

## Breakout-Box HD – Installation and Operating Instructions For Harley Davidson® TWIN - CAM model series

Thank you very much for choosing a high quality product of motogadget.

The m-CAN and connected instruments might be damaged when installed improperly. Please read the following information carefully and follow instructions during installation.

Please note the correct order of the steps performed in these operating instructions.

**THE CASING MUST NOT BE OPENED. IN CASE OF NON-COMPLIANCE, ALL WARRANTY CLAIMS WILL BECOME VOID. THE ONLY INTENDED USE OF THIS DEVICE IS THE COMBINATION WITH MOTOGADGET INSTRUMENTS. IN CASE OF IMPROPER USE WITH THIRD-PARTY INSTRUMENTS, ALL WARRANTY CLAIMS WILL BECOME VOID. IN CASE OF NON-INTENDED USE, THE DEVICE MAY BE DAMAGED. IN CASE OF MALFUNCTIONS, THE DEVICE HAS TO BE RETURNED TO MOTOGADGET FOR INSPECTION, TOGETHER WITH THE USED MOTOGADGET INSTRUMENT. MOTOGADGET WILL ACCEPT NO LIABILITY FOR ANY DIRECT, INDIRECT OR SUBSEQUENT DAMAGE OF ANY KIND RESULTING FROM USE, INSTALLATION OR CONNECTION OF THE DEVICE OR OTHER DELIVERED EQUIPMENT. THIS EXCLUSION OF LIABILITY APPLIES TO, INCLUDING BUT NOT LIMITED TO, PERSONAL, MATERIAL AND FINANCIAL DAMAGES. PARTICULARLY, THE USE IN PUBLIC TRAFFIC IS AT THE USER'S OWN RISK.**

### Scope of Application

Using the Breakout-Box HD, the motoscope Pro can be connected directly to the wiring harness of the Harley Davidson® Twin-Cam series (models built 2004 to 2011; Softail to 2010). There is no need for modifications on the original motorbike wiring harness. Not compatible with newer HD model years equipped with "HDLAN".

### Instrument installation

According to the respective manual, remove the original speedometer. Disconnect the connectors of the original instrument and the indicator lights assembly. Subsequently, these two connectors are used to connect the Breakout-Box connectors. Mount the motoscope Pro on the vehicle. Please use the extensive mounting hardware provided for Harley Davidson® vehicles. Now route the cables of the instrument to the position of the two original connectors. Carefully remove 50 mm (2 in.) of the cable jacket. Next, remove 10 mm (approx. 1/2 in.) of the strand insulation and slide the end ferrules onto the exposed strand ends. Cut off any excess cable material using wire-cutting pliers.

### Connecting the motoscope Pro to the m-Breakout-Box

To protect the components, **make sure** to apply contact grease to all metal parts of the screw-type terminals. Insert the instrument cables into the corresponding terminals (see table below) and tighten the screws.

Terminal	motoscope PRO
25	red
26	brown
24	black
10	green
8	yellow
7	white
9	orange
-	blue
-	purple

### Connecting the supplied motogadget TWIN CAM vehicle connector to the Breakout-Box

Insert the cable of the model-specific connector (included) with the attached end ferrules into the screw-type terminals (shown in table on right side) and tighten the screws.

**ATTENTION ! Please make sure to note the proper polarity when inserting the connector attached to the vehicle!**

#### 8 pin Deutsch Connector:

The connector is equipped with a large and a small tab on the left side and the right side respectively. Please make sure they fit into the corresponding seat.

#### 12 pin Connector:

The white dot sticker from motogadget connector and the nose of the HD connector stand adverse after plug in.

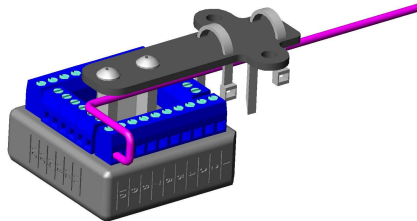
Terminal	Connector cable – Color code
28	red
14	white
12	blue
13	yellow
27	brown
30	green
16	grey
15	purple
6	orange
29 and 31	black

### Connecting the menu push-button

The menu push-button is connected to the terminals No. 17 and 18. The polarity is irrelevant.

### Mounting the cables to the Breakout-Box

Screw the provided black mounting plate to the two mounting bolts on the Breakout-Box. To ensure optimum strain relief, combine all connecting cables (see right figure) and mount them to the mounting plate using both tie-bands. The Breakout-Box is mounted to vehicle parts or the vehicle wiring harness by screws or tiebands respectively, with both bores of the mounting plate.



### Notes

No additional mounting of cables required.

Short-circuits of terminal block outputs or contact to ground or +12V respectively may damage the device.

### Instrument settings

Please access the instrument setup to adjust the following parameters: ImpE=1, ImpW=4 and Circ=2000mm. Teach the tank sensor according to the descriptions provided in the installation and operating instructions.

***The motogadget team wishes you a pleasant and safe trip and a lot of fun with your new motogadget instrument.***