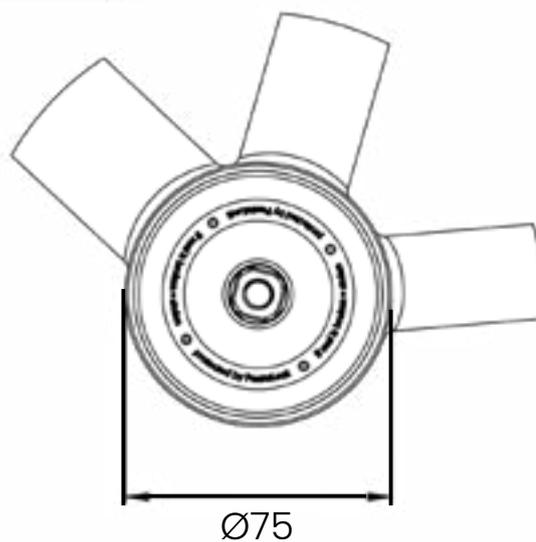
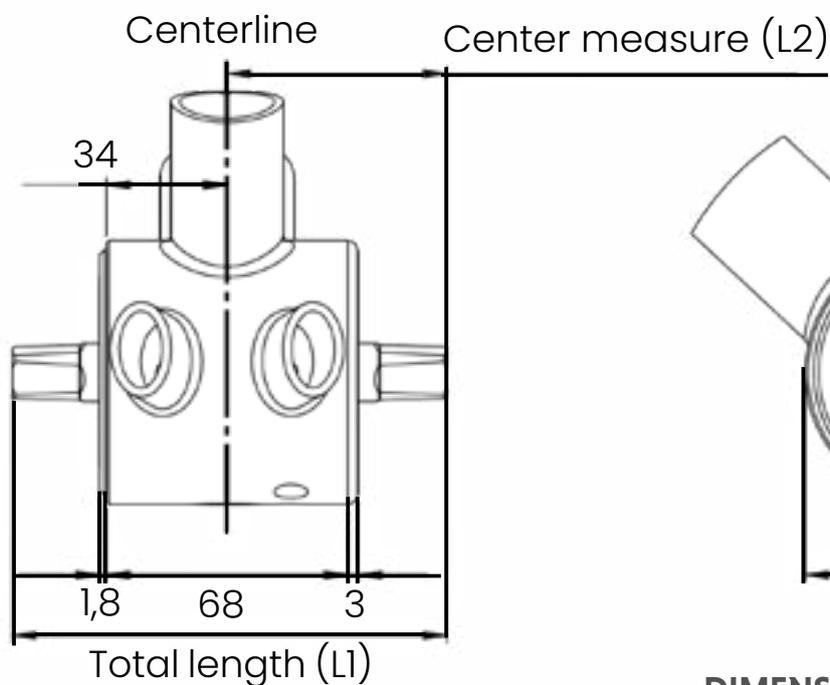
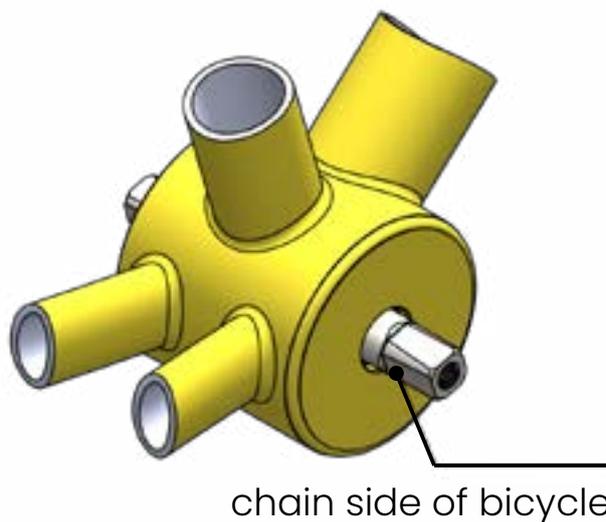
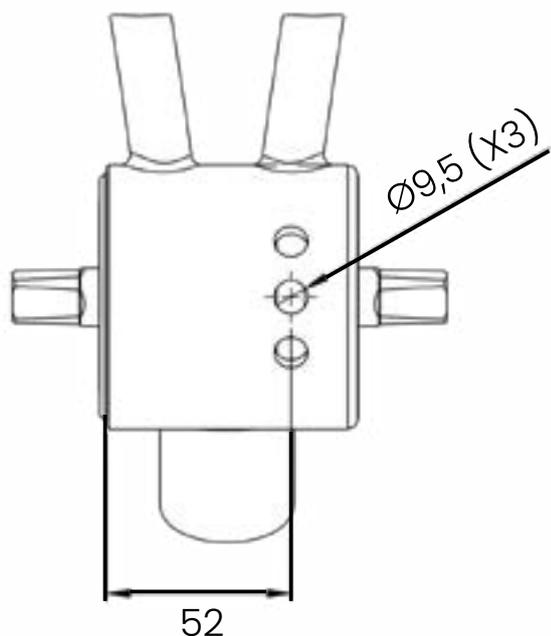
E-bikes

<u>Overview</u>		
Compatible	PL1 & PL2	PL2
Battery cell size	4xAA batteries (IEC R6)	LiPo
Battery capacity	16 Wh	1,2 Wh
Expected battery life	> 24 months	>3 months
Rechargeable	○	●
Changeable batteries	●	○
Supply voltage	-	5 - 60V
Weight approx.	110 g (incl. batteries)	40 g
Dimensions (W x H x L)	16mm x 18mm x 230mm	27mm x 14mm x 49mm
Cable - PL1 or PL2	●	●
Cable - Display/Controller	○	●
Cable - PAS	○	●
Plug	Higo Mini B	

INTEGRATION



TECHNICAL DIMENSIONS

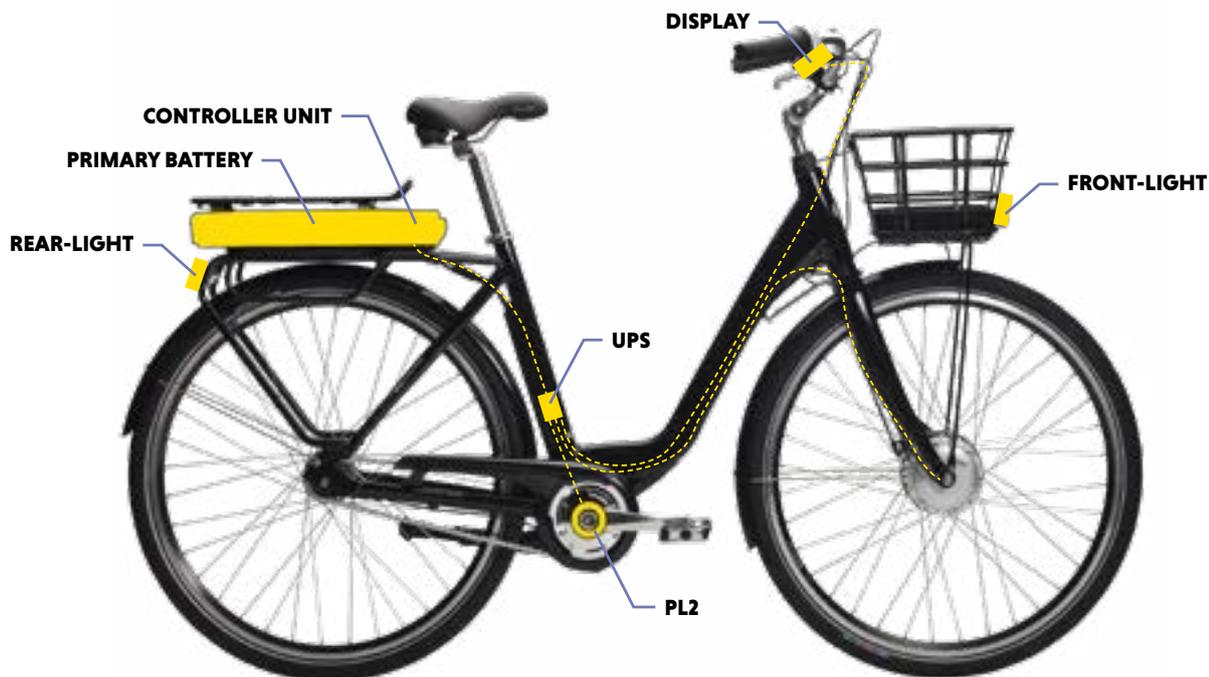


DIMENSIONS & AVAILABLE LENGTHS

Fat Bike version available:
(84mm, 100mm, 120mm or custom)

INDEX	L2 ($\pm 0,3mm$)	L1 ($\pm 0,6mm$)
1	60,5	116
2	62	122,5
custom	on request	on request

E-BIKE INTEGRATION EXAMPLE



BIKE INTEGRATION EXAMPLE



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EU DIRECTIVES AND STANDARDS

PentaLock is compliant with the European Union directives and the European Standards listed in this document. Further requirements are to be requested from the manufacturer.

INTENDED USE

Use the product only as described in the instruction manual. Any other use is considered as improper and may result in property damage or even personal injury. The manufacturer assumes no liability for damage caused by improper or incorrect use.

SERVICE-HOTLINE

Email: development@pentalock.dk

PentaLock