

m-CAN J1850 – 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 M-CAN 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 m-CAN, all motogadget instruments (except motoscope Pro) can be connected directly to the wiring harness of the Harley Davidson® Twin-Cam series with **Speedometer-in-tank integration** (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". Not compatible with TwinCam model series with speedometer on the handlebar and special edition series with twin instruments integrated in the tank.

Instrument installation

According to the respective manual, remove the original speedometer. Disconnect the instrument connector and the indicator lights assembly connector. Subsequently, these two connectors are used to connect the m-CAN connectors. Mount the motogadget instrument and, if available, the motogadget indicator lights assembly to the vehicle. Please use the extensive mounting hardware kits provided for Harley Davidson® vehicles. Now route the instrument cable and the indicator lights assembly cable 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 motogadget instrument to the m-CAN

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 mini | motoscope classic | motoscope tiny | SureShift | Multiview |
|----------|----------------|-------------------|----------------|-----------|-----------|
| 25 | - | - | red | - | - |
| 26 | red | red | brown | red | red |
| 24 | black | black | black | black | black |
| 10 | green | green | green | green | green |
| 8 | yellow | yellow | - | yellow | yellow |
| 7 | white | orange | white | white | white |

Connecting the motogadget indicator lights to the m-CAN

Together with the end ferrules, insert the cables of the indicator lights into the screw-on terminal (see table below) and tighten the screws.

| Terminal | - motosign mini - ms cobl frame - Active view | - HD handlebar clamp - metric handlebar clamp | motoscope tiny | motoscope classic |
|----------|---|--|----------------------------|----------------------------|
| 19 | red | purple | yellow | white/orange |
| 20 | green | white | blue | blue |
| 21 | black | yellow | white | grey |
| 22 | purple | green | purple | white/green |
| 23 | blue | black | connect to terminal No. 19 | connect to terminal No. 19 |
| 24 | yellow + orange | blue + orange | - | white/brown |
| 26 | brown + white | red | - | white/yellow |
| - | | brown | - | - |

Connecting the supplied motogadget V-ROD type vehicle connector to the m-CAN

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 plugging the connector into the connector attached to the vehicle!

8 terminal Deutsch plug:

Remove the plastic inlet of the OEM Deutsch plug with a small screw driver.

The motogadget 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 of the OEM plug.

12 pin socket:

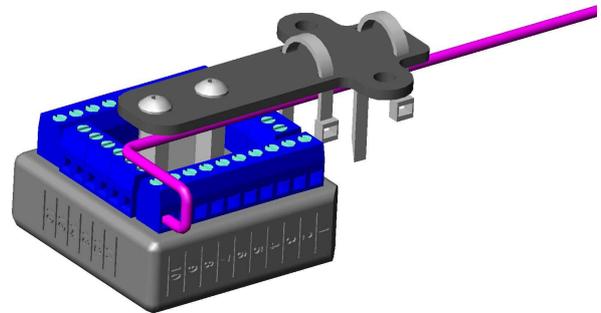
The white dot at the motogadget pin socket and the nose of the OEM speedometer plug must stand obverse after plug in.

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

| Terminal | Connector cable – Color code |
|-----------|------------------------------|
| 28 | red |
| 14 | white |
| 12 | blue |
| 13 | yellow |
| 27 | brown |
| 30 | green |
| 16 | grey |
| 15 | purple |
| 32 | orange |
| 29 and 31 | black |

Mounting the cables to the m-CAN

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

motoscope mini, Classic, Chronoclassic, Pro and SureShift: ImpE=1, ImpW=4 und Circ=2000mm.

motoscope Tiny: Pulse=4, Circ=2000mm.

Modes

Some of the indicator lights are multi-functional. For example, the figure below shows the modes of the indicator lights assembly with 5 lights (ms combi frame, motosign mini, Activeview and handlebar clamps).

When using the motoscope Tiny and motoscope Classic, only 4 indicator lights are available. The display mode layout is as follows: green LED (left): turn signal (flashing) and low fuel indicator (continuously), blue LED: high beam, green LED: neutral, red LED (right): error memory (flashing) and oil pressure (continuously).

