

Calibration and adjustment of RaySafe X2 sensors for the German and Austrian market



APPLIES TO

This application note applies to the RaySafe X2 sensors which are type approved for measuring radiation (dose, dose rate and/or dose-length product) in Germany according to MessEV and in Austria according to MEG:

- X2 R/F
- X2 MAM
- X2 DENT
- X2 CT

BACKGROUND

The RaySafe X2 system was designed with labels stating calibration date only. In most countries, there is no extra regulation on measurements of dose like in Germany and Austria, and all sensors have the same type of label. During the update of the type-approval in 2017, the increased demand of cyber security protection from PTB was fulfilled by changing the calibration label to a label with adjustment date and checksum for the affected instruments. Austria then received the same upgrade in cyber security.

The RaySafe X2 sensors thus have different kinds of labels.

ADJUSTMENT LABEL

The RaySafe X2 sensors listed above are type approved for measuring dose, dose rate and/or dose-length product in Germany according to MessEV and in Austria according to MEG. Each of these sensors has a label with adjustment date and checksum.

The type-approval requires that the user, before using the instrument for measurements falling under MessEV (MEG), confirms that adjustment date (“Justierdatum”) and checksum (“Checksumme”), are identical when compared between the label on the device and displayed on the base unit screen (when the sensor is connected). This verifies the integrity of the sensor, including its software.

CALIBRATION LABEL

Sensors that are not approved and regulated in the same way on the German and Austrian market (X2 Light, X2 Volt, X2 Survey, X2 mAs) are adjusted and calibrated

every year, if enrolled in the annual service program. Each of these sensors has a label stating the calibration date, on the same position as the adjustment label mentioned above.

CONSEQUENCES

Every time a type-approved sensor is modified by a new adjustment, it must be calibrated by Eichamt (Eich- und Kalibrierstelle) before use on measurements falling under MessEV (MEG). These sensors also must be calibrated at least every second year to be allowed for measurements falling under MessEV (MEG).

Therefore, the X2 R/F, X2 MAM, X2 DENT and X2 CT, which are used for MessEV (MEG) measurements and enrolled in the annual service program, have an “every second year” service. They are calibrated at RaySafe once a year, according to the service program, and receive a new calibration certificate, but they are only adjusted every second year, prior to being send to Eichamt (Eich- und Kalibrierstelle). At the adjustment, they receive a new label with updated adjustment date and checksum.

If a sensor is found to be out of specification during an only-calibration year, the customer is informed that an adjustment and a calibration at Eichamt (Eich- und Kalibrierstelle) is needed, outside the standard schedule.

QUESTIONS?

If you have any questions, visit <http://www.raysafe.com> for support and contact information.