

# FRQ-4 for imc CRONOS-PL/-SL/compact

## Signal conditioner 4 channels for frequency modulated signals

The plug-in module FRQ-4 for imc CRONOS *compact* serves to measure signals whose time- or frequency information is to be captured.

This module is especially designed for sensors that are able to convert electrical, physical dimensions in frequency. These sensors spent in a "state of rest" (input parameter = 0) a frequency not equal zero. The physical dimension combined with the scaling factor has to be entered into the basis card.

By means of taring in the dialog amplifier adjustment' this state of rest is tared as a zero position. Frequencies that are smaller than that state of rest will be notified as negative physical values.

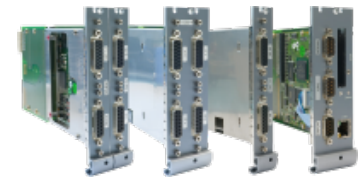


### imc CRONOS *compact*- modular measurement system

imc CRONOS *compact* is a modular and reconfigurable hardware a "rack"-based series of devices available in a variety of housing sizes and device frames. imc CRONOS *compact* (CRC) plug-in-modules can be inserted into the system (CRC-400GP).

Once the modules are plugged into a portable or rack-based housing, they are electrically connected to the CRC-system and are supplied by the system with power. The data storage will be managed by the CRC-system.

Rack-based modules ("-R") differ from the standard modules only in terms of the front panel's attachment mechanism.



*imc CRONOS compact plug-in-modules*



*imc CRONOS compact portable housing*

### Overview of available variants

Standard version		ET version *	
Order Code	article no.	article no.	remarks
CRC/FRQ-4	11700061	11710036	for installation in an imc CRONOS compact housing
CRC/FRQ-4-R	11700125	11710084	for installation in an imc CRONOS compact RACK

### Included accessories

DSUB-15 plug		
ACC/DSUBM-ENC4	15-pin DSUB clamp terminal for each 2-channel pair for acquisition of incremental quantities such as RPM, frequency, displacement etc.	13500171

Documents	
Getting started with imc CRONOS <i>compact</i> (one copy per delivery / system)	
Device certificate	

\* ET: Version in extended temperature range

## FRQ-4 Technical Specs

Parameter	Value	Remarks
Channels	4	for frequency modulated signals
Measurement mode	frequency measurement	
Terminal Connection	2x DSUB-15 / 2 channels	ACC/DSUBM-ENC4

General		
Sampling rate	50 kHz / channel (max.)	
Frequency stability	<100 ppm deterioration <±5 ppm / year	
Data resolution	16 bit	

Differential-inputs		
Input configuration	single ended	
Measurement range	1 kHz, 2,5 kHz, 5 kHz, 10 kHz, 20 kHz	
Input voltage range	TTL	
Input impedance	50 k 100 k	CRC CRSL
Common mode input voltage	max. ±30 V	
CMRR	70 dB (typ.), 50 dB (min.) 60 dB (typ.), 50 dB (min.)	DC, 50 Hz 10 kHz
Overvoltage protection	±50 V	long-term
Gain uncertainty	<1 %	23°C
Offset uncertainty	<1 %	23°C

Parameter	Value	Remarks
Sensor supply	+5 V, 100 mA 300 mA (optional)	not isolated (reference: GND, CHASSIS)