Geveko ITS
-intelligence for the Road

LED-Mark

LED marking for use in high-risk locations, or for CO_2 neutral guiding lights on cycle paths. A self-charging LED system, which saves energy and is cost-effective.

LED-Mark shows the way

The LED-Mark system can be used for many purposes. It is often used for supplementary marking for e.g. dangerous curves, dark roads, unlit cycle paths and unlit roundabouts. It may also be used to warn against frost or in locations where special risks are likely to occur. It is possible to establish lights in e.g. roundabouts as replacement of cabled technologies.

Durable design

The design is robust and simple. The LED-Mark is ultra-thin and self-charging with solar cells and extremely durable batteries. The LED-Mark road studs do not affect the traffic and are designed to cope with tough conditions such as snow ploughs or other vehicles used for road maintenance.

Cost-effective safety

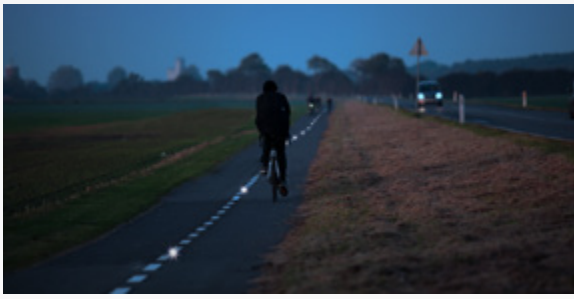
The LED-Mark system is extremely cost-effective. The initial costs are approx. 1/10 of cabled technologies and the operating costs are approx. 1/3. The installation is easy and is carried out with glue. It does not require drilling or other fastening devices. It is also possible to install LED-Mark on wood with screws.

Applications

- Enhance road marking at particularly risky spots (e.g. dark road sections, dangerous curves, and fog)
- CO_2 neutral guiding lights on cycle paths
- Marking lights in roundabouts
- Secure cycle paths on main roads
- Railway crossings outside of urban areas
- Harbour fronts and landing stages
- Warnings at temporary risks e.g. frost and fog

LED-Mark milled into the surface and glued on

Cycle path with LED-Mark at dusk in Aarhus



Cycle path at Kerteminde with LED-Mark as CO_2 neutral guiding lights

The E4 Motorway Lulelå in the northern part of Sweden with LED-Mark

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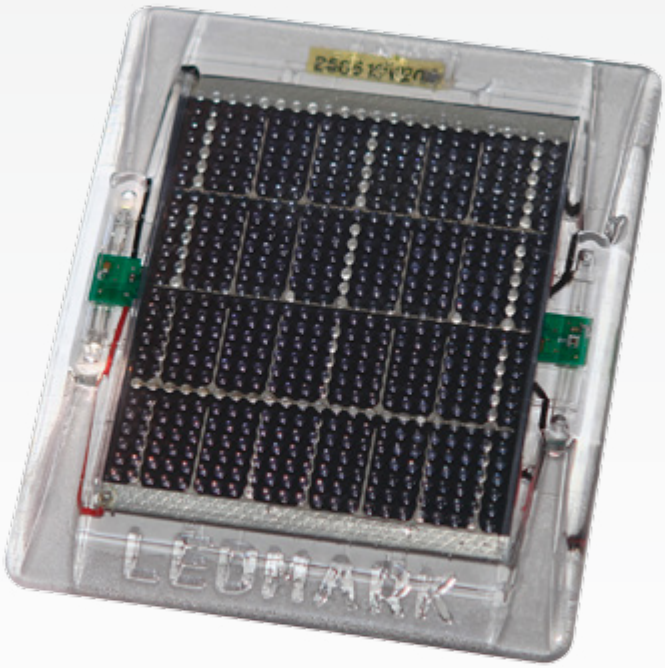
Facts

- Easy installation (glued on top of surface e.g. the road).
- Protected against snow clearing (only when milled into the surface).
- Lights up when it gets dark (programmed when delivered).
- Intelligent on/off switch (sleep function).
- Hibernates after 24 hours in the dark, after which the light level is controlled every 10 minutes.
  If it is dark the road stud will continue to hibernate.
  If it get light, the road stud wakes up, and turns on the next time it goes dark.
- Can light for up to 4000 hours without charging.
- Can survive 1 year under a snowdrift. To make it wake up again it must be in sunlight for 30 minutes and then it will turn on and be active after a delay of 10 seconds.
- The surface of the LED-Mark is a prism, which makes
  charging possible when the sun is in a position of 10 degrees over the horizon.
- Built-in temperature sensor.
- Frost warning:
  Blinking with 2 Hz from +2 to -10 degrees Celsius
- Intelligent battery charging, so that even small amounts of sunlight charges the battery.
- Waterproof IP 68 (can withstand seawater).
- One or four built-in LED lights in the following colors white, yellow, green, blue and red.
- Programmable to a certain extent - use LED-Guide for more options.
- "Stand-alone" without external energy source.

Technical specifications

Solar panel:	80x90 mm
Visibility (distance):	more than 1000 m in the dark
Battery life:	5-10 years
Flash frequency:	100 Hz
Operating temperature:	S: -40 degrees/+60 degrees V: -20 degrees/+80 degress
Load:	Max. 20 ton
Size (HxWxL):	7x100x120 mm
Weight approx.:	100 g
Working life:	600/4000 hours (without charge - depending on LEDs)
Battery:	1 or 2
Lighting:	Two directions
Mounting	Street 8-9mm Cycle paths 3-4 mm

Coloured stickers indicate active LEDs and their colour



EMC tested
Pat. pending

CE

If you need to dispose this product please note that:
Waste electrical products should not be disposed together with household waste.
Please recycle where facilities exist.

Geveko ITS A/S • Longelsevej 34 • DK-5900 Rudkøbing • Tel. +45 63 51 71 71 • info@gevekoits.dk • www.gevekoits.dk