Q-MACS Process DC

technical specification

The Q-MACS Process DC is a portable monitoring system for on-line measurements of industrial processes, where the measurement equipment's installation in the process room is not possible. This open path system uses mid-infrared absorption spectroscopic methods to determine absolute molecular concentrations. It is based on the Q-MACS Basic and features a dual channel setup, which allows the simultaneous measurement of multiple species. The long-term stability for broad absorption features was improved by adapting normalization concepts.

general	
description	dual path infrared spectrometer with two IR-light sources
sensitivity	down to ppb range [1]
response time	down to milliseconds
time resolution	down to milliseconds, sub-microsecond time resolution on request
size	554 mm x 1229 mm x 600 mm
weight	160 kg

components	
parts	▪ optical board ▪ industrial PC with acquisition hardware ▪ electronic supply system ▪ water cooling system

parameter	
power	▪ 230 V, max. 2 A (switch-on current 6 A) ▪ 115 V, max. 4 A (switch-on current 12 A)
working range	+5 °C to +40°C

QCL	
tuning method	▪ inter pulse mode (laser sweep mode) ▪ intra pulse mode (single pulse mode)
pulse width	8 ns* ... 256 ns** * depends on the QCL and QCL-voltage used ** longer pulses on request
pulse frequency	up to 1 MHz
QCL temperature range	-35 °C to +40 °C
QCL	tested and installed

[1] depends on species, temperature and pressure