



- Three warning thresholds to select from: 25  $\mu\text{Sv/h}$ , 1  $\text{mSv/h}$ , 10  $\text{mSv/h}$  (optionally 10  $\mu\text{Sv/h}$  instead of 25  $\mu\text{Sv/h}$ )
- Audible alarm if the selected threshold is exceeded
- Shock resistant plastic housing
- Robust design, pocket size
- Extremely easy to operate
- German approval for use by fire brigades

## DL-WARNER 6126B

**Dose Rate Warning Device, designed for the Personal Dose Equivalent Hp(10)**

**DL-WARNER 6126B - Dose Rate Warning Device**

The DL-WARNER 6126B is a battery-powered portable device designed to emit a warning whenever the Personal Dose Equivalent Rate Hp(10) caused by photon radiation (gamma and X-radiation) exceeds a certain threshold. The »DL« in its name stands for »Dosisleistung«, the German word for dose rate. The device provides personal protection when handling radioactive substances or when moving to areas with radiation hazard. It is comfortably worn on the clothing.

The 6126B uses an energy compensated GM counting tube as the detector. Particular advantages of this device are easy operation and robust design.

The switch at the front panel is easy to access and is the only operating element required for routine operation. This switch has three positions »Aus-Off«, »Batt.«, and »Ein-On«. Another switch, which requires a screw driver to be rotated, selects the dose rate warning threshold from these three values: 25 µSv/h (optionally 10 µSv/h), 1 mSv/h, or 10 mSv/h. The necessity of using a screw-driver avoids the threshold to be modified unintentionally.

Moving the operating switch to the »Batt.« position tests the device in general, and the battery in particular. If the warning tone is on in that position, this signals that the battery is good enough for 30 operating hours or more. If the tone is off, either the battery is poor or the entire device is defective. The battery compartment is in the lower part of the housing, covered by a sliding lid.

Moving the operating switch to the »Ein-On« position activates dose rate warning. If dose rate exceeds the selected threshold, a warning tone will go on and remain on until either the dose rate drops below the threshold or the device is switched off.

The 6126B differs in these respects from its predecessor 6126A:

- Measured quantity is the Personal Dose Equivalent Hp(10).
- The electronics were prepared for 10 µSv/h instead of 25 µSv/h as the lowest threshold (according to the common reduction of the annual dose limit from 50 mSv to 20 mSv).
- The warning response (see »Technical Data«), particularly in case of the lowest threshold, has been improved significantly.
- A new loudspeaker model has replaced the old one which is no longer available.

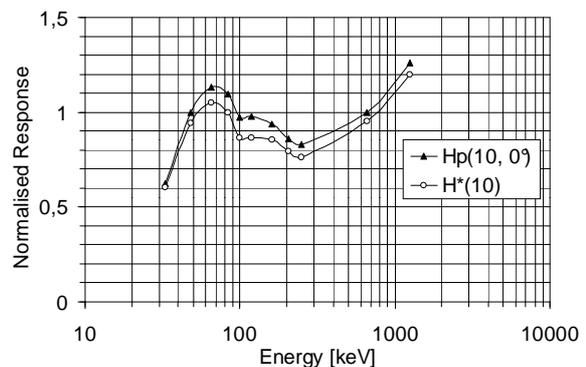
The 6126B is designed for the quantity Hp(10). This requires the device to be worn at the front of the body like a personal dosimeter, thus being exposed also to radiation scattered from the body towards the device. Preferential direction for radiation incidence is perpendicular on the large face, so the 6126B is to be worn with its clip towards the body. Wearing it oppositely, i.e. with the clip pointing away from the body, is also allowed because it hardly affects energy response with respect to Hp(10). However, in that case the body will cover the loudspeaker's opening.

If, contrarily to its original purpose, the 6126B is irradiated free in air like an area meter, it is quite well suited to measure Ambient Dose Equivalent H\*(10), see the diagram to the right. This is because it only partly responds to radiation scattered by the body. However, because it is calibrated to Hp(10), the 6126B will under-respond to H\*(10) by approximately 5% even at calibration conditions (Cs-137).

**TECHNICAL DATA**

Detector	GM counting tube LND 713 or equivalent, energy compensated
Measured quantity	personal dose equivalent Hp(10) caused by photon radiation
Energy response	50 keV to 1.3 MeV (reference energy is 662 keV of Cs-137)
Preferential direction	perpendicular on the marking spot on the type label (mark for tube location)
Warning thresholds	three values to select from by a rotary switch: 25 µSv/h (optionally 10 µSv/h), 1 mSv/h, 10 mSv/h.
Warning response	if dose rate is 1.2 or more of the threshold: warning tone on for min. 90% of the time if dose rate is 0.8 or less of the threshold: warning tone off for min. 90% of the time
Response time	thresholds 1 and 10 mSv/h: 2 s thresholds 10 and 25 µSv/h: 6 s The response time is defined as the maximum period of time which may elapse until a) the warning goes on after dose rate suddenly rises from zero to the 1.2-fold of the threshold, b) the warning goes off after dose rate suddenly drops from any high value to the 0.8-fold of the threshold.
Temperature range	-30 °C to + 60°C
Warning tone	approx. 2.4 kHz, approx. 75 db(A) at a 30 cm distance
Power supply	standard 9 Volt battery (alkaline according to IEC 6LR61 recommended)
Battery life	approximately 300 hours with 6LR61 battery (speaker off)
Housing	shock resistant plastic
Dimensions	130 x 60 x 30 (mm)
Weight	approx. 150 g
German Fire Brigade Approval No.	DLW/FW/IdF 027201/4

*Energy Response with respect to Hp(10, 0°) and H\*(10) normalised to Hp(10, 0°) at Cs-137 (662 keV)*



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