

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

Datasheet Version 3.3

Signal conditioner 4 channels for frequency modulated signals



CRPL/FRQ-4



CRC/FRQ-4

The plug-in module **FRQ-4** for imc CRONOS-PL/*compact* (or configuration module for CRONOS-SL) 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.

Order code:	Article number	Remarks
CRC/FRQ-4	1170061	for installation in the imc CRONOS <i>compact</i> housing
CRC/FRQ-4-ET	1171036	version in extended temperature range
CRC/FRQ-4-R	1170125	for installation in the imc CRONOS <i>compact</i> RACK
CRC/FRQ-4-R-ET	1171084	version in extended temperature range
CRPL/FRQ-4		for installation in the imc CRONOS-PL housing
CRPL/FRQ-4-ET		version in extended temperature range
CRSL/FRQ-4-D		for installation in the imc CRONOS-SL housing with DSUB interconnections
CRSL/FRQ-4-L		for installation in the imc CRONOS-SL housing with LEMO interconnections

Structure:

- Plug-in module for imc CRONOS-PL/*compact* systems, occupying one slot.

Interconnections:

- 2x **DSUB-15** terminals for each 2-channel pair

Included accessories for imc CRONOS-PL/compact:**Connection terminals:**

- 2x **ACC/DSUB-ENC4**, 15-pin DSUB clamp terminal for each 2-channel pair

Included accessories for imc CRONOS-SL:

Power supply:

- Supplied from imc CRONOS-PL/-SL/compact

Operating conditions:

- Depending on the module variety (with or without extended temperature range), the respective operating conditions pertain to the associated housing model.

Software configuration:

- The module is completely supported by the operating software for imc CRONOS-PL/-SL/compact. The entire functionality or parameterization, data saving and online computations are available.

Data storage:

- performed by imc CRONOS-PL/-SL/compact

Optional accessories:**Connection terminal:**

- **ACC/DSUB-ENC4-IP65**, 15-pin DSUB connection terminal adapted to CRONOS-SL for each channel pair for acquisition of incremental quantities such as RPM, frequency, displacement etc.

FRQ-4 Technical Specs

Technical Datasheet Version 3.3

Parameter	Value (typ. / max)	Remarks
Channels	4	for frequency modulated signals
Measurement mode	frequency	
Connection terminal	2x DSUB-15 / 2 channels	ACC/DSUB-ENC4(-IP65)

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 kΩ 100 kΩ	CRC CRPL/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 (typ. / max)	Remarks
Sensor supply	+5 V, 100 mA 300 mA (optional)	not isolated (reference: GND, CHASSIS)