

PaRay Electronique: Bike Data Logger

Technical data sheet



Description

The PaRay Bike Data Logger has been designed fine tune mountain bike suspension:

- Fork travel acquisition: travel, velocity and bottoming detection
- Rear shock travel acquisition: travel, velocity and bottoming detection
- Front speed acquisition
- Rear speed acquisition
- Vertical, front and lateral acceleration (G force) acquisition
- Static SAG adjustment
- Active SAG adjustment

Also maybe you think about improving your rider skill:

- Wheel lock detection;
- Rider weight transfer and position in a berm
- Rider weight transfer and position in a jump

In addition to this, you can open a video of your run and synchronize it with your data. This allows you to see exactly where you are in the track in correlation with your data.

Kit content

BDL recording unit
Front and rear suspension travel sensors
Front and rear suspension sensor mounting hardware
Front and rear wheel speed sensors
Front and rear wheel speed sensor mounting hardware
Battery charger unit
PC interface module (USB type)
PC Software

Environmental

Operating temperature range: -40 to +70 C
Protection: Recording unit, connectors and sensors all splash proof

Mechanical

Recording unit:
Machined aluminum, blue anodized
Size: 34 x 52 x 85 mm

Front suspension travel sensor:
Linear potentiometer mounted behind left or right fork;
Travel range: choice of 80 to 250mm range;

Rear suspension travel sensor:
Linear potentiometer mounted besides shock;
Travel range: choice of 20 to 100mm range;

Front wheel speed sensor:
Magnetic sensor mounted on front fork close to disk brake spokes;

Rear wheel speed sensor:
Magnetic sensor mounted on swing arm close to disk brake spokes;

Other sensors: Contained in recording unit
Weight: Complete kit is less than 0.5kg

Electrical

Battery charger: charging time 3 hours
The power autonomy is more than 10 hours

Functional Trigger system

Operating modes:	Auto start and stop run
Front wheel	Hall effect sensor: sense the disk brake spoke
Rear Wheel	Hall effect sensor: sense the disk brake spoke
Number of pulses per turn:	1 to 20

Fork travel sensor

Maximum speed	10m/s
Maximum stroke	250mm
Accuracy	0.1 mm

Rear shock travel sensor

Maximum speed	10m/s
Maximum Stroke	100mm
Accuracy	0.1mm

3 axes acceleration sensor: Front, lateral, vertical

Sensor range	+/- 8g
Accuracy	0.1g

Acquisition system and memory

Acquisition speed each channel	10 data/s; 50 data/s; 100 data/s
Memory autonomy	10 data/s = 5 h; 50 data/s = 1h; 100 data/s = 30min.
Ability to synchronise video to the data	MPEG4, WMV ...

Diagnostics and monitoring

Monitoring & diagnostic port:	USB module
PC interface:	PC monitoring & Diagnostic Software: BDLpro
	PC Data Analyse software: BDLview

Miscellaneous

- Sophisticate wheel lock detection
- Very high refresh of wheel speed (12 times by turn with AVID disk)
- Bottoming detection
- Suspension displacement velocity calculation
- Suspension travel histogram