

CATALOGUE 2023

QUANTIUM MEDICAL

Products & Accessories



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qCON-qNOX Technology with Advanced EEG

General anaesthesia is a combination of several types of drugs such as hypnotics, analgesics or muscle relaxants, among others. Achieving an appropriate balance of these components during surgical procedures is desirable. For this purpose, qCON-qNOX technology calculates two continuous processed EEG parameters:

qCON index

The qCON index has a value between 0 and 99, and assesses the patient's state of consciousness. A qCON index around 99 means the patient is awake, while a qCON index around 0 indicates no cortical activity (isoelectric EEG).

qNOX index

qNOX is an index from 0 to 99 that correlates to the patient's responsiveness level. The higher the qNOX index, the higher the probability of response to noxious stimuli by the patient.

Both indices are based on the combination of different frequency bands calculated from the raw frontal electroencephalogram which is the graphic representation of the bioelectrical activity of the brain.

Cardiac Output Monitoring with Advanced ECG

The qCO monitor is a non-invasive tool aimed to evaluate the Cardiac Output (CO) of the patient. The monitoring is performed through four electrodes placed on the patient's thorax. The obtained impedance signal is used to calculate several indexes related to blood flow without interpreting data (i.e., any interpretation of the data must be performed by a doctor).

Among these indexes, the CO, the Stroke Volume (SV) and the Heart Rate (HR) can be calculated by the monitor. All of them are haemodynamic parameters related to vital signs.

Cardiac Output (CO)

The assessment of Cardiac Output is highly important because it offers an estimate of the volume of blood pumped by the left ventricle of the heart each minute; the cardiac index represents the global blood flow.

Stroke Volume (SV)

Stroke volume is the volume of blood pumped by the heart with each beat divided by the body surface area. It is determined by three factors: preload (the filling pressure of the heart at the end of diastole), contractility and afterload (the pressure against which the heart must work to eject blood during systole).

Heart Rate Variability (HRV)

Heart rate variability is the physiological phenomenon of the variation in the time interval between consecutive heartbeats in milliseconds. It is estimated through the evaluation of the R-R intervals.

CONOX

Quantum Medical has designed and developed Conox monitor based on QM solutions (qCON and qNOX).

Conox is a non-invasive depth of anaesthesia monitor to be used by healthcare professionals in surgery rooms or ICU environments during anaesthesia and sedation procedures.

It is a tool that helps to assess the patient's state of consciousness and the probability of response to noxious stimuli under the hypnotic and analgesic effects.

RELIABILITY AND STABILITY

Stable and reliable monitoring

PORTABLE

Compact and lightweight design.

Easy attachment with a 360° pole clamp.

Bluetooth connectivity.

USABILITY

Touch screen with direct access to the monitor functions.

Friendly and intuitive graphical interface.

On demand sensor impedance test and automatic test every 15 minutes.

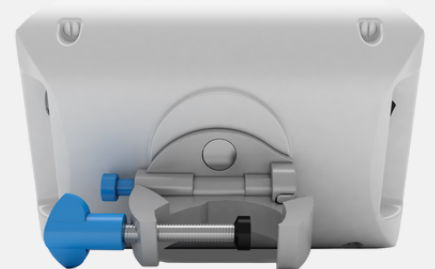
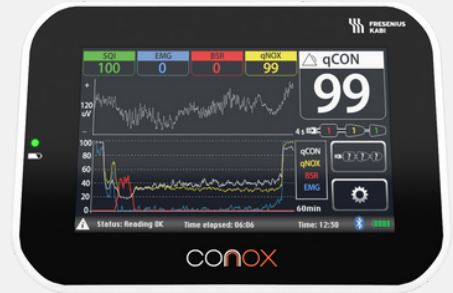
Lead off detection.

Artifact rejection.

Surgical areas and ICU environments.



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qCO OEM

KEY FEATURES

Monitoring of Cardiac Output and HRV analysis for integration into dedicated or multi parameter monitors.

Easy integration thanks to its compact design.

Advanced digital signal processing of the thoracic impedance.

Fast index update rate.

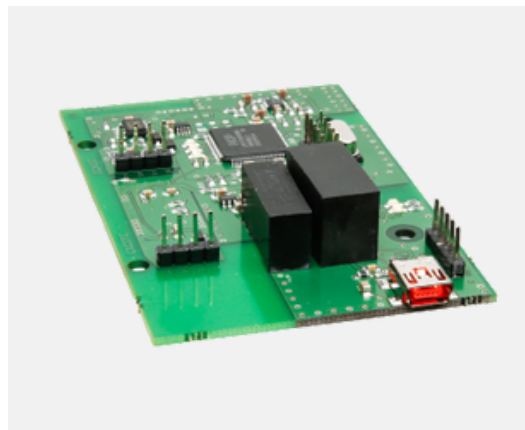
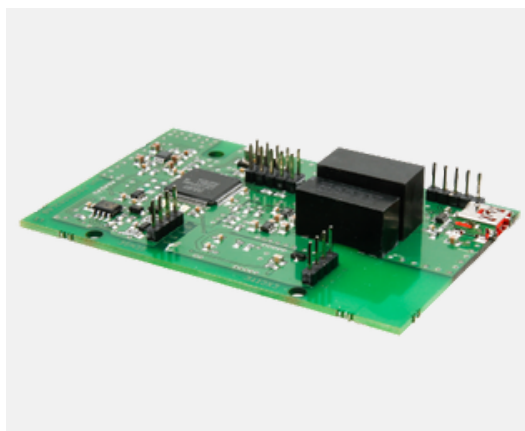
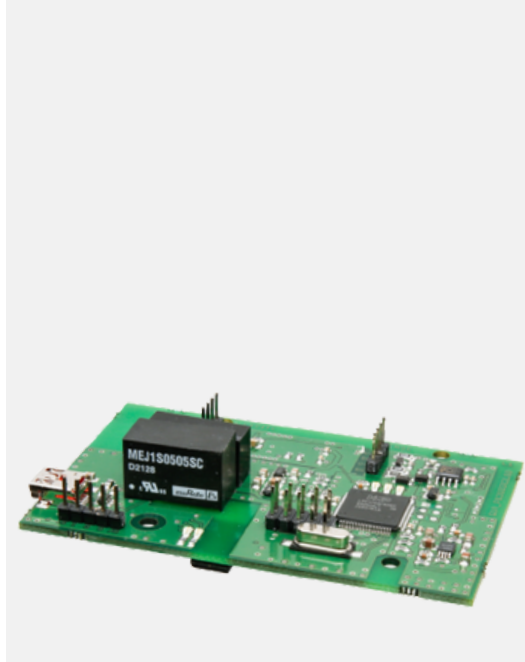
Innovative algorithm in the artifact rejection.

Added value for existing and new monitors.

Turnkey solution for monitor manufacturers.

GENERAL SPECIFICATIONS

Input impedance	0-100 Ω
Sampling frequency	250 samples/s, 32 bits/sample
Bandwidth	0.1-120 Hz
CO range	0 - 20 l /min
SV range	0 - 200 ml
HR range	0 - 150 beats/min
Power supply	5V DC, 2.0 A, 10 W



qCON-NOX OEM

With our novel and flexible OEM configuration model we provide the manufacturers with a **unique opportunity** to define new patient monitoring solutions for pre-operative, intra-operative and post-operative use.

This new approach allows the manufacturers to **personalize** their anesthesia monitoring devices, by choosing the distinct parameters they want to visualize and mix them as needed.

FOR MANUFACTURERS

Turnkey solution for monitor manufacturers.

Easy integration thanks to its compact design.

Fast index update rate.

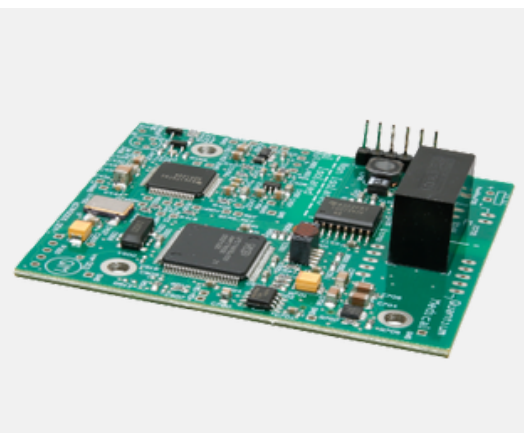
Innovative algorithm in the artifact rejection.

Advanced digital processing algorithm, requiring one single EEG channel.

Added value for existing and new monitors.

GENERAL SPECIFICATIONS

EEG resolution	44.58nV
Noise	$< \pm 6 \mu\text{Vp-p}$ (BW 70 Hz)
CMRR	$> 100 \text{ dB}$
Input impedance	$> 1 \text{ M}\Omega$ (@10 Hz)
Sampling frequency	1024 samples/s, 24 bits/sample
Input signal range	$\pm 374 \text{ mV}$
Power supply	5V DC, 2.0 A, 10 W
Dimensions	70.08 x 60.15 x 20 mm









References

	Consciousness	Patient Responsiveness	Cardiac Output	Sensors	Patient Cable	USB	Connectivity Support	Reference
Advanced ECG								
qCO Monitor		●		25	●	●		QM5000-M
qCO OEM		●			●			QM5000
qCO OEM Starter Kit		●		25	●	●	●	QM5000 Starter Kit

Advanced EEG								
qCON OEM	●				●			QM3000
qCON OEM Starter Kit	●			10	●	●	●	QM3000 Starter Kit
qCON-NOX OEM	●	●			●			QM3001
qCON-NOX OEM Starter Kit	●	●		10	●	●	●	QM3001 Starter Kit
qCON XP	●			10	●	●	●	QM3100
qCON-NOX XP	●	●		10	●	●	●	QM3101

ACCESSORIES

Description			
	Sensor	Box of 50 units	Z029061
	Patient Cable	1 unit	QM-ACS-009
	Power Supply	1 unit	QM-ACS-004
	EEG Simulator	Tone Generator and Power Supply	QM-ACS-006
	ECG Simulator	Tone Generator and Power Supply	QM-ACS-008
	Pole Clamp	1 unit	QM-ACS-007

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