



m.moto
m.gadget
Instruction Manual
mo.hub

V1.2

Thank you very much for purchasing a high quality *motogadget* product - Made in Germany.

Please read the following information and recommendations **thoroughly** and follow these instructions during installation and use of the instrument. No liability shall be assumed by motogadget for damage or defects resulting from negligence or failure to follow the operating and

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1 Review of Delivery

All products from motogadget are thoroughly checked to ensure they are completely fault-free when dispatched. Please check the received goods immediately for possible transport damage. If you find any damage or other deficiencies, please contact us immediately.

In this regard, we refer to our General Terms of Business and Delivery, which are published at www.motogadget.com. Should a return of the received delivery be agreed, please note that we only take back goods in their original packaging. The mo.unit and its accessories must be returned within the legal period of time and without any traces of use. We shall not assume any liability for returns which are insufficiently insured or packed.

2 Exclusion of Liability

THE DEVICE AND ITS ACCESSORIES MUST BE INSTALLED BY A CERTIFIED MOTOR-CYCLE TECHNICAN AND IN AN AUTHORIZED SERVICE CENTER. REVERSE POLARITY OR VOLTAGE ABOVE 25V MAY RESULT IN DAMAGE TO THE MO.HUB. THE DEVICE THEN HAS TO BE REPLACED AND ALL CLAIMS OF WARRANTY ARE DELETED.

MOTOGADGET ACCEPTS NO LIABILITY FOR DIRECT OR INDIRECT DAMAGE OR SUBSEQUENT DAMAGE OF ANY KIND RESULTING FROM THE USE, INSTALLATION OR CONNECTION OF THE DEVICE OR OTHER DELIVERED EQUIPMENT. THIS EXCLUSION OF LIABILITY PARTICULARLY INCLUDES DAMAGE TO PERSONS, MATERIAL LOSSES AND FINANCIAL DAMAGES. THE USE IN AREAS OF PUBLIC TRAFIC ENSUES AT THE USER'S OWN RISK.

DEVICE HOUSINGS AND ALL OTHER DELIVERED PARTS MUST NOT BE OPENED OR DISMANTLED. IN CASE OF NON-COMPLIANCE, ALL WARRANTY CLAIMS BECOMES INVALID. THE USE OF THE DELIVERED DEVICE AND ITS ACCESSORIES FOR RACING OR OTHER COMPETITIONS AS WELL AS FOR ANY USE NOT CORRESPONDING TO THE RECOMMENDED APPLICATION ALL WARRANTY CLAIMS SHALL BE INVALID.

3 Safety Instructions

- THE VEHICLE BATTERY MUST BE COMPLETELY DISCONNECTED PRIOR TO ANY WORK ON THE VEHICLE'S ELECTRICAL SYSTEM. FIRST, DISCONNECT THE NEGATIVE TERMINAL AND THEN THE POSITIVE TERMINAL. FOR RECONNECTION PROCEED IN THE REVERSE ORDER.**
- USING THE MO.HUB WITH PLUS POLE CONNECTED TO VEHICLE FRAME (OLDER ENGLISH MOTORCYCLES) IS NOT POSSIBLE.**
- INSTALLATION AND ELECTRICAL CONNECTION OF THE MO.HUB MAY ONLY BE CARRIED OUT BY A CERTIFIED MOTORCYCLE TECHNICIAN.**
- ALL CABLE DIAMETERS MUST BE DIMENSIONED ACCORDING TO THE CURRENT FLOW (REFER TO CHAPTER 8.5).**

4 Intended use

The mo.hub is a universal data interface between motorcycle and smartphone (and motogadget instrument). It connects the vehicle and the Smartphone via Bluetooth and enables the use of our „mo.ride“ app, with extensive vehicle management such as trip logs, maintenance activities, season progress, last trip data, etc.

The Bluetooth coupling process between smartphone and mo.hub and its configuration in the app also take place. Further information at www.mo-ride.com

4.1 Areas of application

4.1.1 Smartphone and vehicle via OBD (On Board Diagnostics) interface

For compatible vehicles, we provide suitable OBD plugs, which cables are need to be connected to the mo.hub terminals. The instructions for this are given in the coupling process within the „mo.ride“ app.

4.1.2 motogadget instrument and smartphone via the vehicle's instrument connector

For compatible vehicles, we provide suitable instrument plugs, which cables are need to be connected to the mo.hub terminals. The instructions for this are given in the coupling process within the „mo.ride“ app.

4.1.3 motogadget instrument and smartphone via direct tap on the vehicle wiring harness

For all vehicles without a BUS system, the signals are picked up directly on the vehicle wiring harness. The instructions for this are given in the coupling process within the „mo.ride“ app.

4.2 Device cold and warm start

During a cold start, the battery plus is connected to mo.hub Terminal 1 in addition to the vehicle earth (mo.hub Terminal 3). The device is initializing during a cold start. This process takes approx. 3s, which is indicated by a briefly lit status LED.

During a warm start, vehicle earth and battery plus are connected. The device is in standby mode. The wakeup is done by ignition plus, switched by the ignition lock, at mo.hub Terminal 2.

4.3 Status LED

The following operating states are represented by the status LED:

- LED off: no Bluetooth connection or device off
- LED on: Bluetooth pairing active
- LED flashes once in 3s: Bluetooth connection established

4.4 Bluetooth pairing

Install the app mo.ride (from Android 8.0 / iOS13, availability according to smartphone manufacturer and model may be restricted).

Create and open a new vehicle in the garage. Now continue with button "pair hardware" and follow the further instructions.

Two methods to initialize the pairing process on the mo.hub:

A) Performing a cold start by connecting vehicle earth to mo.hub terminal 3 and battery plus to terminal 1. If already connected, just unplug the large terminal strip from the mo.hub by pulling on it and then replug it. Tap the housing twice in quick succession with your index finger. The action was successful if then the LED is continuously lit. The pairing process can now be continued in the app.

OR

B) Switch the ignition on and off 10 times in quick succession. The action was successful when the LED is continuously lit. The pairing process can then be continued in the app.

For this method, the following is required: connection vehicle earth to mo.hub terminal 3, battery plus to terminal 1 and ignition plus to terminal 2.

Note

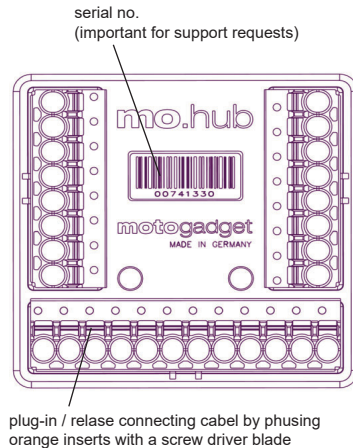
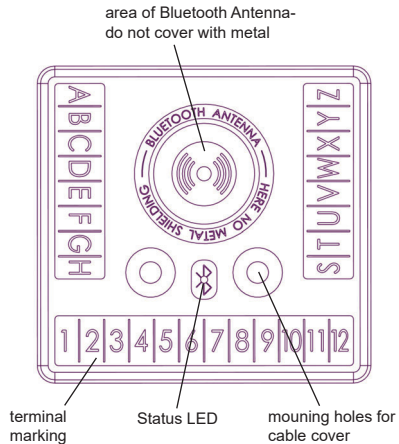
When new or after a reset, the mo.hub is ready for pairing and can be coupled immediately after a cold start (LED lit).

The time window for the pairing process (LED lit) is 30s. After the time has elapsed, the LED will switch off and pairing process must be initialized again.

If a mo.unit blue and a mo.hub are used in a vehicle at the same time, the Bluetooth connection is only possible with one device. All other devices are connected to each other by cable via the motogadget LIN bus. Please follow the instructions in the pairing process.

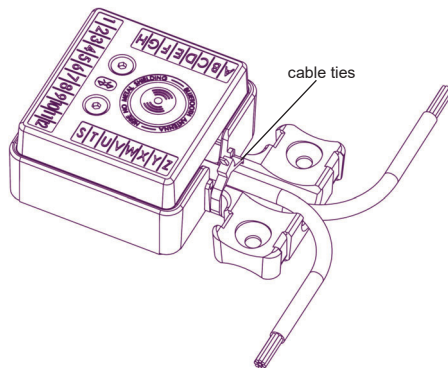
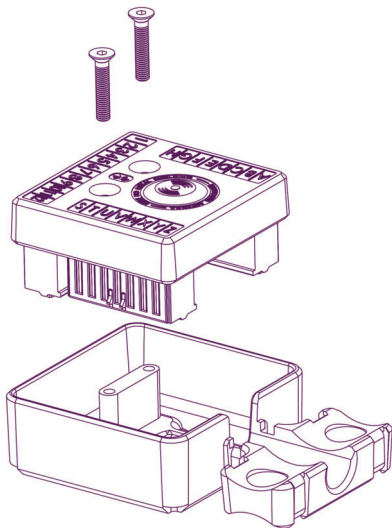
When reselling an already paired mo.hub, we recommend performing a reset to factory condition. This function is available after pairing; in the mo.hub settings of the mo.ride app.

5 Overview



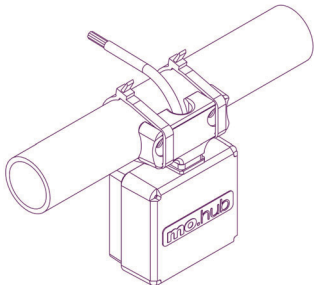
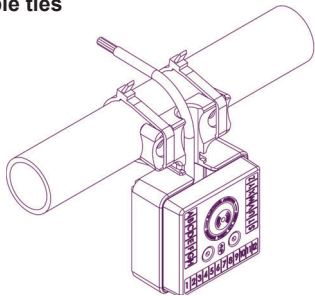
6 Mounting the cable cover & cable guide

M3x16 countersunk

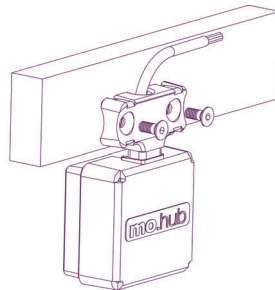
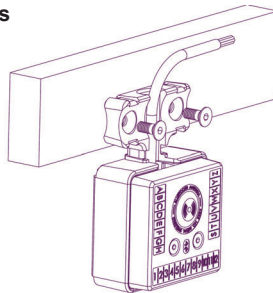


7 Mounting options

cable ties

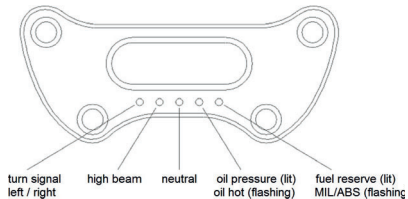
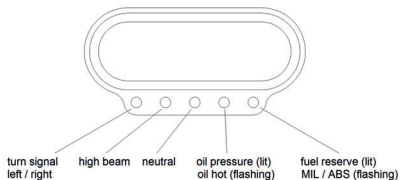


M4 screws



8. Connecting motogadget instruments to the mo.hub

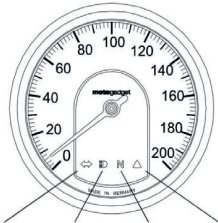
8.1 motoscope mini and combi-frame or handle bar clamp



mo.hub terminal no.	motoscope mini wire color	combi-frame wire color	HD handlebar clamp wire color
3	black	orange yellow purple	orange blue
H	red	white	red
S	yellow		
T	white		
U	green		
V		black	yellow
W		brown	green
X		red	purple
Y		blue	black
Z		green	white

8.2 motoscope tiny und motoscope classic

motoscope tiny / speedster / vintage
motoscope Classic / Chronoclassic



turn left/right
fuel reserve (lit) high beam neutral oil pressure (lit)
oil temp. (flashing)
ABS/MIL (flashing)

mo.hub terminal no.	motoscope tiny wire color	motoscope classic wire color
1	red	
3	black	black and white-green
H	brown	red
S	purple	yellow
T	orange	white
U	green	green
V	white	grey
W	yellow	white-orange
X	blue	blue
Y		white-yellow

9 Connecting the vehicle with the mo.hub

9.1 vehicles without data BUS

mo.hub terminal no.	vehicle
1	battery +12V (via 5A cable fuse)
2	ignition lock switched +12V
3	vehicle ground (GND)
6	instrument menu push button (switching to GND)
7	high beam (+12V)
8	Error / MIL (GND)
9	turn left (+12V)
10	turn right (+12V)
11	neutral switch (switching to GND)
12	ABS indicator light (+12V)
A	oil temperature sensor (motogadget article 9001005 / 9001007 / 9001002)
B	oil pressure switch (switching to GND)
C	air temperature sensor (motogadget article 1005090)
D	water temperature sensor (motogadget article 9001005 / 9001007 / 9001002)
E	fuel sensor or switch (0-500 Ohm to GND)
S	tacho signal (ignition coil low tension primary switched input)
T	speed signal (all types)

9.2 BMW models with LIN Bus

9.2.1 Vehicletype identification

BMW models from 2015 with a 6 pin instrument plug with dimensions of approx. 9x10x22mm, are equipped with a LIN bus for communication between control unit and instrument.

9.2.2 Connecting the vehicle-specific plug and the battery cable to the mo.hub

mo.hub terminal no.	motogadget BMW LIN vehicle plug
1	motogadget battery cable (4005102) from battery plus terminal
3	motogadget plug (4005100) black wire
4	motogadget plug (4005100) red wire

9.2.3 Installation

- 1) Jack up vehicle, remove seat and tank, disconnect battery (first minus, then plus)
- 2) Unscrew OEM instrument, unplug connector, unscrew OEM instrument carrier.
- 3) attach the motogadget instrument to the vehicle-specific motogadget retaining plate and connect the tail cable of the motogadget instrument to mo.hub
- 4) Connect motogadget vehicle-specific plug and battery cable to mo.hub
- 5) Screw the motogadget retaining plate with instrument to the fork bridge with the OEM screws.
- 6) Attach mo.hub to the upper frame tube with cable ties, avoiding collision pay attention to mo.hub housing and tank.
- 7) motogadget battery connection cable, OEM instruments connector plug and motogadget Instruments Lay the cable free of kinking and abrasion to the mo.hub and cable with cable ties attach to the frame. Allow enough play for steering movements.

- 8) Insert the plug of the OEM speedometer (not tachometer!) In the with motogadget
Insert vehicle plug. The second OEM instrument plug (if available) with
Protect heat shrink tubing from splash water.
- 9) The eyelet of the motogadget battery connection cable with the battery-plus connection terminal
connect
- 10) Connect the battery (first plus, then minus)
- 11) Install the tank and seat

9.3 BMW Modells with CAN Bus

9.3.1 *Vehicle type identification*

BMW models from 2010 - 2014 a 6 pin instrument plug with the dimensions of approx. 14.5x23.5x40mm, are equipped with a CAN bus for communication between control unit and instrument.

9.3.2 *Connection of the vehicle-specific plug to the mo.hub*

mo.hub terminal no.	motogadget BMW CAN vehicle plug (4005101)
1	red
2	brown
3	black
F	blue
G	purple

9.3.3 Installation

- 1) Jack up the vehicle, remove seat and tank
- 2) Unscrew OEM instrument, unplug connector, unscrew OEM instrument carrier.
- 3) attach the motogadget instrument to the vehicle-specific motogadget retaining plate and connect the tail cable of the motogadget instrument to mo.hub
- 4) Connect motogadget vehicle-specific plug and battery cable to mo.hub
- 5) Screw the motogadget retaining plate with instrument to the fork bridge with the OEM screws.
- 6) Attach mo.hub to the upper frame tube with cable ties, avoiding collision pay attention to mo.hub housing and tank.
- 7) OEM instrument connector and motogadget instrument cable kink and scuff-free Lay to the mo.hub and secure the cables to the frame with cable ties. Sufficient Allow game for steering movements.
- 8) Insert the plug of the OEM speedometer into the vehicle with motogadget plug.
- 9) Install the tank and seat

10 settings for motogadget instruments

motoscope mini

Circ=2000 / ImpW=1 / ImpE=1

motoscope tiny, speedster, vintage

Circ=2000 / Pulse=1

motoscope classic, classic speedo, Chronoclassic, Chronoclassic speedo

Circ=200 / ImpW=4 / ImpE=1

12.3 Return and complaints

Before returning your *mo.hub* for technical inspection, contact our technical support. Therefore, visit our website and follow the instructions in area “support”. Please provide the following informations completely: *mo.hub* serial no. (serial label on top of *mo.hub*). For returning an item follow the instruction in chapter “service” on our website.

Declaration of Conformity

Hereby, motogadget GmbH declares that the radio equipment type *mo.hub* is in compliance with Directive 2014/53/EU.

The full text of the EU Declaration of Conformity is available at the following internet address:

<https://manuals.motogadget.com/mo-hub/en/>



WEEE directive

The wheelie bin symbol on the product or its packaging indicates that this product shall not be treated as household waste. In line with EU Directive 2002/96/EC for waste electrical and electronic equipment (WEEE), this electrical product must not be disposed of as unsorted municipal waste. Please dispose of this product by returning it to the point of sale or to your local municipal collection point for recycling. By doing this you will help conserve the environment.

Regulations

PRODUCT INFORMATION:

Manufacturer: motogadget GmbH
Model: mo.hub
FCC ID: 2AIF8-4005000
IC: 21495-4005000



FCC COMPLIANCE STATEMENT:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

INFORMATION TO USER:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the distance between the equipment and the receiver
- Connect the equipment to outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

Canada – Industry Canada (IC)

This device complies with Industry Canada license-exempt RSS Standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada exempts de licence standard RSS (s). Son fonctionnement est soumis aux deux conditions suivantes:

(1) Cet appareil ne doit pas provoquer d'interférences et (2) cet appareil doit accepter toute interference, y compris celles pouvant causer un mauvais fonctionnement de l'appareil.