

# m-CAN J1850 – Installation and Operating Instructions For Harley Davidson® XL Sportster 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 installation and 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® Sportster series (models built from 2004 to 2011). There is no need for modifications to the original motorbike wiring harness.

## Instrument installation

According to the respective manual, remove the tank and the original speedometer. Disconnect the connector of the speedometer connecting cable from the vehicle's wiring harness. Subsequently, the m-CAN connector will be connected with the connector on the vehicle. In case this connector has a grey housing, it is a "DEUTSCH" connector; a black housing indicates a "MOLEX" connector. 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 wiring harness connector of the original speedometer. 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	orange	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 cobr 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 HD Sportster 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 ! Remove the grey connector insert inside the connector attached to the vehicle.**

**Now, please make sure to note the proper polarity when plugging the motogadget connector into the connector attached to the vehicle!**

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.

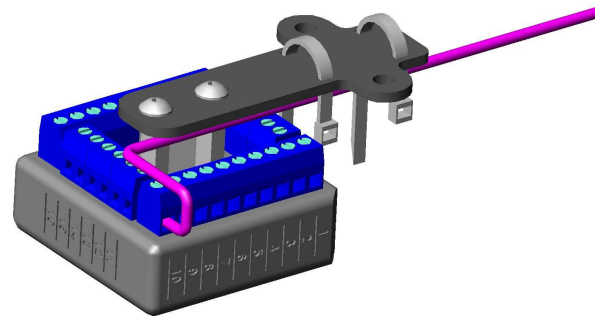
Terminal	Connector cable – Color code
28	red
14	white
12	blue
13	yellow
27	brown
30	green
16	grey
15	purple
11	orange
29 and 31	black (2x)

**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 m-CAN**

Screw the provided black mounting plate to the two mounting bolts on the m-CAN. To ensure optimum strain relief, combine all connecting cables (see right hand 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. If the original fuel display remains connected, it is not possible to operate the low fuel indicator. Therefore, you have to disconnect the fuel display from the wiring harness; an alternative is not to connect the cable to terminal No. 11.

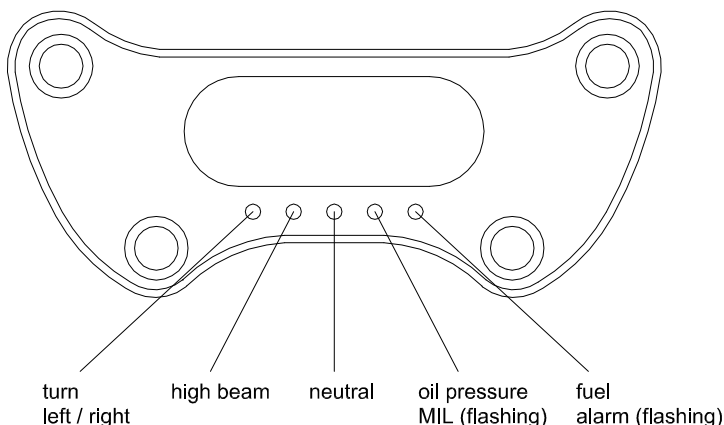
**Instrument settings**

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).



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