

# Instruction manual m-relay+

## Exclusion of liability

DEVICE HOUSINGS AND ALL OTHER DELIVERED PARTS MUST NOT BE OPENED OR DISMANTLED. IN CASE OF NON-COMPLIANCE ALL GUARANTEE CLAIMS BECOME INVALID. MOTOGADGET ACCEPTS NO LIABILITY FOR DIRECT OR INDIRECT DAMAGE OR SUBSEQUENT DAMAGE OF ANY KIND RESULTING FROM THE USE, INSTALLATION OR CONNECTION OF THE M-RELAY+ OR OTHER DELIVERED EQUIPMENT. THIS EXCLUSION OF LIABILITY PARTICULARLY INCLUDES DAMAGE TO PERSONS, MATERIAL LOSSES AND FINANCIAL DAMAGES. THE USE OF THE DEVICE IN AREAS OF PUBLIC TRAFFIC IS UNDERTAKEN AT THE USER'S OWN RISK.

## Application Area

The m-relay+ is a digital turn signal relay which can be operated with push buttons. Therefore one push button is needed for the left turn signal and one push button for the right turn signal. The m-relay+ features a automatic turn signal shut off depending on the time the push button is activated.

Following operating options are possible:

very short push	-	change lane	(3 times flashing)
short push	-	turn	(10 times flashing)
push longer than 1 second	-	permanent flashing	(no automatic shut down)
push both push buttons at once	-	hazard lights	(no automatic shut down)

## Safety instructions for mounting and connection

- Disconnect vehicle battery prior to installation.
- In the interest of your own and other peoples' safety attach all parts securely to your vehicle.
- Make sure that your vehicle is equipped with **interference suppressing ignition system**. Use of the m-relay+ with non-suppressed ignition systems can lead to damage of the device.
- The installed wire cross sections must not go below explained values.

**You must fuse the red cable with a 10 A safety fuse. If the device is used without fuse, damage to the connection cable or the m-relay+ can cause a short circuit and a cable fire. Caution! Your life might be in danger! If you don't have the specialist knowledge required please ask a garage to install the device!**

## Installation

The spot of installation has to be safe from spray water and must have a distance of 30cm to hot engine parts and ignition coils + cables. The housing will be mounted with one M3 screw on a flat surface. It must act no pull force to the connection cables.

## Connection

The electrical connection between m-relay+ and the vehicle wiring loom is made by solder or crimp connection. The minimum wire gauge for the red, green and white cable is 1,5mm<sup>2</sup>. The minimum wire gauge for the black, blue and yellow cable is 0,5mm<sup>2</sup>. The red cable will be connected with switched and 10A fused +12V. The cable functions and electrical connection is as follows:

function	cable colour	voltage
power supply	red	switched and fused +12V
	black	earth
push button input	blue	turn left via push button to earth
	yellow	turn right via push button to earth
turn signals output	green	left turn signal - output +12V
	white	right turn signal output +12V

