



Q-MACS Basic SC-II

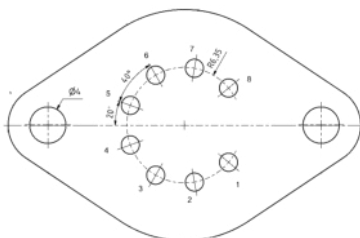
The Q-MACS Basic Single Channel (SC) Rev. II is part of a new generation QCL driver highly optimized for the versatile use in OEM applications. It combines highest reliability in pulse generation with a compact and robust design and provides outstanding flexibility for driving QCL in pulsed or continuous wave mode respectively. It is a robust and versatile laser driver system for various infrared absorption spectroscopic applications and can be utilized for fundamental and industrial research purposes. The device combines the control electronics capable of generating all necessary timed control signals, the laser head with all required power electronics to drive the laser current and the TEC based temperature control loop. Finally, an integrated fast data acquisition feature allows to fully synchronized readout e.g. the signal from an IR detector for data processing.



general

description	single channel laser driver with integrated data acquisition
dimensions	125mm x 70mm x 66mm (L x H x D)
weight	650 g
supply voltage	24 VDC @ 60 W
laser connector	TO-3 socket
remote control interface	3.3V UART connection TTL trigger input/output lines I2C slave connection on request
data acquisition	125 MS/s with 62 MHz bandwidth
thermal management	6 mm hose connection for opt. water cooling

supported TO3 pinout



bottom view

- 1 TEC +
- 2 thermistor
- 3 thermistor
- 4 negative contact laser
- 5 positive contact laser
- 6 not connected
- 7 not connected
- 8 TEC -

current driver

CW current	up to 800 mA
compliance voltage	<18 V (configurable)
bandwidth	10 MHz

pulser

peak current	up to 6 A
peak voltage	up to 20 V (configurable)
frequency	0.1 Hz .. 5 MHz
pulse width	8 ns .. 1000 us *

* configurable in steps of 8 ns

temperature controller

maximum voltage	≤4.3 V
maximum current	±3 A
temperature sensor	NTC, 10 kOhm @ 25 °C
temperature range	-25 °C - 40 °C

operating and storage conditions

operating temperature	5 °C - 40 °C
operating humidity	15 % - 75 % (rel.)
storage temperature	-40 °C - 70 °C
storage humidity	10 % - 100 % (rel.)