

MR3003BLA

Description

The MR3003BLA is a device developed specifically for the monitoring of vibrations induced by explosions. The MR3003BLA offers 4 acquisition channels: 3 dedicated to vibrations and one to air overpressure.

The MR3003BLA devices are equipped with an embedded 4G module for wireless data transfer, and they can be linked to the SCS ([Syscom Cloud Software](#)) to offer a near real-time reporting solution with graphical norm comparison and alarming in case of norm exceedance.

Data recording

ITEM	SPECIFICATION
Resolution	24 bits
Sampling-rate	1'000, 2'000, 4'000 sps
Number of channels	4
Recording principle	Event recording (time history), continuous time recording, manual trigger
Data memory	Removable SD card (4Gb)
Minimum trigger level	0.01 mm/s (0.0004 in/s)
Trigger voting logic	Predefined AND or OR combinations, individual channel votes
Pre-event recording	1-99 seconds (@250Hz), others depending on sampling rate
Post-event recording	1-100 seconds
Alarm principle	Multiple level triggers with many notification options (settable for each axis)
File event format	XMR/ASCII (if no microphone), ASCII (if microphone is present)

Connectivity

ITEM	SPECIFICATION
Mobile Network	Internal 4G modem, fallback 3G/2G
Wi-Fi access	IEEE 802.11 b/g/n compliant
LAN connectivity	On MR3003BLA housing

Physical characteristics

ITEM	SPECIFICATION
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Housing	Aluminium IP65, 120 x 180 x 100 mm (4.7 x 7.1 x 3.9 in), 1.5 kg
Temperature/humidity	-20° up to 70°C / Up to 100% RH

External MS2003BLA triaxial velocity sensor

ITEM	SPECIFICATION
Sensor type	Triaxial geophone with linearized frequency response
Calibration	To be specified at the time of purchase between: • ISEE: calibration according to ISEE Performance Specification for Blasting Seismographs • DIN: calibration according to DIN 45669-1
Measuring range full scale	ISEE: ± 250 mm/s (± 10 in/s); DIN: ± 100 mm/s (± 4 in/s)
Frequency range	ISEE: 2-250 Hz; DIN: 1-315 Hz
Dynamic range	> 110 dB
Linearity/Phase	Class 1 (according to DIN 45669)
Cross axis sensitivity	<5% (according to DIN 45669)
Dimensions/weight	100 x 100 x 81 mm (3.9 x 3.9 x 3.2 in) / 1.0 kg
Connector	Cable gland with 1.5 m cable and LEMO 2K push-pull connector
Accessories	Mounting platform for short- or long-term monitoring, soft-soil spike

External high-pressure microphone

ITEM	SPECIFICATION
Sensor type	Air pressure microphone - Array microphone
Measuring range	148 dB (L) ± 3 dB
Frequency range	2-250 Hz
Dimensions/weight	60 mm length, 7 mm diameter / 5.5 g
Connection	LEMO coaxial push-pull connector with SMB socket 1.5 m

Power supply

ITEM	SPECIFICATION
Supply voltage	9 to 14.5 VDC or 48 V PoE
Battery pack	MA3P, 100-240 V AC input, Lithium battery 93Wh
Power consumption	From 1.2 W to 1.6 W depending on the accessories and configuration
Specifications	