

Model 14

Digital Sound Level Meter

- Simple and easy to use Sound Level Meter for basic noise level measurement and spot checks
- Class 2 Sound Level Meter to IEC 61672:2002-1 & Type 2 to IEC 60651:1979
- dB(A) & dB(C) Frequency Weightings
- Fast Time Weighting with Maximum Hold (LAFmax or LCFmax)
- Measurement range of 35dB(A) to 130dB(A)
- Windshield included as standard

Pulsar Instruments Model 14 is an entry-level sound level meter for general purpose use whilst meeting the requirements of IEC 61672 to Class 2.

It is also an ideal low-cost instrument for those applications where a Sound Level Meter can be useful but a high specification instrument would be too expensive.

Noise levels can be checked quickly and simply, through the instrument's large and easy-to-read display, which shows the Sound Level (SPL) with the standard dB(A) frequency weighting. Also included is the dB(C) frequency weighting.

A maximum hold function allows the unit to freeze the display showing the highest level measured. This can be used where the allowable level is given in terms of a maximum (LAFmax or LCFmax).

The 'A' weighting filter is the internationally recognised method of replicating the response of the human ear to noise, making the Model 14 the ideal tool for basic noise risk assessments.

The instrument can be calibrated for compliance, using the Model 106 Acoustic Calibrator, when used for industrial noise checks.

Two measurement ranges are included in the Model 14, measuring the most typically encountered levels from 35dB(A) to 130dB(A).

The Pulsar Model 14 is the perfect solution for basic industrial noise surveys, and ideal for use in the measurement and checks of vehicle noise, workplace noise, fire alarms, audible warning systems and during the installation of sound systems.



Specification

Applicable Standards	IEC 61672:2002-1 Class 2 IEC 60651:1979 Type 2
Measurement Range	35dB(A) to 130dB(A), 40dB(C) to 130dB(C)
Range Information	L (Low) = 35dB(A) to 100dB(A) H (High) = 65dB(A) to 130dB(A) Sound
Frequency Weighting	dB(A) & dB(C) to IEC 61672: 2002-1 Class 2
Time Weighting	Fast to IEC 61672:2002-1 Class 2
Display Functions	Normal (Sound Level), Maximum Hold
Measurement Functions	LAF, LCF, LAFMax, LCFMax
Display Flags	Overload (Green Light), Under range (Red Light) Maximum Hold (HOLD), Low battery (LOWBAT)

Display	3 1/2" digit LCD with 0,1dB Resolution
Outputs	AC Out Max output = 2V
Power	1 x 9V (6F22, PP3), External DC Power, 7V to 10V
Microphone	1/2" pre-polarised electret condenser (Typically Type MK:268)
Temperature	Operating: -10°C to +50°C, Storage: -20°C to +60°C
Dimensions	Length 248mm, Width 66mm, Depth 30mm
Weight	227 gms (8oz) with battery
CE classification	EMC EN50081-1, EN 50082-1 Safety EN 61010-1, 1993 portable equipment pollution category 2

Ordering Information

The Pulsar Model 14 Sound Level Meter is supplied with a 24 month warranty, operating manual, certificate of calibration, battery, calibration screwdriver and windshield.

The instrument can be ordered as a complete measurement kit, which includes all the accessories needed to carry out noise measurement.

The Model 14 Measurement Kit contains the Model 14 Sound Level Meter, a Model 106 Acoustic Calibrator, a WS30 Windshield and CP1 Carrying Pouch. The kit also includes certificates of calibration and operating manuals along with batteries for both the Sound Level Meter and the Acoustic Calibrator.



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Six new generation
sound level meters that
are out of this world!



 **pulsar**
Instruments Plc

Industrial, Occupational and Environmental noise measurement products.

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The Pulsar Nova Range

A range of six new generation sound level meters to suit every application & budget

- Compliant with IEC 61672-1:2013
- Intuitive design
- High performance
- Simple to use
- Designed and manufactured in the UK
- Rugged metal case
- Large anti-glare display
- High definition colour OLED display
- Greater than 30 hour battery life
- 4GB removable memory card
- Dynamic range of 20dB(A) to 140dB(A) & 143dB(C)
- Simultaneous measurement of all key parameters
- Unique calibration prompt
- Standard and advanced data viewing modes
- Optional features to cover every requirement & budget



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Overview

The Nova range of high performance sound level meters successfully combines advanced technology noise measurement methods with ease of use and durability.

We have listened to our customers for 45 years. We know that you all have different requirements and what you need today may change in the future. We also understand that purchasing noise measurement equipment is a huge investment.

The Nova range consists of six powerful sound level meters. These differ from other sound level meters, as they offer the user the unique opportunity to add features either immediately or at a later date so that the instrument will always be suitable for their requirements.

Standard Measurement Kits

Instruments are usually supplied as part of a noise measurement kit which contains everything required to take noise measurements.

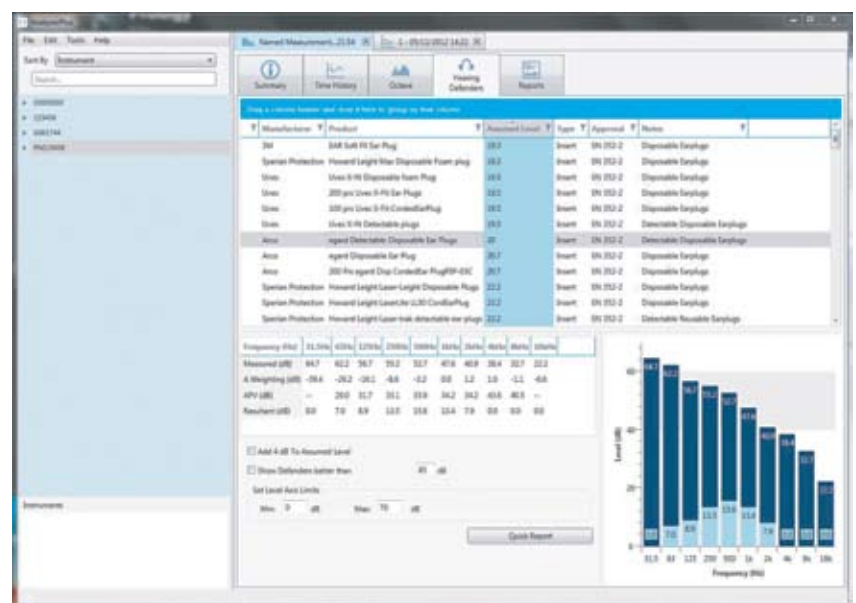
The Nova kit contains:

Nova sound level meter, acoustic calibrator, windshield, batteries, hard kit case, 7 year warranty, calibration certificates, the Pulsar AnalyzerPlus software and download cable.

Both Class 1 and Class 2 instruments have a removable preamplifier which enables the instruments to be used with microphone extension cables

Software

AnalyzerPlus allows the user to download their measurement data onto a PC or laptop for analysis and to create a variety of reports.



Example of a generated report with the Nova software AnalyzerPlus of the hearing defenders' tab for PPE equipment specification using octave band measurements which includes a large database of hearing protection equipment and reporting functions. NB. The Pulsar Nova 'AnalyzerPlus' software package is supplied with all instruments and is used to configure your sound level meter. For customers with the data logging option, Pulsar's outstanding Nova AnalyzerPlus software allows the user to download their measurement data onto a PC or laptop for analysis and to create a variety of reports.

Model 41 (Class 1) & Model 42 (Class 2)

Entry level sound level meter



- IEC 61672-1:2013 compliant sound level meters
- Low cost Class 1 or Class 2 SPL instruments
- OLED display can be seen in all conditions
- Calibration prompt for compliant, accurate measurements
- Simultaneous measurement of all key noise parameters
- Add features now or later so that your meter always suits your budget and needs
- 20dB(A) to 140dB(A) dynamic measurement range

Applications

- Basic noise level assessments
- Emergency service alarm testing
- Sound system installation
- Vehicle noise measurement

Optional features table

	Class 1	Class 2	SPL	Simultaneous A, C & Z Frequency Weightings	Simultaneous F S & I Time Weightings	Leq/Peak (inc C-A & Quick Integrator Settings)	Pause & Back Erase	Data Logging	Manual Audio Record & Data Logging	Audio Note & Data Logging	Repeat Timer & Data Logging	Single Timer	TWA/dose	Ln Values	1:1 Octaves
Model 41	✓		✓	✓	✓	○	○	○	○	○	○	○	○	○	○
Model 42		✓	✓	✓	✓	○	○	○	○	○	○	○	○	○	○

✓ Standard feature ○ Optional add on feature

Model 43 (Class 1) & Model 44 (Class 2)

The professional's sound level meter



- A simple to use occupational sound level meter
- All of the features of the Model 41 & Model 42 with the addition of:
- Leq, Peak and C-A for the HML method of hearing protection calculation
- Pause & back erase function
- 20dB(A) to 140dB(A) & 143dB(C) dynamic measurement range
- Colour coding for measurement status

Applications

- Noise at work
- Occupational & industrial hygiene
- Construction noise measurement
- Machinery noise testing
- Entertainment noise measurement

Optional features table

	Class 1	Class 2	SPL	Simultaneous A, C & Z Frequency Weightings	Simultaneous F S & I Time Weightings	Leq/Peak (inc C-A & Quick Integrator Settings)	Pause & Back Erase	Data Logging	Manual Audio Record & Data Logging	Audio Note & Data Logging	Repeat Timer & Data Logging	Single Timer	TWA/dose	Ln Values	1:1 Octaves
Model 43	✓		✓	✓	✓	✓	✓	○	○	○	○	○	○	○	○
Model 44		✓	✓	✓	✓	✓	✓	○	○	○	○	○	○	○	○

✓ Standard feature ○ Optional add on feature

Model 45 (Class 1) & Model 46 (Class 2)

The premium sound level meter

All of the features of the Model 43 & Model 44 with every feature below as standard:

- AnalyzerPlus data-logging software
- Manual audio record
- Audio Note
- Repeat Timer
- Single Timer
- TWA/dose
- Ln Values
- Real time 1:1 octave band filters

Applications

- Noise at work
- Occupational & industrial hygiene
- Environmental noise measurement
- Boundary noise measurement
- Machinery noise testing
- Vehicle noise testing
- Entertainment noise measurement



Features table

	Class 1 (PTB approved)	Class 2	SPL	Simultaneous A, C & Z Frequency Weightings	Simultaneous FS & I Time Weightings	Leq/Peak (inc C-A & Quick Integrator Settings)	Pause & Back Erase	Data Logging	Manual Audio Record & Data Logging	Audio Note & Data Logging	Repeat Timer & Data Logging	Single Timer	TWA/dose	Ln Values	1:1 Octaves
Model 45	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Model 46		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

General

Accuracy

Class 1 – Model 41, Model 43, Model 45

Class 2 – Model 42, Model 44, Model 46

Applicable Standards

IEC 61672-1:2013 Class 1 or Class 2, Group X

IEC 60651:2001 Type 1 I or Type 2 I

IEC 60804:2000 Type 1 or Type 2

IEC 61252:1993 Personal Sound Exposure Meters

ANSI S1.4 - 1983 (R2006), ANSI S1.43 - 1997 (R2007)

ANSI S1.25:1991

1:1 Octave Band Filters to IEC 61260 & ANSI S1.11-2004

Microphone

Class 1 PM1 pre-polarized

Class 2 PM2 pre-polarized

Microphone Preamplifier

PA40 Removable Preamplifier

Measurement Range

20dB - 140dB RMS Single Range (143dB peak)

Noise Floor

<18dB(A) Class 1, <21dB(A) Class 2

Time Weightings

'F' (Fast), 'S' (Slow) & 'I' (Impulse) all measured simultaneously

Frequency Weightings

RMS & Peak: A, C, & Z (un-weighted) all measured simultaneously

Frequency Bands

10 1:1 Octave Bands: 31.5Hz to 16kHz

Integrators

Three simultaneously measuring "virtual" noise meters.

Integrator 1 is preset to Q3 for Leq functions.

Integrators 2 & 3 can be configured with the following:

Exchange Rate: 3, 4 or 5dB

Threshold: 70dB to 120dB (1dB steps)

Time Weighting: None or Slow

Criterion Level: 70dB to 120dB (1dB steps)

Criterion Time: 1 to 12 hours in 1 hour steps

Integrator Quick settings (pre-set)

EU, OSHA HC & OSHA NC, OSHA HC & ACGIH, MSHA HC & MSHA EC, Custom 1 & Custom 2

Ln Statistical Values

14 independent statistical Ln values calculated from 1/16th LAF

7 are preset to L1.0, L5.0, L10.0, L50.0, L90.0, L95.0 & L99.0

7 user defined Ln values

Time History Data Rates (Global settings)

10ms, 62.5ms, 125ms, 250ms, 1/2 sec, 1 sec, 2 sec (user selectable)

Language options

English, French, German, Italian, Spanish as standard

NB. Other language options will be available.

Physical

Batteries

6 x AA

Battery life

Typically 30 hours with Alkaline AA

Typically 50 hours with Lithium AA

Rechargeable battery life is dependent upon the battery type and screen brightness

External power

5v-15v via Multipin I/O socket

Weight

440g without batteries

Size

280mm x 80mm x 42mm with preamp and microphone

Connections

USB 2.0 Mini-B to PC

AC output via 3.5mm Stereo jack

AC & DC output via Multipin I/O socket

Tripod Mount

1/4" Whitworth socket

Case

Die cast aluminium with silicon elastomer

keypad and soft touch back

Display

High resolution anti-glare OLED display

Ambient light sensor

Illuminated keypad

Supplied Accessories

Windshield, Wrist Strap, USB Download Cable, AnalyzerPlus software, AA Batteries

Conformance, Logging & Storage

Conformance

Environmental

Operating Temperature: -10°C to +50°C

Storage Temperature: -20°C to +60°C

Humidity: Up to 95% RH Non-Condensing

Electromagnetic performance

IEC 61672-1:2013 & IEC 61672-2:2013

Except where modified by EN 61000-6-1:2007

& EN 61000-6-1:2007

Logging and Storage

Memory

4GB removable memory card

Audio Note Recording

A spoken note (up to 30 seconds) attached to measurements

Audio Recording

Manual recording

Quality – 48kHz/32bit WAV format

Measurement Control

The unit can be set to record and store data over fixed times of:

1 min, 5 min, 10 min, 15 min, 30 mins, 1 hour, Lden (Day, Evening, Night)

Automatic Synchronisation & Repeat options

Pause

Back Erase with user selectable duration (via AnalyzerPlus software)

Model Specific Measurement Parameters

Standard Measurement Parameters Model 41 & Model 42:

Lxy, Lxy Max, Lxy Min

Time, date & duration of measurement

Extra measurement and stored functions available.

Standard Measurement Parameters Model 43 & Model 44:

Lxy, Lxy Max, Lxy Min

Lxq, LCPeak, LZPeak, LApeak LCeq-LAeq, LxE, LAeq

Graph of Short LAeq, LCPeak

Time, date & duration of measurement

Extra measurement and stored functions available.

Standard Measurement Parameters Model 45 & Model 46:

Lxy, Lxy Max, Lxy Min

Lxq, LCPeak, LZPeak, LApeak LCeq-LAeq, LxE, LAeqT

Graph of Short LAeq, LCPeak

Measurement Run Time

Integrators 2 & 3: TWA, Dose %, Est Dose %

Real-Time 1:1 Octave Bands (Graphical & Numeric)

14 Statistical Values (Ln)

Stored Parameters - Model 45 & Model 46

LxyMax & Time History of LxyMax

LAeq, LCPeak, LZPeak, LCPeak, LZPeak, LApeak, LAeq

Time History of LAeq, LCPeak, LZPeak, LCPeak, LZPeak, LApeak, LAeq

Integrators 2 & 3: LAVG, TWA, % Dose

Time History of LAVG

1:1 Octave Bands: Overall Leq & Leq Time History for each band

Ln Values: 14 independent statistical values

Audio recording during measurement

Time, date & duration of measurement

Where x means the three frequency weightings A, C and Z and y means the three time weightings 'S' (Slow), 'F' (Fast) and 'I' (Impulse). All weightings simultaneously measured where appropriate.

Other functions may be calculated by the AnalyzerPlus software.

Useful Information

Input & Output Cables

PSR101 - Nova 1m Mini-B to Type A USB Cable

PSR171 - Nova power input cable, 2.1mm Power Jack, 2m

PSR174 - Nova AC & DC Output, 18 way to 2 x Phono, 1m

PSR176 - Nova 12v Battery pack cable 2m to tinned ends with inline fuse

PSR177 - Nova AC output cable, 3.5mm Mono to 3.5mm Stereo Jack, 2m

PSR185 - Nova AC output cable, 18 way to Phono, 1m

PSR190 - Nova power input cable, 2.1mm Power Jack & mains power supply

Software

AnalyzerPlus Download, Configuration & Analysis software supplied as standard.

Compatible with Microsoft Windows XP, Vista, 7 (32bit & 64bit) & 8 (32bit & 64bit)

Ordering Codes

Sound Level Meter and Measurement Kit

Model 41: PSR-41

Model 41 Kit: PSR-41K

Model 42:

PSR-42

Model 42 Kit:

PSR-42K

Model 43:

PSR-43

Model 43 Kit:

PSR-43K

Model 44:

PSR-44

Model 44 Kit:

PSR-44K

Model 45:

PSR-45

Model 45 Kit:

PSR-45K

Model 46:

PSR-46

Model 46 Kit:

PSR-46K

Measurement Kits

Instruments can be supplied as a complete measurement kit to ensure that you have all the accessories necessary to perform your noise survey.

The Nova noise measurement kit contains:

Sound Level Meter, Acoustic Calibrator, Windshield, Kit case, Wrist Strap, AnalyzerPlus Software, USB Download Cable, Batteries, Operating Manuals, Calibration Certificates & 7 year Warranty.

Options Ordering Codes

- Model 41 & Model 42

PSR0110 - Data Logging

PSR0111 - Manual audio record & Data

Logging

PSR0112 - Audio Note & Data Logging

PSR0113 - Repeat Timer & Data Logging

PSR012 - Single Timer

PSR013 - Leq/Peak & C-A

PSR014 - Pause / Back erase

PSR015 - TWA/ dose

PSR016 - Ln Values

PSR017 - Real Time 1:1 octave band filters

Options Ordering Codes

- Model 43 & Model 44

PSR0110 - Data Logging

PSR0111 - Manual audio record & Data

Logging

PSR0112 - Audio Note & Data Logging

PSR0113 - Repeat Timer & Data Logging

PSR012 - Single Timer

PSR015 - TWA/dose

PSR016 - Ln Values

PSR017 - Real Time 1:1 octave band filters

Notes: All specifications, features and values are subject to change.

Your Pulsar Distributor:



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Model 105 & 106

Acoustic Calibrators

- Advanced performance ensures that both models meet or exceed IEC 60942 accuracy requirements
- Ergonomic and robust design
- Auto correction for temperature and barometric pressure
- Auto switch-off in normal mode and 'permanent-on' mode available
- Low battery indicator
- 94dB Sound Pressure Level
- Fits 1/2 inch international standard microphones
- 1/4 inch microphone adapter available

The Models 105 & 106 are part of the NEW generation of Pulsar Instruments acoustic calibrators that allow you to quickly check the accuracy of your sound level meter or dosimeter thus complying with International regulations and codes of practice.

Great care has been taken during the design process to ensure that the units are comfortable to hold, robust and easy to use, whilst performing accurately throughout a wide range of temperature, humidity and pressure conditions.

In use they fit over the microphone of the instrument and produce a stable 1kHz tone at 94dB, the frequency and sound level respectively, as mandated by the standard.

The Model 105 meets the precision of Class 1 of IEC 60942, while the lower cost Model 106 meets industrial Class 2.

The calibrators are powered by an easy to access single 9 volt battery giving many months or even years of operation. An automatic shut-off circuit ensures power conservation should you forget to switch the unit off after calibrating.



Applications

Most noise related regulations stipulate that the sound level meter or dosimeter is calibrated before each measurement session and checked again before turning the instrument off. Noise measurements made for 'official' use, such as industrial health and safety or environmental monitoring, are not valid unless correct calibration procedures have been followed.



Operation

Using the Models 105 or 106 the calibration process is very easy. The calibrator is placed over the microphone of the sound level meter and started by pressing the ON button, making sure the microphone is right inside the calibrator cavity. On older, manual meters the calibration is adjusted, if necessary, using the small screwdriver supplied. On the later computer controlled meters, a CAL button is pressed and the internal computer automatically adjusts the meter to the correct reading. The additional 'permanent-on' mode can be selected to check the integration function of a sound level meter.

Specifications

Both units fully meet the requirements of IEC 60942, the Model 106 at Class 2 level, and the Model 105 at Class 1 level. The IEC 60942 reference conditions are 25°C, 101.3kPa pressure and 65% RH.

EU CE classes	EN 50081-1, EN 50082-1 & EN 61010-1
Pollution category	Portable equipment (2)
Sound Pressure	94dB that is a pressure of 1Pascal
Pressure tolerance	Model 105 0.2 dB : Model 106 0.4dB
Frequency	1kHz (1000 cps) +/- 0.2%
Distortion	<1% THD
Microphone diameter	Nominal half inch to IEC 1094-4 Quarter inch adapter also available
Battery	One 9 volt, IEC type 6F22, or PP3
Physical dimensions	138mm long and 47 mm diameter
Weight	225 gm with alkaline battery
Operating control	Push button Start and Timer over-ride
Indicator	Green LED shows operation with good battery



Ordering Information

While both models can be ordered separately, they are most often supplied as part of the sound level meter measuring kit, the Model 105 for a Class 1 meter and Model 106 for Class 2 meters. Each calibrator is supplied complete with a certificate of calibration, a full user manual and a battery.



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Your Pulsar Distributor



**Are your staff at risk from harmful noise levels?
Is your business protected from costly claims for
noise-induced hearing loss?**

Save time and money with this outstanding device and simplify your noise measurements whilst complying with the legislation.

**Capture, record and calculate exposure data easily with
Pulsar's latest innovation**

Key Features

- Accurate measurements over a large range 70-140dB(A)
- Wearable and will capture doses for over 30 hours
- Does not require a reader or charger - fully operational via USB to a PC
- Measurements can be scheduled for up to 28 days into the future
- Setup, start, stop, download and report processes are simplified
- Recharge in less than 4 hours
- Multiple mounting options
- Ideal for lone workers, shift workers or those employed in confined spaces

Special pricing for volume orders

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Applications

Wearable device ideal for..

- Compliance with Worldwide Occupational or Industrial Noise Regulations (UK, EU, OSHA, MSHA)
- Occupational and industrial hygiene

Typical use would be for employees who are exposed to different noisy machinery over a working day, those working alone, away from base in vehicle cabins, those difficult to reach (in factories, warehousing), or involved in shift work or with un-predictable work patterns.

Compact, portable and accurate

Specifications

Description

Personal Sound Exposure Meter

Accuracy

Class 2

Applicable standards

IEC 61252:1993
ANSI S1.25:1991
IEC 61000-6-1:2007(EMC)
IEC 61000-6-3:2007(EMC)

Microphone

Removable Pre-polarised Electret
½" Class 2

Measurement range

70-140dB(A)
90dB(C) to 143dB(C) Peak

Time Weightings

'F' (Fast), 'S' (Slow) or None

Frequency weightings

CH1 (Integrator): A
CH2 (Peak), C & Z

Integrators

One integrator. Set up either: UK, EU, OSHA, HC & OSHA NC, OSHA HC & ACGIH, MSHA HC & MSHA EC or Custom

Time History data Rates

One second, one minute

Languages

English, French, German, Italian and Spanish as standard

Power/Batteries

Custom-made 1.2V Internal NiMH battery pack.

Rechargeable via USB 5V

Battery life

Over 30 hours measuring,
Recharge in less than 4 hours (0% to 100%)

Weight with battery: 82gms

Size

124mm x 34mm x 28mm excl windshield

Connections

Mini-USB (supplied) to connect to PC or power supply

Operating temperature

0-40°C

Memory

Enough memory to store 20 x 8hr shifts at storage of 1s for both Peak and integrator 160hrs at 1s storage rate)

Measurement parameters

Graph of Short LAeq, LCPeak or LZPeak

Software

Pulsar AnalyzerPlus for Windows 7 and above

Warranty

12 months extendable to 7 years

Accessories

Acoustic Calibrator

Kit cases

NoisePen fixings

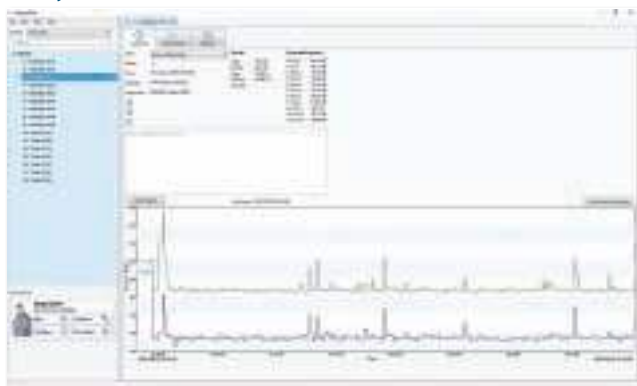
Mains Power Supply



Easy calibration process



Noise measurement report with the outstanding AnalyzerPlus Software



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Pulsar vB Hand Arm Vibration Meter



The safety professional's choice

The Pulsar vB Hand Arm Vibration Meter is the ideal instrument to measure the vibration of power tools and machinery to help protect your workers from Hand Arm Vibration Syndrome (HAVS) and Vibration White Finger.

- ✓ **Easy to use**
- ✓ **Essential measurements taken**
- ✓ **Effortless reporting of results**

Don't lose touch – contact us today

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The Pulsar vB takes quick and reliable measurements of all of the essential parameters for Hand Arm Vibration assessment. The Pulsar vB has been specifically designed to make the job as simple as possible. Its small size, combined with a powerful processor and large memory enables Safety Professionals to take Hand Arm Vibration to the next level.

Features

Easy to use: Switch-on, press record and that's it!

The Pulsar vB has a large colour screen and with the support of the integrated Pulsar vB Plus LITE software it requires virtually no set-up. View just about everything on the screen without scrolling for a clear presentation of results and easy monitoring of data.

Great connectivity

You can save all measured values to the Pulsar vB's large internal flash memory for subsequent output. You can view the results on the instrument's own display or download to a PC using the Pulsar vB Plus LITE software via a high speed USB connection. The Pulsar vB Plus LITE software is included as standard with each instrument!

Small but mighty!

The built in memory is large enough to never have to worry about storing your measured results safely using the flash technology. You can recall previously recorded data onto the screen or download it for further analysis on a laptop or PC using Pulsar vB Plus LITE or Pro software.





Pulsar vB – specific features

Tri-axial Hand Arm vibration Measurements

- **Large Dynamic Range**
- **Re-chargeable Battery Pack & Charger**
- **Fully compliant with ISO 8041:2005**
- **Large Colour Display**
- **Large 'Flash' memory**
- **Rugged Accelerometer and Cable for industrial use**
- **Only 3 operational buttons for simple use**

Applications

- **Measurement of Hand Arm Vibration to ISO 5349:2001**

What is included?

Pulsar vB Instrument, Accelerometer with 1.4m Cable

- **Accelerometer Mounting Block and Screw**
- **Rechargeable Battery Pack and Recharger**
- **Pulsar vB Plus LITE software**
- **Carry case and accessories**
- **Quick Start Guide**



Specifications

Instrument Standards:

ISO 8041:2005 Human Response to Vibration
For compliance with:
ISO 5349:2001 Measurement and evaluation of human exposure to hand-transmitted vibration.

Level Ranges: Pulsar vB (vB001) (Integration = Acceleration)

Range	m/s ²	G
Low	0.05 - 200.0	0.005 - 20.4
High	0.50 - 2000.0	0.50 - 204.0

Measurement Channels:

One

Parameters:

Acceleration: Arms, Aeq, Amax, Peak, Vector Sum, Exposure Points

Linear Operating range:

72 dB

Frequency Weighting:

WH - Hand Arm Filter

Memory:

Flash memory storing up to 992 recordings

Transducer:

vB0013, 10mV/g

Noise Floor:

<0.002 m/s² Low Range
<0.020 m/s² High Range

Display:

Full Colour Graphic OLED Display (160 x 128)

Batteries:

NiMH re-chargeable cell pack
Typically 10 hours continuous use

Connections:

Input: 5 Pin Lemo Socket
AC Output: 4 Pole 3.5mm Jack Socket
Download: USB Micro B (Cable Supplied)
Recharge: DC Socket (Charger & Cable Supplied)

Environmental:

Temperature Operating Range: -10 to + 50°C
Humidity: Up to 90% RH Non Condensing

Electromagnetic Compatibility:

Designed in accordance with the following
Electromagnetic Compatibility Directives: -

- SI 2005/281
- 2004/108/EC

Case:

High Impact ABS plastic with tactile membrane keypad

ORDERING INFORMATION

vB001* - Pulsar vB Vibration Meter

Accessories

PC009** VibdataPro software
GA606 Vibration Calibrator
KA021* Carry Case
KD1010* Tri-Axial Accelerometer 10mV/g
KD1215 Glue Studs & Glue (Pack of 5)
01KD1218* Mounting Block and Screw
01VIBBATT* 2.4V 2100mAh NiMH Battery Pack
01PSU5* NiMH Battery Pack Recharger
01ZL1108-01* USB Cable 1m

* supplied with the vB001

** upgrade from supplied Pulsar vB Plus LITE

The Pulsar VB Small but mighty!



Easy to use



Essential measurements taken



Effortless reporting of results

Contact us today

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PulsarSafeEar

Noise Warning System



PulsarSafeEar
Safe and Sound

See it before you hear it

Suitable for both noisy and quiet environments:

The PulsarSafeEar is perfect for use in factories, workshops, pubs and nightclubs to warn when noise levels become too high and indicate when hearing protection must be worn.

In environments where the wearing of hearing protection (PPE) may not be required at all times, the PulsarSafeEar will inform employees when PPE is required and also when it can be removed safely.

The PulsarSafeEar can also be used in quiet locations such as schools, hospitals and libraries to indicate when noise levels must be kept down. Setting the PulsarSafeEar to trigger at a lower level ensures that noise levels in quiet environments stay within acceptable levels.

Installation & Use

Installation of the PulsarSafeEar is very simple. Select the trigger level and connect the power supply to the unit. When the noise level measured by the microphone reaches this level, the sign will illuminate and show the warning.

The unit can also be set to keep the warning illuminated for up to 30 seconds after the level has fallen back below the trigger level. This removes the sudden on-off indication that traditional noise warning signs often produce. The PulsarSafeEar eliminates confusion as to when hearing protection (PPE) should be worn.

The sound level chosen for the trigger point can be set using the simple level selection at the back of the unit.

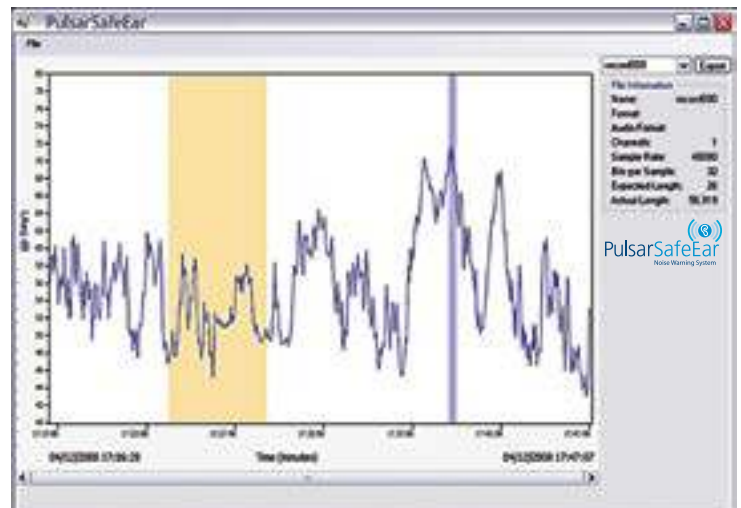
Remote Display Units

The PulsarSafeEar is also available as a Remote Display Unit which is controlled by a Master PulsarSafeEar Unit. A simple cable from the Master to up to 3 remote units can be daisy-chained together so that an area of up to 30 metres can be covered.

Record & Store with PulsarSafeEar Data Logging Software

The PulsarSafeEar can be upgraded to become a data logging unit by adding the PulsarSafeEar Data Logger and USB Software. The Data Logger simply plugs into the PulsarSafeEar and can record noise levels over long periods of time. The Data Logger can be programmed to start recording at a specific time and date and run, for example, over an 8 hour shift.

When the Data Logger is plugged into a PC the software will display a graph of the recorded noise levels and allow the data to be printed, exported and annotated for reference.



Key features

- Lights up when a pre-set noise level is exceeded
- Quick and simple to install
- Trigger level from 40dB(A) to 114dB(A)
- Suitable for both quiet and noisy environments
- Adjustable, high intensity white LED technology for high visual impact and a long operating life
- 4 standard designs to cover all applications

PulsarSafeEar is also available with a range of other graphics and text which allows it to be used in environments where there is a need to warn or indicate excessive sound levels.

Custom design options are available. Please contact Pulsar Instruments plc for details.

Call: 01723 518011

email us at: sales@pulsarinstruments.com

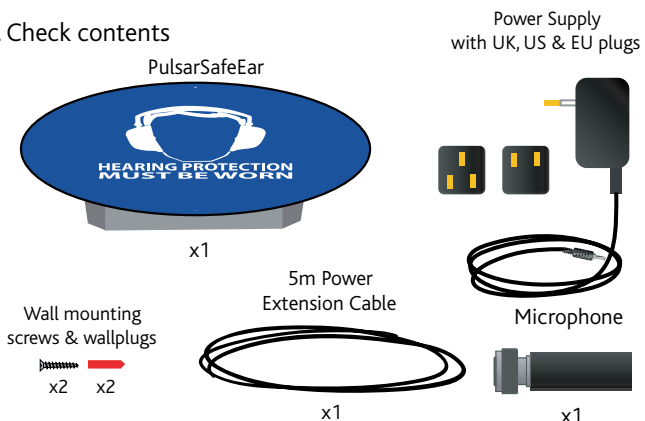
or visit our website: www.pulsarinstruments.com/safeear



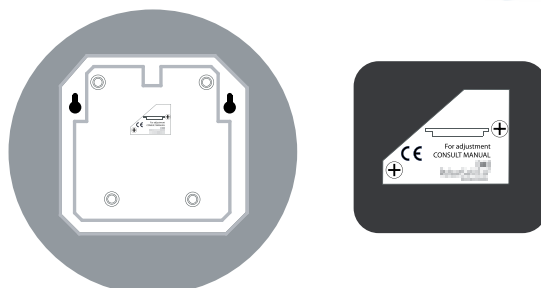
Setting up your PulsarSafeEar system

Master guide set up instructions

1. Check contents

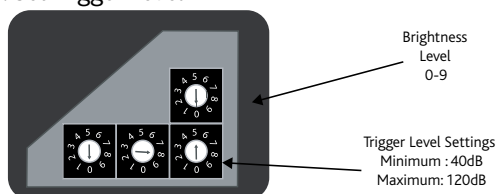


2. Trigger Level & delay



When setting the trigger level, remember that this is the level at the microphone. Adjust the level to take account of any distance between the microphone and noise source.

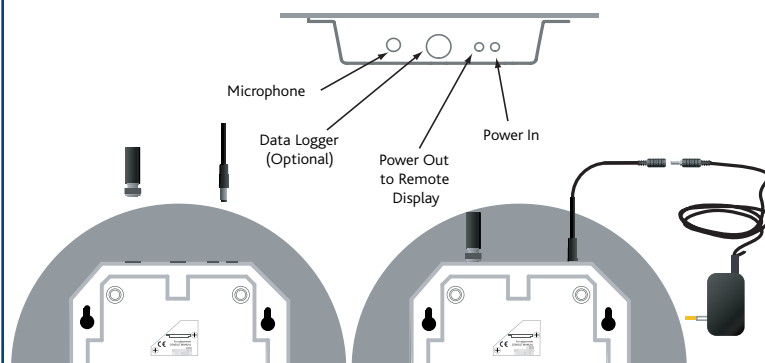
3. Set Trigger Level



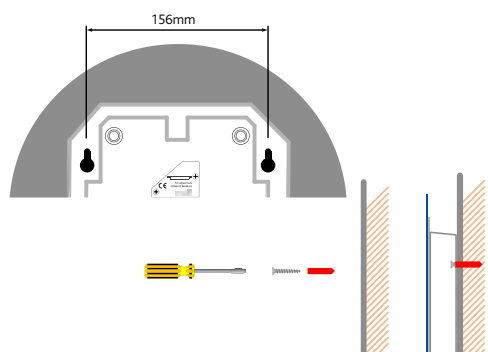
Add '800' to the dB level to disable the 30 second turn-off delay.
Examples:

Trigger Level = 0	8	5 = 85dB(A) 30 second turn-off delay
Trigger Level = 8	8	5 = 85dB(A) no turn-off delay
Trigger Level = 0	4	5 = 45dB(A) 30 second delay
Trigger Level = 8	4	5 = 45dB(A) no turn-off delay
Trigger Level = 1	0	0 = 100dB(A) 30 second turn-off delay
Trigger Level = 9	0	0 = 100dB(A) no turn-off delay

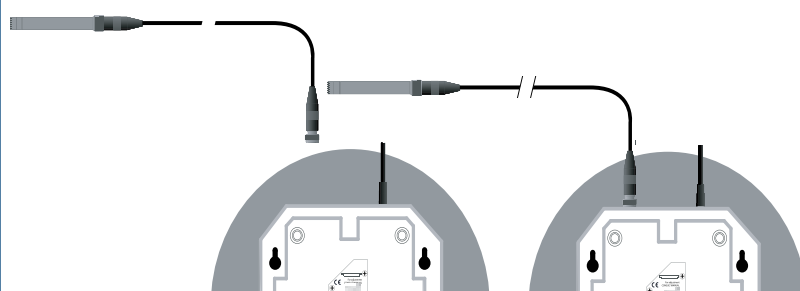
4. Connect Microphone & Power



5. Wall mounting. Use the template provided below to position the unit on the wall

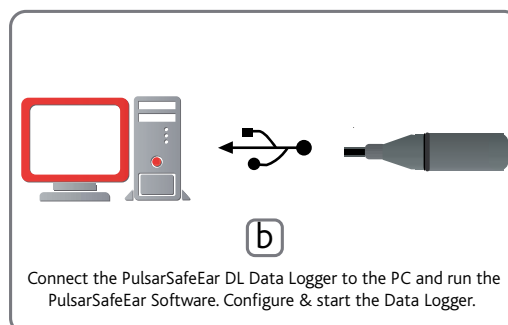
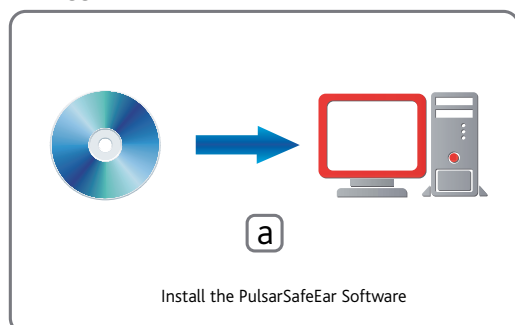


6. Connect Microphone & Power



An extension cable can be used with the PulsarSafeEar to allow the microphone to be positioned remotely. This requires an optional preamplifier, microphone capsule and extension cable.

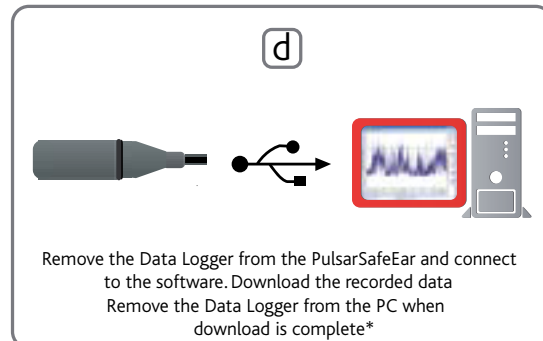
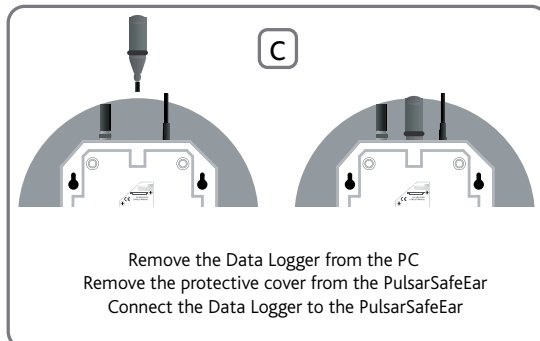
7. USB Data Logger



Setting up your PulsarSafeEar system

Master Unit set up instructions

8. USB Data Logger

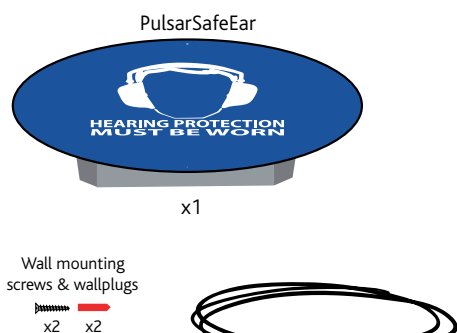


*The Data Logger should be removed from the PC when not in use to prevent the battery from being discharged.

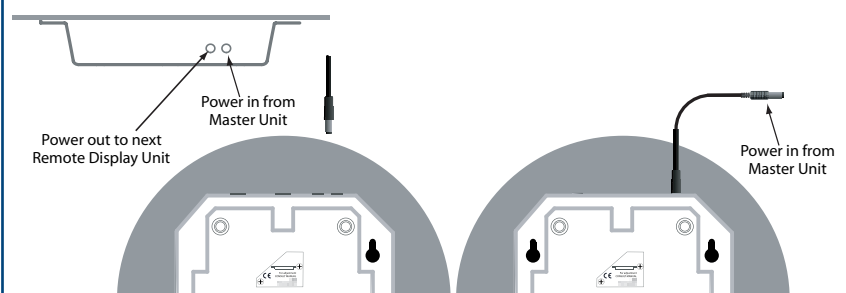
Take care when connecting the Data Logger to a USB port on the PC. Ensure that the Data Logger does not fall out of the socket or become loose in the socket. For troubleshooting & help, please visit the PulsarSafeEar Website at www.pulsarinstruments.com/safeear

Remote Display Unit set up instructions

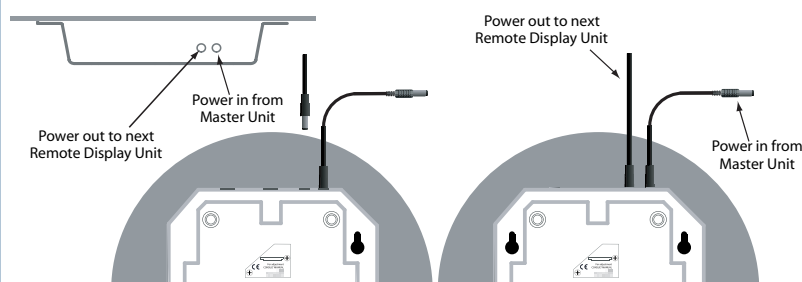
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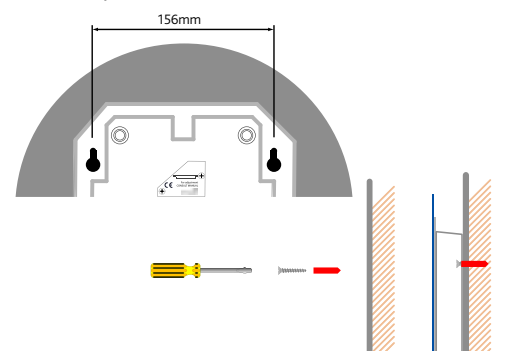
2. Connect cable between Remote and Master Unit



3. Option: connect additional Remote Units



4. Wall mounting. Use the template provided below to position the unit on the wall



Contact us for more information

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email us at: sales@pulsarinstruments.com

Please visit our website: www.pulsarinstruments.com

Follow the conversation @PulsarMeters

or join us at: www.linkedin.com/company/pulsar-instruments-plc



Specifications

Ordering Information

The Master Unit and Remote Display Unit are available with a selection of standard designs which are listed below.

Custom design options are available. Please contact Pulsar Instruments plc for details of these custom design options.

PulsarSafeEar Master Unit with microphone & mains power supply

SafeEarM/A with "Hearing Protection Must Be Worn"

SafeEarM/B with "Warning High Noise Levels"

SafeEarM/C with "Caution! High Sound Levels"

SafeEarM/D with "SHH! Quiet Zone"

PulsarSafeEar Remote Display Unit with 10m inter-connection cable to PulsarSafeEar Master Unit

SafeEarR/A with "Hearing Protection Must Be Worn"

SafeEarR/B with "Warning High Noise Levels"

SafeEarR/C with "Caution! High Sound Levels"

SafeEarR/D with "SHH! Quiet Zone"

Specifications

- Application Noise activated warning sign
- Trigger Level 40dB(A) to 114dB(A)
- Suitable for both quiet & noisy environments
- Microphone PM112
- Frequency Weighting 'A' Weighting to IEC 61672-1:2002
- Time Weighting Slow to IEC 61672-1:2002
- Visual Indication High intensity white LED with four standard designs
- User selectable brightness levels
- Display delay time None or 30 seconds
- External Power 2.1mm Power Jack, 12v DC via PUL200 Mains Power Supply
- Output Control for Remote Display Units via standard 2.1mm Power Connector
- Up to three Remote Display Units can be powered from a Master Unit
- Dimensions 12"(30cm) diameter, 2"(5cm) depth
- Weight 1.3lbs (0.6kg)
- Mounting 2 x Keyhole mounting slots
- Data Logging USB Data Logger with 32,000 Samples of LAS
- (Slow 'A' Weighted Sound Level)
- User Selectable 1 second (9 hours), 10 seconds (3.7 days), 1 minute (22 days) sampling

Supplied Accessories

PulsarSafeEar Master Unit PUL200 Mains Power Supply & PUL206 5m Power Extension Cable

PulsarSafeEar Remote Display Unit PUL207 10m Inter-connection cable to Master Unit

PulsarSafeEar DL Data Logger USB Data Logger & Software CD

Optional Accessories

PUL207 10m Inter-Connection Cable for PulsarSafeEar Remote Units

PUL202 2m Microphone Extension Cable for PulsarSafeEar Master

Unit for use with PUL200C & PM2

PUL205 5m Microphone Extension Cable for PulsarSafeEar Master

Unit for use with PUL200C & PM2

PUL210 10m Microphone Extension Cable for PulsarSafeEar Master

Unit for use with PUL200C & PM2



Version 1



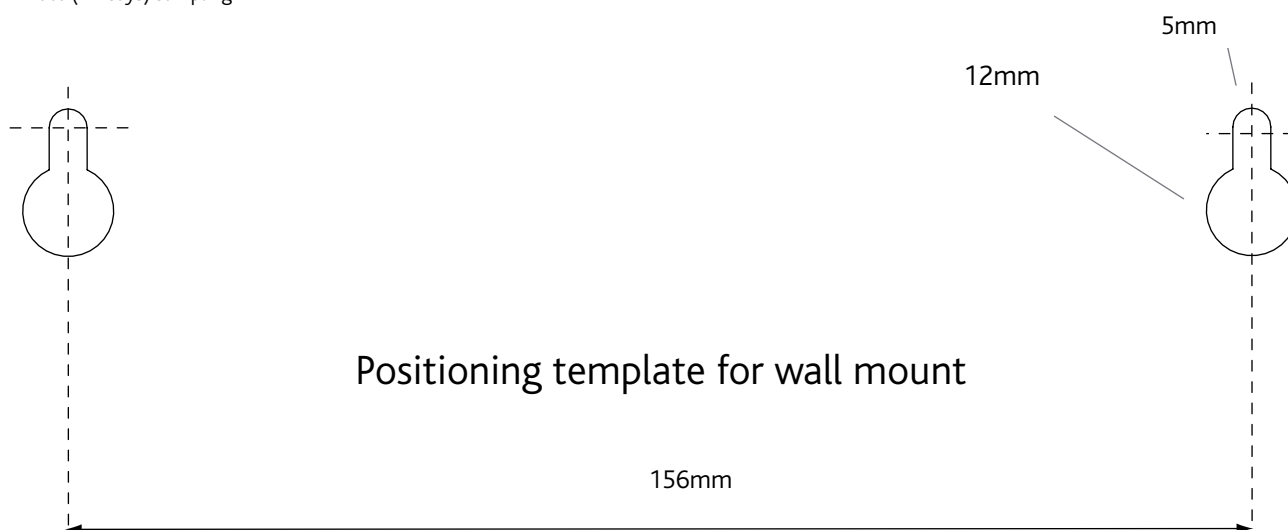
Version 2



Version 3



Version 4



Positioning template for wall mount

Contact us for more information

Call: 01723 518011

email us at: sales@pulsarinstruments.com

Please visit our website: www.pulsarinstruments.com

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