iQ-LED Bundle

Setup Instructions

27 September 2017

Image Engineering GmbH & Co. KG . Im Gleisdreieck 5 . 50169 Kerpen-Horrem . Germany
T +49 2234 2273 99 99 1-0 . F +49 2234 2273 99 99 1-10 . www.image-engineering.com
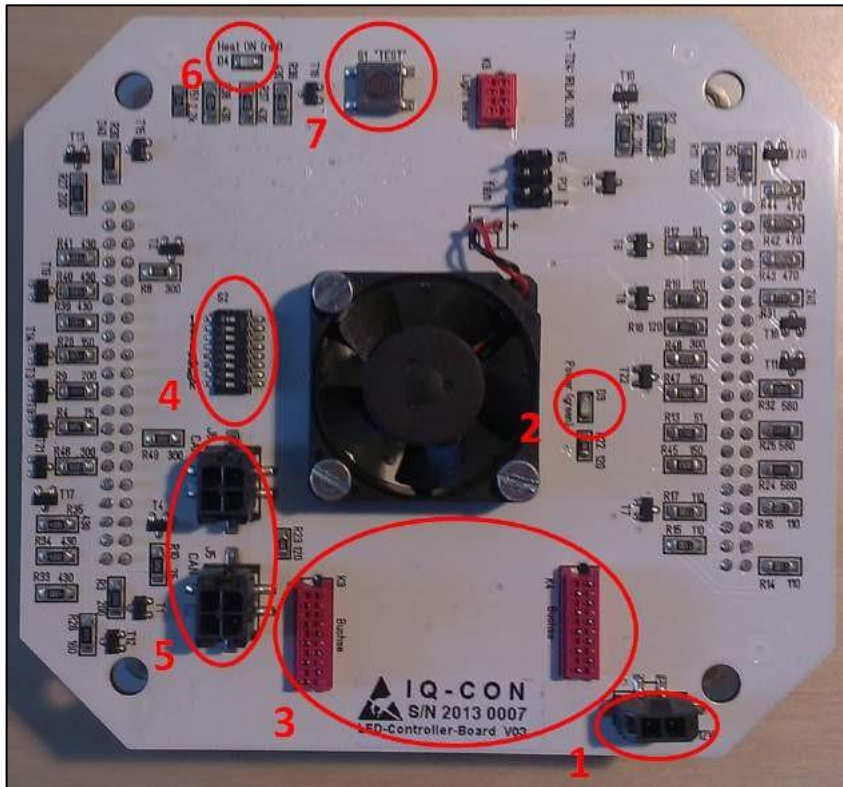
iQ-LED Bundle

Software Installation

Follow the SW installation instructions from the iQ-LED SW control manual.
If the iQ-LED C++ API is used, please follow the installation steps of the iQ-LED API installer and documentation.

iQ-LED board

1 power connector
2 power led (green)
3 CAN-USB adapter connectors
4 iQ-LED ID dip switch
5 CAN connector for several iQ-LED usages (both in and out)
6 heat led (red)
7 test button
.

Connection of CAN-USB adapter board

Connect the small green CAN-USB adapter board via the two red connectors to the backside of the iQ-LED board (picture flag 3). If you use more than one iQ-LED in a row you still need one CAN-USB adapter on the first iQ-LED in the row.

Using several iQ-LED elements / dip switch ID's

The first iQ-LED in a row (or when using just one iQ-LED) needs to have the ID of 1. The ID's of each iQ-LED has to be set via the dip switch (picture flag 4) on the corresponding board. The numbers have to be set in binary mode. It is recommended to set the ID's according to the positioning in the row when they are connected to each other via the CAN connectors (picture flag 5). For example: if 4 iQ-LEDS in a row are used, set the ID's to 1,2,3 and 4. On the last iQ-LED in a row (also in single usage mode) the dip switch number 8 has to be set to the 'on' position, this activates the needed load resistance at the end of a row.

Power connection

Connect the power cable to all your iQ-LED's via the power connector (picture flag 1). The green power LED will then light up.

Connect iQ-LED to your PC

When all iQ-LED's are connected to each other, the ID's are set correctly and the power is connected, you can then connect your PC with the USB cable to the CAN-USB connector. The first time you connect your iQ-LED to a PC the iQ-LED driver will be installed, this could take a few seconds.

Connect the mini spectrometer to your PC

Put the USB cable from your spectrometer into your PC. The first time you connect your spectrometer to a PC the driver will be installed, this could take a few seconds.

Arrangement of iQ-LED and spectrometer

Arrange your iQ-LED devices so that the spectrometer can measure enough light of each iQ-LED. Make sure the light off all the LED's is combined in the most efficient way when measuring with your spectrometer and illuminating your target. If needed, use diffusion material or extensions like the Image Engineering edgeBox to mix the light of all LED's.

Starting software / usage of API

When using the iQ-LED system for the first time, you must set the integration time of your spectrometer to a corresponding value in order to ensure a good performance in low light and to make sure there is no clipping in the spectral measurement when all iQ-LED's are set to the maximum. In addition, you have to calibrate your system, please read the SW-control manual and follow the calibration steps. When using your iQ-LED together with the API please follow the instructions of the API manual.

Test functionality without using a PC

You easily can test all LED channels of your iQ-LED without using a PC. Just connect the power to your iQ-LED and press the test button (picture flag 7) on the iQ-LED board. All 22 channels of your iQ-LED (and connected iQ-LED's in a row) will light up separately one after each other click by click. After 22 clicks on the test button all LED's will be turned on and another click will turn off all LED's. The intensity of the LED's when using the test mode is set to a normal level, but still use caution when in the test mode and do not look directly into the LED's.