

flok evaluation board designed for Lumiblades FL300

flok Lighting Control

A Smart Control System for Manufacturers

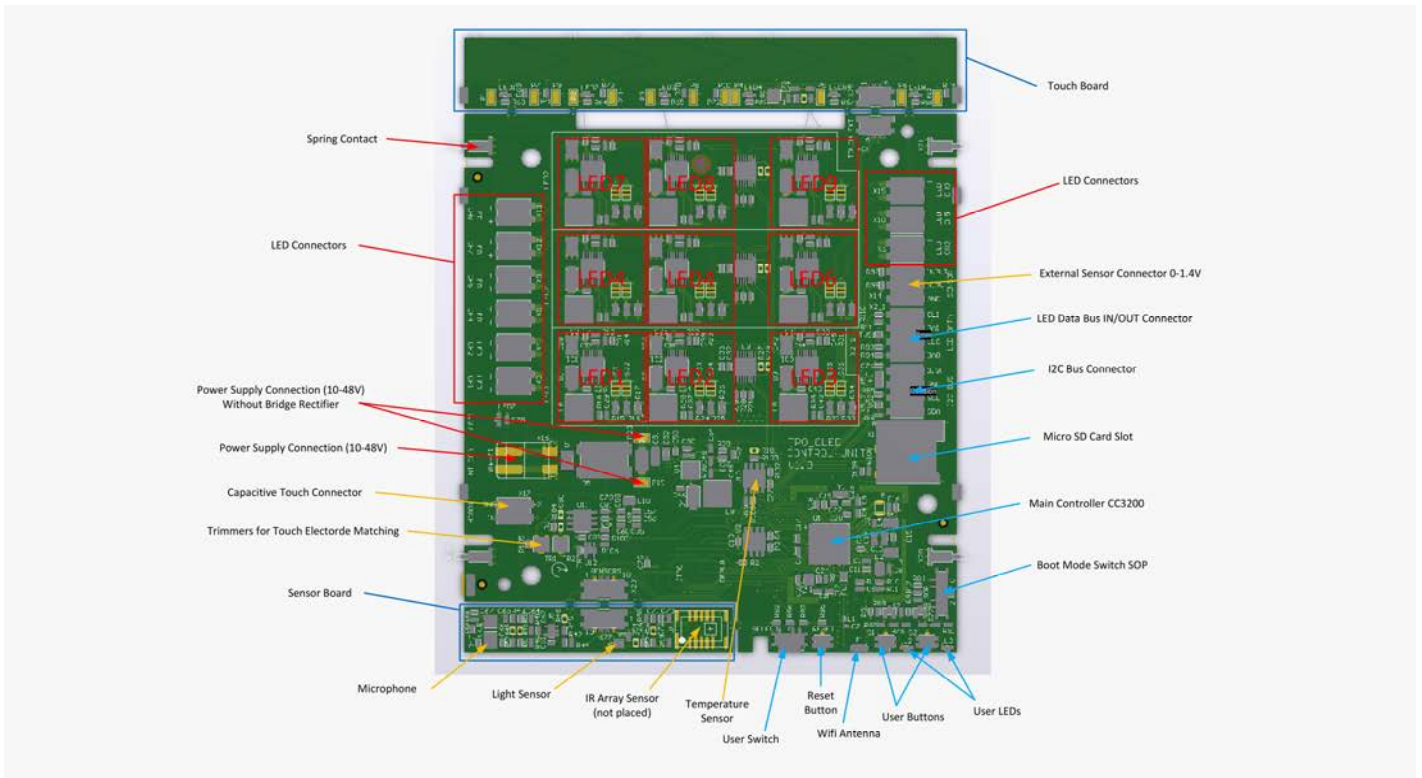
flok offers manufacturers a comprehensive and smart lighting control system that can be integrated into their OLED and LED products.

The heart of flok is the hardware – a combined OLED / LED driver and controller. The driver can power up to nine channels, enabling the use of the same amount of white OLEDs / LEDs or three high-power RGB-LEDs. The flok controller houses a number of sensors: light sensor, IR light sensor, thermal array sensor, microphone, capacitive touch, capacitive slider, proximity, and temperature sensor. It also hosts a memory chip, a slot for SD-cards, and a WiFi interface.

The soul of flok is the firmware. Several flok controllers can be connected through WiFi. They work as a network of independent nodes, each aware of its position in relation to its neighbours. The software can also display information on a luminaire. A patented algorithm controls a number of OLEDs facing in opposite directions, allowing them to display information (e.g. cloud patterns) while at the same time keeping the luminance in the room at a constant level.

If you are looking for a lighting control system that will make your luminaires smarter, please contact us at flokk@iart.ch.

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Spec Sheet flokk

Control Unit V1.0

Physical Specifications

Fully equipped 137x110x3.9mm (LxWxH)

Without touch slider 120x110x3.9mm (LxWxH)

Electrical Specification

Operating Voltage: 10 – 48 V

Power Consumption: 0.5 – 1 W (without LEDs/OLEDs)

LED-Driver-Channels: 9

Controller

Module Type: CC3200

Main Controller: ARM Cortex-M4

CPU Clock: 80 MHz

RAM: 256 KB

Flash Memory: up to 2MB (external serial flash)

Features: UART, SPI, I2C, ADC, McASP, I2S, SD Interface, Crypto Engine

Wi-Fi Network Controller

Type: ARM

Radio: 802.11 b/g/n

Encryption: 256-Bit AES

LED-Drivers

Type: LM3406HV

Topology: Buck Regulator

Output Current: 350mA / 500mA / 800mA (configurable by solder bridge)

PWM Resolution: 16-Bit

PWM Frequency: 20 kHz

Sensors

Capacitive Proximity/Touch

Type: PCF8883

Connector for External Electrode: 1

Capacity Range: 10-200pF

Temperature Sensor

Type: TCN75A

Temperature Range: -40°C to +125°C

Accuracy: +/- 1°C

Capacitive Touch

Type: MPR121

Channels: 12

Pads on PCB: 6 (Slider Configuration)

Ambient Light Sensor

Type: TSL2581

Resolution: 16-Bit

Microphone

Type: SPU0410HR5H

Frequency Range: 100 Hz – 10 kHz

Gain: 50 dB

Feature: Auto-Gain-Control

Infrared Array Sensor

Type: AMG8831

Temperature Range: 0°C to 80°C

Pixels: 64 (Vertical 8 x Horizontal 8 Matrix)

Accuracy: +/- 2.5°C

Human detection distance: max. 5 m

Viewing Angle: 60°