the sound investment

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Instruments Plc

The Assessor Range

Integrating Sound Level Meters
Effective Solutions For Industrial
Noise Management

- The most simple to use, cost effective, compliant instruments of their kind

- Ideal for quick, accurate measurements to IEC61672-1:2002 Class 2 (Class 1 also available)

- Choice of six user friendly instruments to suit your needs and budget

- Only four buttons on basic unit

- Unique 'Exposure Table' displayed after measurement

- Automatic Calibration function

- Automatically pre programmed for Industrial / Occupational Noise

- Helpful on screen L_{Aeq} 'settled' indicator

- Robust die cast case and large clear display

- Essential information displayed on one screen

- Effective LED mode indicator for C-A and Octave Band instruments

- Compatible with the outstanding Pulsar Analyser software package

Overview

The Assessor Range of high performance instruments appeal to a user requiring an affordable, simple to use meter whilst complying with international standards.

Using the Assessor instruments and optional Analyser software package noise measurement and risk assessments have never been quicker or easier.

All unnecessary features and options are removed to leave the user with an instrument they can use with total confidence and the minimum of training.

Making a measurement couldn't be easier, simply switch the unit on and the Assessor starts measuring. To complete the measurement press the 'Stop' button and everything needed for your assessment is displayed on one screen.

A unique feature of the Assessor range is an exposure table allowing you to instantly determine the duration a person can work in a specific area before exposure levels or legal limits are exceeded.

If manual reporting is your preferred method then the non data logging instruments are an affordable and ideal solution. For those preferring the benefits of computer technology the exceptional 'Assessor Extra Upgrade' gives the instrument the ability to store measurements and quickly transform your data into informative, professional reports.

The Assessor

Measurement Kits

Instruments can be supplied as a complete measurement kit to ensure you have all of the accessories necessary to perform your noise survey. The Noise Measurement kits include the Sound Level Meter, Acoustic Calibrator, Windshield, Hard Attache Case, Wrist Strap, Analyser Software (for upgrade versions), Operating Manuals, Certificates of Calibration, Download Cable and Batteries.

Applications

The Assessor range focuses on one main purpose and that is for compliance with International Industrial Noise Directives. This mindset has produced an extremely effective noise measurement tool for the busy Health & Safety Professional, Industrial Hygienist, Consultant, Manager, Supervisor, Technician or Engineer.

Typical noisy industries include: Manufacturing, Construction, Utilities (Water, Gas & Electricity), Local Authority / Government, Food, Shipping, Entertainment / Leisure, Education / Higher Learning, Highway Maintenance, Haulage / Transport, Rail, Agriculture, Aviation, Public Transport, Emergency Service (Hospitals, Fire, Police), Chemical, Mining, Printing and Catering.

For noisy environments, where noise control would be difficult, accurate prescription of suitable personal hearing protection can be made by:

- HML or SNR Methods (Models 82CA & 81CA)
- 1:1 Octave band Method (Models 84 & 83)

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Models 82A & 81A
Exactly what you need - no more, no less

- With the Models 82A and 81A, making accurate industrial noise measurements has never been easier
- Just four buttons, each with just one labelled function, make using the Assessor as simple as possible
- Just switch on the Model 82A and it starts measuring the parameters you need immediately
- The 'A' weighted Leq or average noise level is displayed with very large digits so it can be clearly seen
- The risk from impulsive noise sources can be assessed using the 'C' weighted Peak value which is displayed on the right hand side of the screen

Display of estimated exposure duration

The Model 82A and 81A instruments have a unique feature which is the display of the estimated exposure duration. This feature estimates the noise exposure that would be achieved if the measurement was made over a longer period displayed in terms of LEX,8. For example, if the noise from an operation was measured for 2 minutes and the L_{Aeq} value is 92.6 dB(A), the instrument will calculate the LEX,8 value based on different exposure durations. The figure to the right shows an example of this information

Leq dBA	LPK dBC	Run time
93.4	128.9	00:02:14

Time	LEX, 8	Time	LEX, 8
00:30	81.4	06:00	92.2
01:00	84.5	08:00	93.4
02:00	87.5	10:00	94.4
04:00	90.5	12:00	95.2

Which Assessor is ideal for your exact requirements?

When designing the Assessor range we wanted to keep the basic concept as simple as possible but we have added other instruments to the range with extra functionality.

Order Codes	Class 1	Class 2	'A' Weighted Leq	'C' Weighted Peak	HML Method PPE	1:1 Octave Band Filters PPE	Software as Standard	SU80 Software Upgrade Option	Measurement Kits
Model 82A		✓	✓	✓				✓	Model 82AK
Model 81A	✓		✓	✓				✓	Model 81AK
Model 82CA		✓	✓	✓	✓			✓	Model 82CAK
Model 81CA	✓		✓	✓	✓			✓	Model 81CAK
Model 84		✓	✓	✓		✓	✓		Model 84K
Model 83	✓		✓	✓		✓	✓		Model 83K

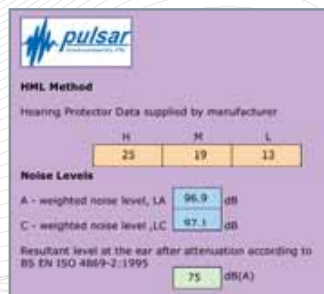**pulsar**
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Models 82CA & 81CA
Affordable Hearing Protection Prescription

- Automatic C-A measurement mode
- Ideal for HML method of hearing protection calculation
- Hearing protection measurements have never been easier; The C-A mode ensures automatic measurement calculation
- Expands the original concept of the basic Assessor for those with noisy work places that prefer an affordable but legal method of specifying suitable hearing protection measurements

The Models 82CA & 81CA are the ideal instruments for those who do not want to pay extra for an instrument with 1:1 Octave Band Filters because the HML method (High, Medium and Low), is an established and accepted method of calculating hearing protection.

All hearing protection (PPE) should be supplied by the manufacturer with attenuation (reduction) values for each of the H, M and L values. By knowing the 'C' and 'A' weighted Leq values and the difference between them you can use either a spreadsheet or simple formula to prescribe suitable hearing protection for your workforce.

Typical spreadsheet calculator

C-A measurement mode

By just pressing the C-A button, the instrument will automatically switch to 'C-A' Measurement Mode. A blue LED indicator shows that you are now measuring in 'C-A' mode rather than the normal 'Broadband' mode.

The instrument will make an Leq measurement with dB(C) Weighting (LCeq) and will continue until the average level has settled. When the level has settled, the instrument will switch to dB(A) and repeat the process with 'A' weighting. When this level has also settled, the instrument will display the LCeq, LAeq and in large digits, the resultant LCeq-LAeq value on the screen.

Making this type of measurement has never been easier as everything is done in an automatic cycle for you.

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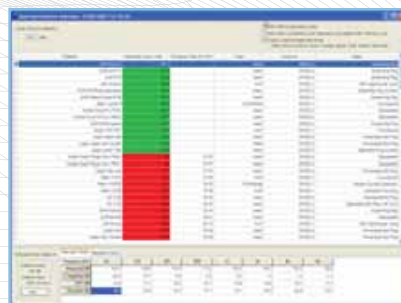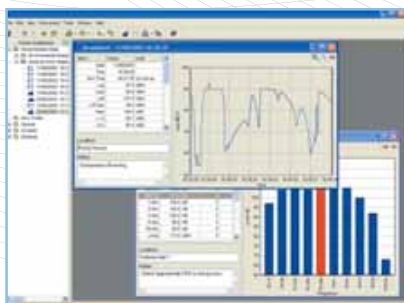
Model 84 & 83
Automatic 1:1 Octave Band Mode

- Ideal for those preferring the 1:1 Octave Band method of hearing protection selection

- The basic measurements of the Models 82A & 81A with the addition of 1:1 Octave Band Measurements from 31Hz to 8kHz

- Outstanding Analyser Software supplied as standard

- Blue LED indicator to show that you are using Octave Band Mode

- The instrument automatically sweeps through the information upon completion of the measurement cycle

- The Octave Bands are correctly measured in 'Z' weighting and an overall 'A' weighted Leq is included for comparison

Analyser Software

Another key benefit of the Model 84 & 83 instruments is that they do not need to be upgraded. They are supplied as data logging instruments with the Pulsar Analyser software and download cable supplied as standard.

In other words they can store data in the internal memory and allow this information to be downloaded and reports created using the excellent Pulsar Analyser download / analysis reporting software suite.

The software also has a special database of hearing protection that allows you, at the click of an icon, to have all calculations done for you automatically. You then select the hearing protectors of your choice and print out a full report justifying your selection.

Accuracy

Class 1	Model 81A, Model 81CA & Model 83
Class 2	Model 82A, Model 82CA & Model 84

Applicable Standards

Class 1 IEC 61672-1:2002	Type 1 EN 60651:1994, EN 60804:2000, EN 61260:1995
Class 2 IEC 61672-1:2002	Type 2 EN60651:1994 EN 60804:2000, EN61260:1995

Microphone

Class 1	MK:226 Class+ Electret Prepolarised Condenser
Class 2	MK:216 Class+ Electret Prepolarised Condenser

Measurement Range

57dB(A) to 130dB(A) Class 1 & Class 2
143dB(C) Peak

Noise Floor (Typical)

52dB(A)

Frequency Weightings

Model 81A & Model 82A	dB(A) for Leq, dB(C) for Peak
Model 81CA & Model 82CA	dB(A) & dB(C) for Leq, dB(C) for Peak
Model 83 & Model 84	dB(A) for Leq, dB(C) for Peak,
	dB(Z) for 1:1 Octave Bands

Measurements

Model 81A & Model 82A

LAeq,t	Equivalent Continuous Sound Level dB(A)
LCPeak	Peak Sound Pressure dB(C)
LEP,d (LEX,8)	Equivalent Daily Exposure Level dB(A)
	Exposure Duration Indication (refer to manual for details)
	Measurement Duration
	Overload, Under Range
	Measurement Status

Model 81CA & Model 82CA

LAeq,t	Equivalent Continuous Sound Level dB(A)
LCPeak	Peak Sound Pressure dB(C)
LCeq,t-LAeq,t Mode	dB(C) minus dB(A)
	Measurement Duration
	Overload, Under Range
	Measurement Status

Model 83 & Model 84

LAeq,t	Equivalent Continuous Sound Level dB(A)
LCPeak	Peak Sound Pressure dB(C)
LZeq,t	in Octave Band Mode
	Measurement Duration
	Overload, Under Range
	Measurement Status

Frequency Bands (Model 83 & 84 Only)

1:1 Octave Band Mode 31.5Hz to 8kHz

Display

Graphical LCD with Quasi-Analogue Bar Graph
Selected Measurement Parameter with Level
Warnings for Overload, Under Range
Battery Level
Frequency Weighting
Elapsed Measurement Time
Measurement Status (refer to manual for details)

Dimensions

Class 1 Instruments	340mm x 75mm x 25mm
Class 2 Instruments	300mm x 75mm x 25mm

Weight

450 gms

Batteries

2 x AA (LR6)

Battery Life

Typically > 18 hours

Environmental

Operating Temperature	-10°C to +50°C
Storage Temperature	-20°C to +60°C
Humidity	30 to 90% RH

External Connections

USB Output

Software

Pulsar Analyser Download / Analysis / Reporting Software (where appropriate)
This software is compatible with Windows 9x/Me/2000/NT/XP and Vista

Ordering Codes

Sound Level Meter	Measurement Kit
Model 82A	Model 82AK
Model 81A	Model 81AK
Model 82CA	Model 82CAK
Model 81CA	Model 81CAK

SU80 Assessor Extra data logging upgrade with Software for Models 82A,81A,82CA & 81CA

Model 84	Model 84K
Model 83	Model 83K

Measurements kits include the Sound Level Meter, Acoustic Calibrator, Windshield, Hard Attache Case, *Software, Download Cable, Batteries, Operating Manuals & Certificates of Calibration

Pulsar Analyser Software

*The Pulsar Analyser Software is supplied with all versions of the Assessor Sound Level Meters. The Model 83 and Model 84 instruments can be connected to the software to download measurements. The Model 81A, 82A, 81CA and 82CA instruments can be upgraded to add data logging. Please contact Pulsar Instruments Plc or your local representative for more information.

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