The Castle Pro-DX EXCIEO (GA2005)
Human and Environmental Vibration Meter
Technical Data-sheet (H, S, M Variants)

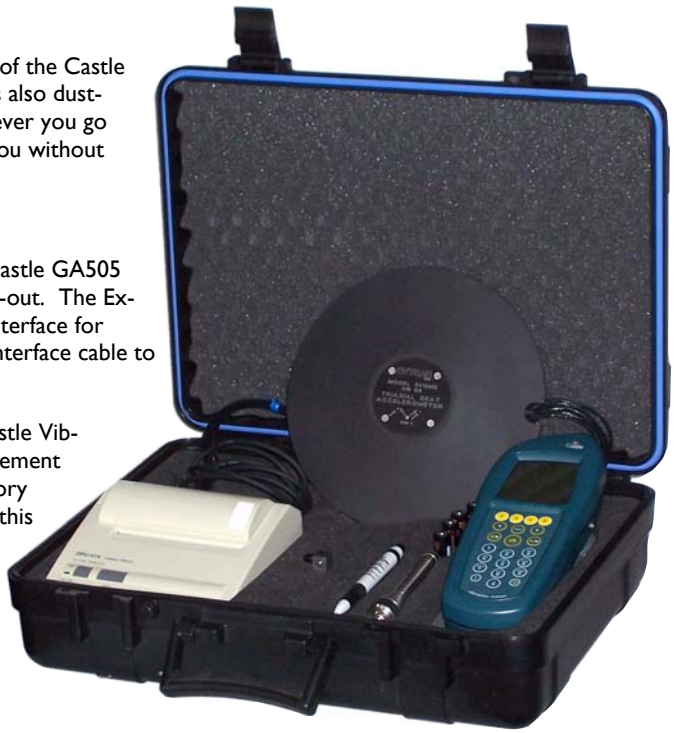
Future-proof technology, flexibility through power and an ability to survive, underpin the development ethos of the Castle Pro-DX Excieo Vibration meters. Castle Group are acknowledged experts in noise and vibration measurement with over 30 years experience. When you buy from Castle you can buy with confidence.

The technology has finally arrived...

The Pro-DX Excieo range of vibration meters brings to you unrivalled power and usability. With Parallel tri-axial measurement, Multiple measurement parameters and just about all the frequency weighting curves you will need, vibration measurement technology for a plethora of applications has finally arrived!

A Tough Case for all Weathers...

Not only is the physical design and construction of the Castle Pro-DX casing extremely tough and durable, it is also dust-proof and weatherproof! This means that, wherever you go and whatever you do, your Excieo can go with you without letting you down! It's extremely Ergonomic too!



Talking to the Outside World...

Logged data can be transmitted directly to the Castle GA505 Portable Printer providing ready-formatted print-out. The Excieo features a USB and a bi-directional RS232 interface for communication with a PC and with the printer interface cable to third party printers.

To gain the most out of your measured data, Castle Vib-dataPRO software is the way to go. Post measurement analysis, presentation of graphical data and memory management of the Excieo can all be done using this package. Vib dBdata PRO also affords seamless integration with word processing and spread-sheet packages enabling you to use your own standard report formats in programs you are used to using.

Simplicity and Power...

Using the meter could not be simpler. The intuitive Pro-DX operating system tells you where you are and what you need to do next. The massive power of the technology in the instrument is tamed by the user interface such that you are presented with all the information in a concise and unambiguous format. Menu choices are logical and straightforward and make maximum use of the clearly defined operation keys and the 'mobile phone' style 'soft' function keys. The data-logging system is also a breeze to use as it is based on 'Templates' and 'Files' just like a PC. You can create as many measurement templates as you like, storing all set-up information and then you simply load the one you want, take the measurements and save the results in a file for later access. All the templates and files are stored in the Excieo's large memory permanently until you're ready to view, print or download.

Future-Proof...

the built in software for these meters is designed to suit future upgrading for feature enhancements, legislative changes or instrument upgrades. Details are mailed to customers as soon as they become available. With the Castle Pro-DX meters, you will always be in step with the law and market requirements

With the addition of the Castle weatherproofing system, this instrument makes the ideal environmental vibration measuring system. The simplicity of use and the data-logging capabilities mean that this system can be used for environmental monitoring on construction sites, quarries, civil projects and sensitive manufacturing sites.

Specification

PRO-DX EXCIEO: MODELS
Excieo H (GA2005H) - Hand Arm Vibration
Excieo S (GA2005S) - Single Axis Vibration
Excieo M(GA2005M) - Multi-Function Vibration

APPLICABLE STANDARDS
ISO8041:2005 Human response to Vibration
BS4675:1978, ISO2954:1975 Requirements for Instruments measuring vibration severity

ACCELEROMETERS
For Hand Arm Vibration: KD1006
Sensitivity: 10mV/g, Range (f.s.) ±500g
Frequency Response: 2-5000Hz ±10%
For Whole Body Vibration: KD1007
Sensitivity: 100mV/g, Range (f.s.) ±50g
Frequency Response: 0.5-3000Hz ±5%
For Engineering Vibration (Single Axis): KD1003
Sensitivity: 100mV/g, Range (f.s.) ±80g
Frequency Response: 2-14000Hz ±5%
For Environmental Vibration: TBA
Sensitivity: TBA
Frequency Response: TBA

DISPLAY
Electro-Luminescent, Back-lit LCD panel (160x160 pixels)
Vibration Meter Display: -
Numerical: Parallel Tri-axial results
Real Time clock: Day, Month, Year, Hour, Minute, Second
Language Display: English, French*, German*, Spanish* and Italian*.

LEVEL RANGE
Dynamic Range: 74 dB

HARM: RMS range 0.02-5000m/s^2
WBV: RMS range 0.002-500m/s^2
SINGLE: RMS range 0.02-5000m/s^2

FREQUENCY WEIGHTINGS
HARM: Wh
WBV: Wd,Wk
SINGLE: Fa,Fb,Fc,Fl,Ws
CUSTOM: Fa,Fb,Fc,Fl,Wb,Wc,Wd,We,Wh,Wj,Wk,Wm,Ws

DETECTORS
rms, rmq and Peak

REAL-TIME TRI-AXIAL MEASUREMENT
Real-time 3 channel measurement to give simultaneous display and integration for tri-axial measurement.

MEASUREMENT PARAMETERS
Variation H
Arms, Amax, Aeq, PEAK
Variation S
Arms, Amax, Aeq, PEAK, Displacement, Velocity
Variation M
Arms, Amax, Aeq, PEAK, Displacement, Velocity, VDV

UNITS
Metric, dB, Imperial, g

LOG TIME INTERVALS
Maximum 23.59.59 hh.mm.ss user definable in one second intervals

TIMER FUNCTION
Maximum 23.59.59 hh.mm.ss user definable in one second intervals

DISPLAYED MEASUREMENT RESOLUTION
0.1dB or <1%

REAL TIME CLOCK
Time and Date – accuracy <0.06% per day.

MEMORY
4Mb On-board FLASH, 3.5Mb available for data-storage allowing more than 3000 recordings (without History) to be stored.

INPUTS
3-Channel input for Voltage mode
DC Power input via external socket: 12V

SIGNAL OUTPUT
RS232: 2400 Baud, 8 bit, no parity, bi-directional, 9 pin Lemo
USB interface
'AC' output

PROCESSING
Direct processing using digital recursive filters (infinite impulse response)
A to D Converters: 20-bit Stereo, 16kHz sampling
DSP: 5MIPS, 5MHz processor
Controller: 16bit, running at 16MHz

POWER REQUIREMENTS
12volts DC (with mains adapter), Batteries: 6 x MN1500 (size AA), Life: approximately 18 hours (alkaline batteries, continuous operation without backlight).

SIZE AND WEIGHT
Dimensions: Height: 255mm (without Cable) x Width: 100mm (max) x Depth: 49mm
Weight: 780g approximately (including batteries)

MANUALS
Multi-language manuals*: English, French, German, Spanish and Italian.

KITS
VK024 Hand Arm Risk Measurement (HARM) System
VK025 Whole Body Vibration (WBV) System
VK026 HARM and WBV Combined System
VK027 General Purpose Vibration System
VK028 Environmental Vibration System

ACCESSORIES
GA505 Portable, Battery Operated Thermal Printer
GA606 Vibration Calibrator
KA016V Kit Case for Excieo and Accessories
KA019 Weatherproof Enclosure
KD1003 Single Axis Accelerometer
KD1006 HARM Tri-axial Accelerometer
KD1007 Tri-axial Seat-pad WBV Accelerometer
KD1217 Transducer Petrowax Mounting Compound
PC009 VibdataPro Windows Analysis software
PSU3 12V DC External Power Supply
ZL1064-01 AC Output Cable (1 metre)
ZL1084-01 Printer Cable for use with GA505 (1 metre)
ZL1096-03 HARM Tri-axial Accelerometer Cable (3 metres)
ZL1097-Flex Flexible Coiled Cable (Single Axis)
ZL1105-02 USB A to B Download Cable

Note: Items marked * will be available as upgrades soon.
In the interest of continued developments, Castle reserve the right to change the product specifications without notice