

Q-MACS Basic MC/SC

QCL Driver Solutions



technical specification

The Q-MACS Basic MC is a multi-channel control unit for Q-MACS laser drivers, as the Q-MACS LH8, LH3 II and LH3 II CW laser heads. It incorporates an independent pulse and function generator for each channel and therewith allows the parallel operation of up to 8 lasers at different wavelengths. The channels could be operated fully synchronized or with a free-running time base. To ensure a fail-proof signal transmission a 16 mA interface with the driver heads is realized. With these features the control unit provides outstanding flexibility for driving semiconductor lasers in pulsed and CW mode respectively.

Complementary our Q-MACS Basic SC (single-channel) control unit is tailored for OEM application. It combines highest reliability in pulse generation with a compact and robust design.

These devices come with an USB interface, which allows defining the settings for the pulse driver, the arbitrary function generator as well as for the TEC controller of our laser driver units. Furthermore limits and initial settings could be stored in a non-volatile memory to allow self-sustained operation.

The system could be operated with our driver heads of different characteristics, which contain all electronics necessary to support diverse packages. In this combination it forms a robust and versatile laser driver system for various infrared absorption spectroscopic applications and can be utilized for fundamental and industrial research purposes. It comes with special control software to configure the device via its USB interface.

general

description	controller for Q-MACS laser driver, including pulse generator and fully synchronized arbitrary function generator
dimensions	160 mm x 240 mm x 140 mm* (SC) 255 mm x 240 mm x 150 mm* (MC) * dimensions might change depending on the model
weight	2 kg (SC) 5 kg* (MC) * weight differs depending on the number of channels installed
temperature range	+5 °C to + 40 °C
power	230 V / 1 A / 50 Hz; 115 V / 2 A / 60 Hz* * switchable

pulse- / arbitrary function generator

repetition rate	1 MHz up to 5 MHz
pulse width	6 ns to 510 ns* * higher pulse widths on request
pulse voltage	≤16 V
Bit depth	12 bit, step height changeable with 10 bit
memory size	4095 samples
modulation input	superposition with ±2 V* @ 100 kHz max. * resulting current level depends on the connected driver head

features

interfaces	16 mA interface to driver heads USB interface to control PC
safety	interlock
clock	external trigger input to synchronize pulse generation and function generator output
supported driver heads	Q-MACS LH8 Q-MACS LH3 II and LHCW

