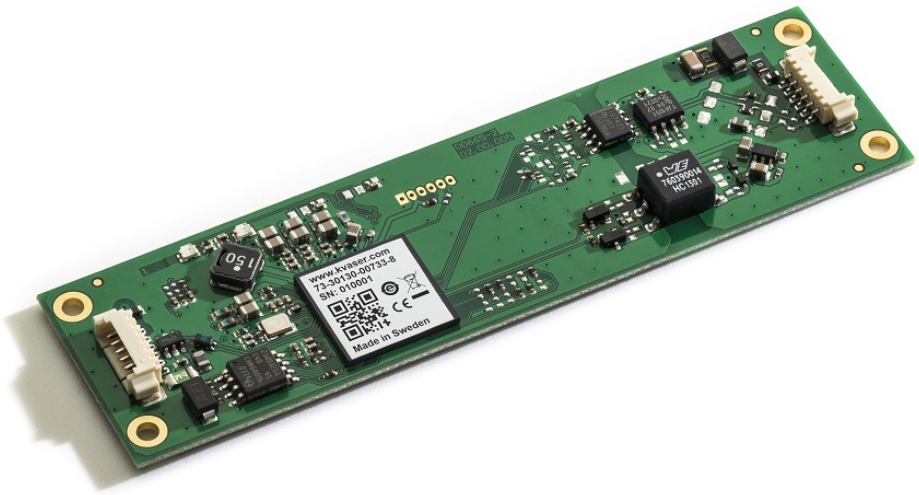
Kvaser Leaf Light v2 CB User's Guide



http://www.kvaser.com

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Contents

1 About this manual

This document describes a printed circuit board assembly version of the Kvaser Leaf Light v2. It contains a description of the hardware properties, its physical dimensions and instructions for connecting the device to a CAN bus and a USB bus. For further information, please refer to the Kvaser Leaf Light v2 User's Guide.

2 Welcome to Kvaser Leaf Light v2 CB

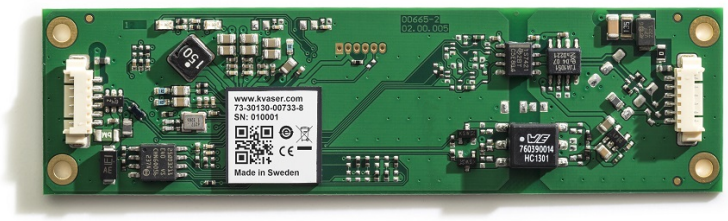

Figure 1: Kvaser Leaf Light v2 CB

This guide applies to Kvaser Leaf Light v2 CB devices listed in Table 1.

Device	Product Number
Kvaser Leaf Light HS v2 CB	73-30130-00733-8

Table 1: Kvaser Leaf Light v2 CB devices and their EAN numbers.

Throughout this document, we use the name Kvaser Leaf Light v2 CB to refer to the product listed in Table 1.

3 Layout

Kvaser Leaf Light v2 CB consists of a printed circuit board (PCB) populated with components.

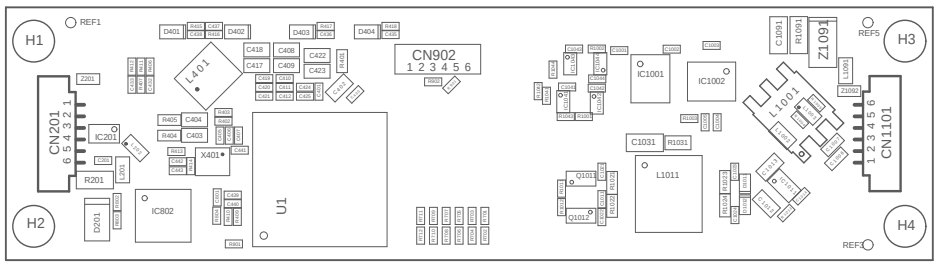

Figure 2: Top view of Kvaser Leaf Light v2 CB

The power LED is placed on the top left (D401), the CAN LED is placed next to the right (D402), see Figure 2. The USB connector is placed on the left (CN201) and the CAN connector on the right (CN1101).

The outline in Figure 3 on Page 7 shows four mounting holes and four square marks where the LEDs are placed.

Note that not all LEDs are mounted on all models of Kvaser Leaf Light v2 CB.

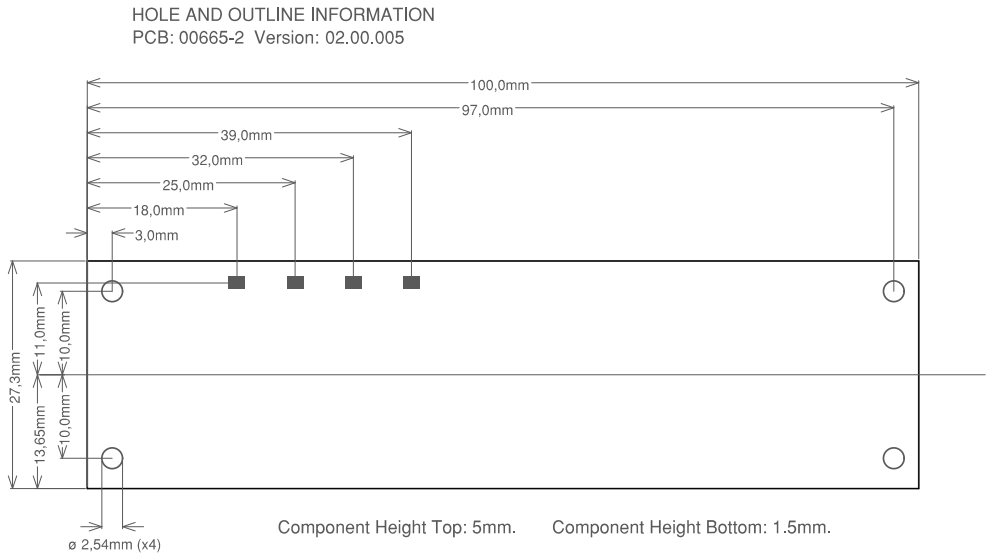

Figure 3: Outline of Kvaser Leaf Light v2 CB

4 Connectors

Figure 2 on Page 6 shows the placement of the USB and CAN connectors.

Both USB and CAN are connected using 6-way connectors and mate with Molex 51021 PicoBlade™ (e.g. housing 51021-0600 and terminal 50079-8000).

4.1 USB connector

Table 2 describes the USB connector.

Pin Number	Function
1	Shield
2	GND
3	D+
4	D-
5	VBUS
6	Not connected

Table 2: Pin configuration of the USB connector.

4.2 CAN connector

Table 3 describes the CAN connector.

Pin Number	Function
1	GND
2	Not connected
3	CAN_H
4	CAN_L
5	Not connected
6	Shield

Table 3: Pin configuration of the CAN connector.

5 LED indicators

Figure 2 on Page 6 shows the placement of the LEDs on the PCB. For further information about the LED functionality, please refer to the Kvaser Leaf Light v2User's Guide.

6 Disposal and Recycling Information

When this product reaches its end of life, please dispose of it according to your local environmental laws and guidelines.

Dispose of batteries according to your local environmental laws and guidelines.

For information about Kvaser's recycling programs, visit:
http://www.kvaser.com/en/kvaser/recycling-policy.html

7 Legal acknowledgements

7.1 Usage warning

WARNING FOR ALL USERS

WARNING! - YOUR USE OF THIS DEVICE MUST BE DONE WITH CAUTION AND A FULL UNDERSTANDING OF THE RISKS!
THIS WARNING IS PRESENTED TO INFORM YOU THAT THE OPERATION OF THIS DEVICE MAY BE DANGEROUS. YOUR ACTIONS CAN INFLUENCE THE BEHAVIOR OF A CAN-BASED DISTRIBUTED EMBEDDED SYSTEM, AND DEPENDING ON THE APPLICATION, THE CONSEQUENCES OF YOUR IMPROPER ACTIONS COULD CAUSE SERIOUS OPERATIONAL MALFUNCTION, LOSS OF INFORMATION, DAMAGE TO EQUIPMENT, AND PHYSICAL INJURY TO YOURSELF AND OTHERS. A POTENTIALLY HAZARDOUS OPERATING CONDITION IS PRESENT WHEN THE FOLLOWING TWO CONDITIONS ARE CONCURRENTLY TRUE: THE PRODUCT IS PHYSICALLY INTERCONNECTED TO A REAL DISTRIBUTED EMBEDDED SYSTEM; AND THE FUNCTIONS AND OPERATIONS OF THE REAL DISTRIBUTED EMBEDDED SYSTEM ARE CONTROLLABLE OR INFLUENCED BY THE USE OF THE CAN NETWORK. A POTENTIALLY HAZARDOUS OPERATING CONDITION MAY RESULT FROM THE ACTIVITY OR NON-ACTIVITY OF SOME DISTRIBUTED EMBEDDED SYSTEM FUNCTIONS AND OPERATIONS, WHICH MAY RESULT IN SERIOUS PHYSICAL HARM OR DEATH OR CAUSE DAMAGE TO EQUIPMENT, DEVICES, OR THE SURROUNDING ENVIRONMENT.
WITH THIS DEVICE, YOU MAY POTENTIALLY:

- CAUSE A CHANGE IN THE OPERATION OF THE SYSTEM, MODULE, DEVICE, CIRCUIT, OR OUTPUT.
- TURN ON OR ACTIVATE A MODULE, DEVICE, CIRCUIT, OUTPUT, OR FUNCTION.
- TURN OFF OR DEACTIVATE A MODULE, DEVICE, CIRCUIT, OUTPUT, OR FUNCTION.
- INHIBIT, TURN OFF, OR DEACTIVATE NORMAL OPERATION.
- MODIFY THE BEHAVIOR OF A DISTRIBUTED PRODUCT.
- ACTIVATE AN UNINTENDED OPERATION.
- PLACE THE SYSTEM, MODULE, DEVICE, CIRCUIT, OR OUTPUT INTO AN UNINTENDED MODE.

ONLY THOSE PERSONS WHO:
(A) ARE PROPERLY TRAINED AND QUALIFIED WITH RESPECT TO THE USE OF THE DEVICE,
(B) UNDERSTAND THE WARNINGS ABOVE, AND
(C) UNDERSTAND HOW THIS DEVICE INTERACTS WITH AND IMPACTS THE FUNCTION AND SAFETY OF OTHER PRODUCTS IN A DISTRIBUTED SYSTEM AND THE APPLICATION FOR WHICH THIS DEVICE WILL BE APPLIED, MAY USE THE DEVICE.
PLEASE NOTE THAT YOU CAN INTEGRATE THIS PRODUCT AS A SUBSYSTEM INTO HIGHER-LEVEL SYSTEMS. IN CASE YOU DO SO, KVASER AB HEREBY DECLARES THAT KVASER AB'S WARRANTY SHALL BE LIMITED TO THE CORRECTION OF DEFECTS, AND KVASER AB HEREBY EXPRESSLY DISCLAIMS ANY LIABILITY OVER AND ABOVE THE REFUNDING OF THE PRICE PAID FOR THIS DEVICE, SINCE KVASER AB DOES NOT HAVE ANY INFLUENCE ON THE IMPLEMENTATIONS OF THE HIGHER-LEVEL SYSTEM, WHICH MAY BE DEFECTIVE.

THIS PRODUCT CONTAINS A RECHARGEABLE LI-POL BATTERY THAT MUST BE DISPOSED OF PROPERLY. IT MAY EXPLODE IF DAMAGED OR DISPOSED OF IN FIRE. DO NOT SHORT CIRCUIT.

7.2 EC Regulatory Compliance

The product(s); 73-30130-00733-8, is in conformity with the essential requirements of the following regulations and directives:

- WEEE Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012
- REACH Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006

The products listed above also complies with RoHS recast Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 and is in conformity with the following standards and/or other normative documents:

Standard	Description
EN 50581 (2012)	Assessment with respect to restriction of hazardous substances

Table 4: Standards and normative documents for RoHS 2011

The products listed above also complies with DIRECTIVE 2004/108/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 December 2004 (EMC-directive) and is in conformity with the following standards and/or other normative documents:

Standard	Description
EN 55 022 (2010)	Class B, radiated. IT equipment, commercial emission
EN 55 024 (2010)	IT equipment, commercial immunity

Table 5: Standards and normative documents for EMC 2004

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

7.3 Patents, Copyrights and Trademarks

8 Document Revision History

Version history for document UG_98163_leaf_light_v2_cb:

Revision	Date	Changes
1	2014-04-22	First version.
1.1	2016-07-08	Added pin numbers to top view figure.
1.2	2017-01-09	Updated compliance text, added link to patents.