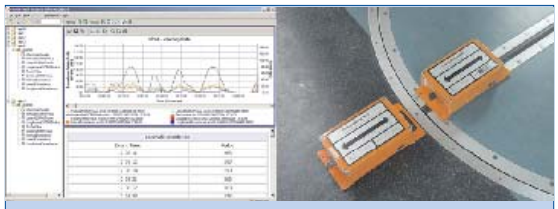
Macminder
Ride Performance Monitor

The Macminder system is an unattended method of monitoring vehicle ride performance and track conditions on-board in-service trains eliminating the need for track possession.

Designed to operate on a stand alone basis, several Macminders can be placed in different vehicles recording ride comfort simultaneously, enabling comparisons of multiple journeys or vehicles.



Features

- Vertical, Lateral and Longitudinal Measurements
- Tacho, Speed and Distance
- Exceedence Logging
- Complies with ISO2631 Draft 5
- Self Contained
- Battery Powered
- Small and Rugged
- Easy to Use
- Connects to VTAS

For more information, please contact the Railway Sales Department at Donfabs & Consillia

Email: sales@consillia.com

Stand Alone

The Macminder Ride Performance system comprises of small, rugged, self contained, stand alone data logging units. The units are unobtrusive and can be placed under a seat on an operational vehicle, eliminating the need for costly track possession.

Measurement

Measurements include Vertical, Longitudinal, Lateral, RMS and ISO, speed, exceedences and time.

Vehicle Testing

For multiple vehicle testing several Macminders can be deployed around the vehicle consist. The units are synchronised through time enabling data to be overlaid for analysis and reporting.

Autonomy

Each Macminder has its own inbuilt battery which is capable of 24 hours recording time.

Speed Monitoring

Using the "L" model Macminder a tacho pulse can be recorded which is then processed into speed and distance providing accurate journey recording.

Software

All data is transferred to VTAS, our own software analysis package. This enables data to be compared, annotated, viewed and manipulated into various report formats for presentation.

Operation

The Macminder system is simple to operate and requires no prior training. Initial setup is activated through a PC and requires the input of parameters such as exceedence levels. The setup is then downloaded to the data logging unit, which initiates the Macminder and starts recording. When recording is complete, all data can be downloaded to the PC for post process analysis.

Technical Specification

Construction

Aluminium box section with gasket sealed lid and waterproof connectors constructed to IP56

Typical Applications

Monitoring of dynamic behaviour of Locomotive and Rolling Stock
Monitoring of Passenger Ride Comfort at source
Railway induced ground and building vibration monitoring
Monitoring of track deterioration over time
Monitoring of compatibility between Rolling Stock and Track
Compilation of Maintenance schedules
Indication of sudden deterioration and potentially dangerous conditions of Vehicle or Track

Measured Parameters

Parameter

Vertical Acceleration	ISO Weighted RMS accelerations
Lateral Acceleration	ISO Weighted RMS accelerations
Longitudinal Acceleration	ISO Weighted RMS accelerations (Optional)

Peak to Peak Exceedences and statistics
Speed, Time and distance covered by vehicle throughout the test ("L" Model only)
Peak to Peak and ISO weighted Histograms

Technical Details

Number of Channels	6 maximum (2 channels per axis)
Channel Types	Peak to Peak (Histograms & Exceedences Only) ISO RMS (Histograms & Journey Data)
Filter Characteristics	Pk to Pk Accelerations, 0.05Hz - 20Hz Band Pass (5,10, 40 or 80Hz Optional) ISO Accelerations, ISO 2631 Draft 5
RMS Processing Characteristics	10 second RMS averaging (continuous)
Digital Sample Rate (RMS Journey)	0.1Hz
Measuring Range	1.25G Full Scale (other ranges available)
Speed / Distance Input	Tachometer Signal (Voltage 0-200V, Pulse 0-10kHz

Battery

Recording Time:	24 Hours
Battery Charge Time:	16 Hours

Recording System

Internal Non-Volatile memory with Battery back up

Environmental

Length:	340mm
Width:	160mm (with handles)
Height:	96mm
Weight:	4.75kg
Operating Temperature	0 Deg C to +45 Deg C

Specification subject to change without notice

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