# Lucid MC

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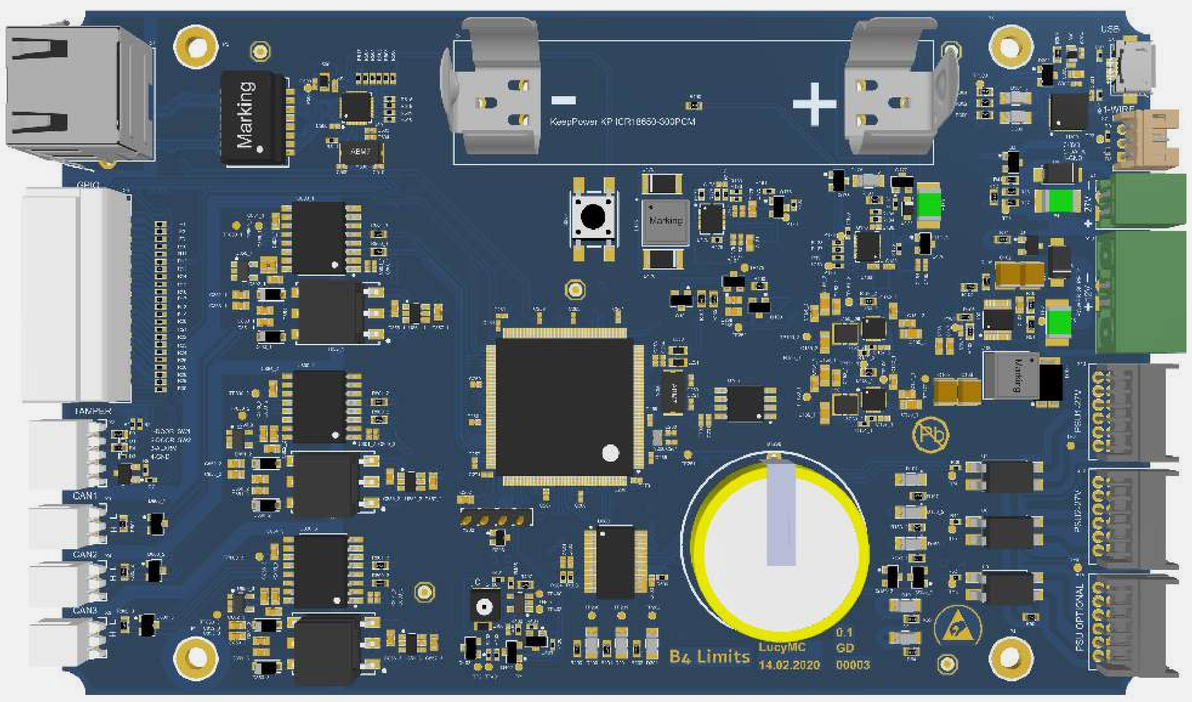
**Lucid MC** is a **device for controlling and monitoring** the operation of the device consisting of multiple units. Lucid MC **exchanges data** with **Lucid RF** and **Lucid PAC** modules through CAN based proprietary protocol. Communication with PC is based on **Ethernet communication using Platform application**. Additionally, Lucid MC **monitors power supply voltages stability** (e.g. 28V, 12V) **and temperature** (internal and external temperature values). Lucid MC **can monitor and control up to 7 units**, which include **Lucid RF and Lucid PAC boards**. Communication with PC application is **based on MQTT protocol and is secured using SSL**. Lucid MC is **designed to meet security standards** by implementing anti-tamper functions.

- monitoring, controlling and configuring up to 7 sets of Lucid RF and Lucid PAC via CAN
- 4 communication interfaces: 3xCAN, UART over USB, Ethernet, One-Wire (DS18B20)
- ARM Cortex M7 STM32F777ZIT6
- anti-tamper system

## ABOUT B4 LIMITS

**B4 Limits** highly **qualified and experienced PhD level team** created our **signal processing SDR platform** offering **full flexibility** of use. Our platform can be applied for solutions ranging from **vector signal generator**, **BTS**, **spectrum analyzer**, **jamming** and **repeater applications** to **uplink activity detection/decoding**.

**B4 Limits** team also developed **state of the art solutions** around our base product: **Software Defined Radio Platform**. The entire range of products consists of mainly support devices: **power amplifier controller**, **smart system controller** and the heart of the system **B4 Limits produced SDR**.



# SHORT SPECIFICATION

## MAIN FEATURES

MQTT over SSL client through **Fast Ethernet (10/100 Mbps)**

**CAN-based proprietary protocol** master controller

monitoring, controlling and configuring **up to 7 sets of Lucid RF and Lucid PAC** via CAN

**UART over USB** for monitoring and configuring

**controlling up to 3 power supplies** (switching on/off, monitoring voltage, monitoring digital DC_OK input signal)

**measurement of supply voltages and temperature**

additional **21 GPIO pins with configurable voltage levels** (1.8V, 3.3V, 5V)

**support for DS18B20** temperature external sensor

**embedded real time clock**

**anti-tamper system**

**4 communication interfaces:** 3xCAN, UART over USB, Ethernet, One-Wire (DS18B20)

## ELECTRICAL

Supply voltage: **12 V**

Maximum current consumption: **1 A**

Voltage levels of digital signals:
**1.8 V, 3.3 V, 5 V**

Analog voltage measurement:
**28 V and 12 V**

**Communication interfaces:**

for external communication: **FastEthernet 10/100 Mbps**

for internal communication: **CAN**

for configuring and monitoring: **UART over USB**

for debugging: **SWD (internal)**

for ambient temperature sensor: **One-Wire (DS18B20)**

## MECHANICAL

PCB dimensions (L x W): **159 x 100 mm**

Housing dimensions (L x W x H):
**169 x 110 x 38 mm**

## ENVIRONMENTAL

Operating temperature: **-25 to 85 °C**

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