

## Installation manual - micro 1000 LED/LED white/Dark/Extreme

**Carefully read through this installation manual before you begin.**

**NOTE:** Kellermann micro 1000 indicators are ECE-approved for motorcycles as documented by the licence number stamped onto the lens. This means that if installed properly, you do not need to have your new indicators entered in place of the original indicators on your vehicle registration certificate, or have them inspected by your national vehicle safety inspection organisation. You need not keep any special documents with you.

**WARNING!** The guarantee assumes proper mounting and electrical installation. Only carry out the installation yourself if you are specifically qualified to do so; otherwise, have your micro 1000 indicators mounted and installed by a qualified repair shop. The guarantee does not cover faults caused by wrong electrical installation or power surges, such as from a defective alternator regulator.

**WARNING!** Badly mounted or misaligned indicators may result in loss of roadworthiness and insurance, or to accidents. Always make sure that your indicators have not come loose before you set out on your motorbike; if necessary, tighten them up again.

**WARNING!** Your micro 1000 indicators will heat up during use. Contact with bear skin or other heat-sensitive surfaces may lead to injury or damage.

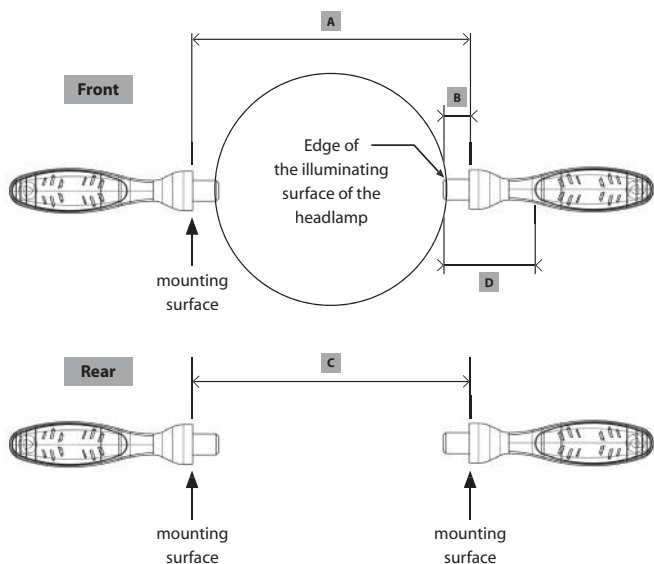
**WARNING!** Each micro 1000 indicator is fitted with a vibration-absorbing, elastic fastening arm (silent rubber adapter), which is designed to protect your micro 1000 indicator from damage at slight deflections of up to 15° micro. The adaptor will break on larger deflections, such as from a crash or vandalism, to prevent breakage to your valuable indicator; the rubber will overstretch and tear, or the inside will sustain so much damage that the indicator may fail at a later time. In this case, you may order a new silent rubber adapter as a spare part at two thread fastening lengths – Order No. 123.610 (40 mm thread length) or 123.620 (20 mm thread length) from a retail specialist or directly from www.kellermann-online.com.

## INSTALLATION

**WARNING!** Make sure that you have your motorbike standing in a secure position – a falling bike may lead to injuries or damage to your bike.

Dismantle the original indicators. Mount your micro 1000 indicators where the original indicators were, or drill a 8.5 mm-diameter hole and fit your micro 1000 indicators using the self-tightening M8 nuts included at 8 Nm. Make sure that the area around your indicators where the cables will lead through the threaded tube is protected from splash water using the grommets included; feed one cable through each opening and fit the grommets over the cables until they cover the thread. Use washing-up detergent or machine grease to make fitting easier. Make sure that your micro 1000 indicators are fitted in such a way as to cast a beam horizontal to direction of travel. Correct alignment is necessary for safety in road traffic, and is also a prerequisite for your vehicle registration certificate's validity; a motorbike with misaligned indicators is easily overlooked.

Make sure that you keep the following spacing while selecting a position to fit your indicators:



### micro 1000 LED

- A** min. 155 mm
- B** min. 28 mm
- C** min. 95 mm

### micro 1000 LED white

- A** min. 155 mm
- B** min. 28 mm
- C** min. 95 mm

### micro 1000 Dark

- A** min. 169 mm
- B** min. 35 mm
- C** min. 109 mm

### micro 1000 Extreme

- A** min. 155 mm
- B** min. 0 mm
- C** min. 95 mm
- D** min. 20 mm

## ELECTRIC CONNECTION

Cut the cables between the original indicators and the connectors to the cable loom at a suitable place so as to leave the original cable loom untouched. Find out the original cable loom layout for your motorbike and connect it to the leads on each micro 1000 indicator (grey cable: plus; black cable: minus).

Two crimp connectors are included in the package for you to connect the cables; use them as follows: remove the insulation on the cable ends to a length of around a centimetre and insert the end of each cable into one of the two connectors. Crimp the connectors using suitable pliers (see Fig. 1-3).

This is a technically irreversible connection. To create a reversible connection, we recommend optional Posilock cable connectors available for order from www.kellermann-online.com if required.

Arrange the cables in such a way as to protect them from splash water, and fasten them as suitable, such as using cable ties. Reconnect your motorbike battery and check that your micro 1000 indicators are working and properly aligned.

## FLASH RATE

If you find that your indicators flash at a frequency above the limit permitted (some indicator relays only work at the original indicator wattage) or if all four indicators should flash instead of only two, we recommend that you use a load-independent indicator relay (Order No. 123970). We specifically recommend this solution as it is simple, safe and reliable, and also quick to install. If it is no longer possible to install this relay into your motorbike, you can also install resistors in parallel to the indicator. Install the resistors to make sure that they can effectively dissipate heat. The resistance necessary ranges from 7.5 to 150 ohm. As an example, if your original indicators had 21W bulbs, install a 7.5 ohm resistor with 50W load capacity for each micro 1000 indicator.

**WARNING!** The actions described above may disable the fast-flash feature to alert you to a failed indicator, so always check that your indicators are in good working order before you set out on your motorbike.

**WARNING!** The resistors will heat up considerably if your indicators are subject to prolonged use. Make sure that heated resistors will not damage any other motorbike parts.

Your micro 1000 indicators are fitted with tried-and-trusted **Long Life Protection Guard**® circuits for LED lighting to ensure extremely long life. LED replacement is therefore not necessary, and also not possible for vehicle registration reasons.

micro 1000  
LED



micro 1000  
LED White



micro 1000  
Dark



micro 1000  
Extreme



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Refer to our homepage at www.kellermann-online.com for our additional information, and our online shop with a full range of spare parts and accessories and a download area. If you have any suggestions or questions, please do not hesitate to contact us by eMail (info@kellermann-online.com) or phone on +49 (241) 93 80 80.

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