

CNX

360° Mobile Visual Noise Indicator



General Detail

The CNX provides traffic light style indication of noise levels relative to a reference limit set by the user, red indicating that the noise level has reached or exceeded this limit.

The noise level is monitored by a microphone mounted on the top of the CNX, the bracket and microphone are detachable and may be mounted up to 30 metres from the CNX using an extension cable (not supplied).

The limit is set using a recessed multi-turn adjuster, a sound level meter and noise source will be required to set the level.

Either of two weighting filters is selected using a recessed push button, the two filters are linear and "A" weighting.

For controlling noise nuisance the linear weighting would normally be used.

For protection against hearing damage the "A" weighting would normally be used.

The "A" weighting places greater emphasis on frequencies which may cause hearing damage, however in the case of noise nuisance it is usually the sounds heard by neighbours that are of concern and it is often the lower frequencies that travel farthest. Consequently a linear weighting is preferred for noise nuisance monitoring.

The power supply required depends on the type of plug fitted at the factory: a standard 3 pin plug BS1363 (type G) denotes 240V, 50Hz AC. A yellow IEC 60309 plug denotes 110V, 50Hz AC.

Initial Setup

Remove the CNX from the packaging and extend the retractable tripod legs.

The microphone and microphone bracket must be secured to the top of the CNX before use.

Place the bracket on the top of the CNX and insert the M10 bolt through the hole into the thread in the top of the CNX. Using a 10mm spanner tighten the screw (use light hand pressure only).

Plug the microphone connector into the base of the microphone, there should be a click when it is fully in place.

The CNX is now ready for setting the of the noise threshold.

Setting noise threshold and weighting

Plug the CNX into a suitable power supply (IEC 60309 yellow plug = 110V AC, 3 pin plug BS1363 (type G) = 240V AC).

The LEDs should all light briefly before settling with just the lower part of the green section on. Depending on the sound level present and the limit previously set other LEDs may also be on.

The weighting filter is selected using a recessed push button switch located on the side of the unit several centimetres from the top. Linear weighting is selected when the switch is not depressed (in this position the recessed button will be visible 1 to 2 mm inside the aperture).

To select “A” weighting depress the switch, the switch will now be approximately 5 mm below the aperture.

To set the required noise threshold requires a noise source with a known level. Set the noise source to the required level and verify using a sound level meter held at the microphone of the CNX (set the sound level meter weighting to the same as the CNX).

The threshold is set by turning the recessed adjuster screw located on the side of the unit just above the weighting switch. Adjust the threshold using a small flat bladed screwdriver, turn the control until the amber LEDs light, then adjust slowly until the point where the red LEDs just light. The level is now set.

If you do not have access to a calibrated noise source then anything that produces noise at the correct level, such as music or a power tool, can be used.

Positioning of the CNX

Noise nuisance

For noise nuisance applications the best position is at the boundary of the site being monitored, ideally in an area that has no walls or obstacles in the immediate vicinity. However if the objective is to warn workmen then a location near the source may be necessary in order to be visible.

On a site with multiple noise sources that are of a similar level then only monitoring at the boundary will be effective. The microphone may be dismantled from the CNX with its bracket and using a microphone extension cable, mounted up to 30 metres from the main unit. Care will be needed to ensure the microphone extension cable is not damaged and does not present a hazard.

Hearing damage

For health and safety applications the CNX will be located in the vicinity of the noise source that is being monitored and set to “A” weighting. Ideally the microphone should be positioned the same distance from the sound source as the operatives (the microphone and mounting bracket may be detached from the main unit and using an extension cable, mounted up to 30 metres from the CNX).

A typical setting will be 80dB or 85dB with an “A” weighting, the 80dB(A) limit being the lower exposure legal limit and 85dB(A) being the upper exposure legal limit.

With the CNX set to 85dB(A) and the red LEDs lit permanently the 85dB(A) limit is exceeded and hearing protection must be worn. If the red LEDs are lit regularly then the average level will be just below 85dB(A) but hearing protection must be worn. If the red LEDs light occasionally then the 85dB(A) limit is being approached and workers should be prepared to take action.