

How to:

Generate a Data Matrix Code (DMC) of your Calibration Certificate for the Intelligent Detector Recognition (IDR) of UNIDOS Tango with the DMC Generator



Introduction

The DMC Generator is a web-based tool that allows you to generate the specific Data Matrix Codes (DMC) of your detector and the corresponding calibration certificate. Go to our website www.ptwdosimetry.com, search for the DMC Generator entry and have your calibration certificate ready.

IDR Technology: Choose Comfort - Eliminate Errors - Increase Efficiency



The DMC is used for the Intelligent Detector Recognition of the UNIDOS Tango. This technology is based on a built-in 2D code reader, automating detector management and identification. It is easy, fast and eliminates potential error sources!



The DMC is containing all essential information of the detector and calibration, which is needed to store and identify a detector in the UNIDOS Tango.



To add or update detectors, simply tap the DMC icon in the detector database of your UNIDOS Tango and hold the DMC in front of the device's camera.



To identify and set the desired detector as measuring detector, turn on the camera in the detector selection and hold the small DMC in front of it. UNIDOS Tango immediately calls up the correct detector by matching the data stored on the code to the entry in the detector database.

DMC Generator

All Fields or Options marked with * are mandatory to generate a DMC!

Creator of Document*: Please enter your Name, so that the people of your department can comprehend the creator of the document.

Option "I accept that ...":* The responsibility of the entered data is up to the creator!

Option "I use a UNIDOS Tango with SW-version 1.2.0 and above": Please check on your UNIDOS what SW-version is installed. You can download the current SW-version on myPTW (<https://myptw.ptwdosimetry.com/>).

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1. General information

In this section general information for the identification of the detector is added.

Name*: Add the name of the detector, e.g., Farmer chamber, waterproof

Manufacturer: Add the manufacturer, e.g., PTW Freiburg

Type number*: Add the type number of the detector, e.g., T30013

Serial number*: Add the serial number of the detector, e.g., 200605

Detector type*: Select one of the following options. The detectors mentioned are examples.

- Diamond detector, if you have a microDiamond (no information for the voltage has to be added)
- Semiconductor detector, if you have a microSilicon, microSilicon X (no information for the voltage has to be added)
- Liquid-filled ionization chamber, if you have a microLion
- Sealed ionization chamber, if you have a radiation monitoring chamber T7262
- Vented ionization chamber, if you have a Farmer chamber, Semiflex 3D

Detector comment: Add any comment concerning the detector entry

2. Measurement settings

In this section measurement settings have to be added, to operate the detector in the defined range of use.

The information needed for this section is stated in the user manual in the technical specification of the detector.

Please fill in the information in the following order:

1. **HV rated range of use*:** Select one of the following options:
 - Sign of rated range of use is +: This means that the range of the HV is only positive (0 V ... +400 V)
 - Sign of rated range of use is +/-: This means that the range of the HV is positive and negative (-400 V ... +400 V)
 - Sign of rated range of use is -: This means that the range of the HV is only negative (-400 V ... 0 V)
2. **Minimum high voltage*:** Add the minimum high voltage required for your detector
3. **Maximum high voltage*:** Add the applicable maximum high voltage for your detector
4. **Calibration voltage*:** Add the calibration voltage, that was set during calibration, so that the calibration factor is valid

Time base*: Select one of the following options:

- Per second: This means that your dose rate is shown as, e.g., mGy/s
- Per minute: This means that your dose rate is shown as, e.g., mGy/min
- Per hour: This means that your dose rate is shown as, e.g., mGy/h

Measuring range: Select one of the following options:

- LOW: The measuring range is set to LOW when selecting the detector
- MEDIUM: The measuring range is set to MEDIUM when selecting the detector
- HIGH: The measuring range is set to HIGH when selecting the detector

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3. Calibration information

In this section, calibration information which is stated on your calibration certificate has to be added.

Calibration date: Add the date of calibration

Measuring quantity*: Select one of the following options

- Absorbed dose to water – D_w
- Activity – A
- Air kerma – K_a
- Air kerma strength – S_k
- Ambient dose equivalent – $H^*(10)$
- Dose length product – DLP
- Exposure – J_s
- Exposure length product – LP
- Photon dose equivalent – H_x
- Reference Air Kerma Rate – K_R (Option only available when checking the option "I use a UNIDOS Tango with SW-version 1.2.0 and above")

Unit*: Select one of the following options

- Becquerel – Bq
- Curie – Ci
- Gray – Gy
- Gray · centimeter – Gy·cm
- Gray · meter – Gy·m
- Gray · meter² – Gy·m²
- Roentgen – R
- Roentgen · centimeter – R·cm
- Roentgen · meter – R·m
- Roentgen · meter² – R·m²
- Sievert – Sv

Radiation quality*: Add the radiation quality at which the detector was calibrated, e.g., Co60

Calibration factor*: Add the calibration factor, either as decimal number (e. g., 54030001.12345) or in exponential notation (e.g., 5.403e+7)

Calibration laboratory: Add the calibration laboratory, e.g., Calibration Lab PTW Freiburg

Calibration certificate number*: Add the calibration certificate number, e.g., 20240101

Date of next calibration: Add the date of next calibration, usually 2 years from calibration date

Reference temperature*: Select one of the following options

- 20 °C – select this temperature if your detector has been calibrated at a reference temperature of 20 °C
- 22 °C – select this temperature if your detector has been calibrated at a reference temperature of 22 °C

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