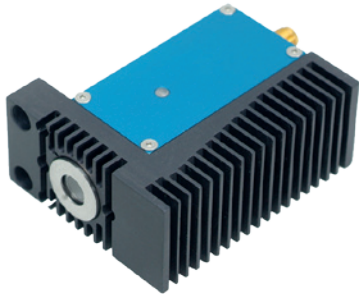


Q-MACS IR Detector

MID-INFRARED DETECTOR



technical specification

The Q-MACS Infrared Detector module is a compact detector device for infrared absorption spectroscopic purposes. It includes an ultra-low-noise pre-amplifier, which is available in two bandwidth versions for detection of fast and continuous wave signals respectively. The temperature controller, for driving the thermo electric cooling elements, is available in digital and analogue implementation. The analogue temperature controller provides lowest noise behaviour, but requires the use of water cooling for long term runs. The detector's exterior dimensions are similar to the small-sized Q-MACS Basic 1.5 QC Laser head. The Q-MACS Infrared Detector Module allows on-line measurements and can be utilized for research and industrial applications.

general

dimensions	25 mm x 25 mm x 50 mm [1]
weight	62 g [1]
supply voltage	+5 V/ 2 A on Binder RD04 Serie 707
detectors	e.g. Vigo PVI-2TE/3TE, PCI-2TE/3TE

pre-amplifier IRDM-600

input voltage	±2 mV
output voltage	±0.2 Vp-p @ 50 Ω, SMA connector
gain	38 dB
bandwidth	10 kHz – 600 MHz
bias	adjustable up to 10 mA

pre-amplifier IRDM-5

input voltage	±4 mV
output voltage	±2 Vp-p @ 1 MΩ, SMA connector
gain	60 dB
bandwidth	10 Hz – 5 MHz
bias	adjustable up to 10 mA

temperature controller

max. TEC voltage	1.8 V
max. TEC current	±1.5 A
temperature range	200 K to 240 K, 235 K typ.
heat sink	air or water cooling [2]

[1] without additional heat sink

[2] air cooling might not be applicable due to specific TEC configurations

