



Modular High-Performance DIAMENTOR® Systems

Integrated or Flexible Solution - Your choice.

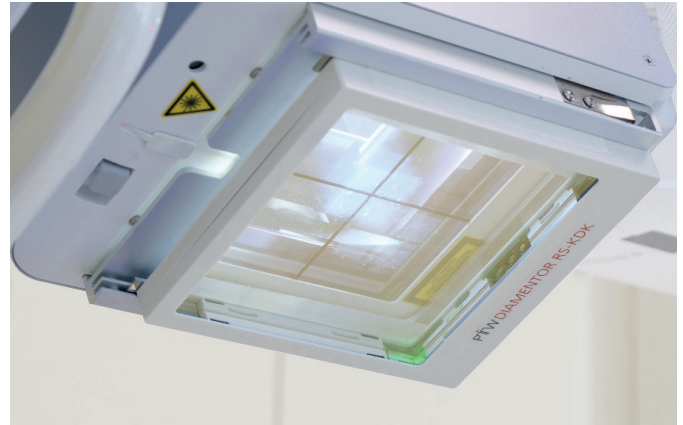
DIAMENTOR® Systems

DIAMENTOR® RS-KDK and C-RS - The New Generation of the Diamond Standard

65 years after PTW invented the very first Dose Area Product Meter, the famous DIAMENTOR, a new generation of universal, modular, and most powerful DIAMENTOR® systems is ready to set the next industry standard:

- ▶ Highest accuracy (automatic air density correction)
- ▶ Maximum measuring performance (dose and DAP by default)
- ▶ Ultimate flexibility in application and use (extended range of use)
- ▶ Easy connection (via adapter box and wireless data transfer).

Integrated or flexible solution – your choice.



DIAMENTOR® RS-KDK

The DIAMENTOR RS-KDK is a combined dose area product and dose meter, integrating the electronics within the ionization chamber housing (dimensions 183.2 x 163.2 x 17.4 mm³). As it is transparent, it can be conveniently used as a built-in solution either mounted directly under the X-ray tube housing or on the collimator.

The system fully complies with EN 60580, featuring the innovative technology which PTW invented many years ago. It allows to measure dose/dose rate as well as dose area product/dose area product rate simultaneously to document patient exposure during radiographic and fluoroscopic X-ray examinations. The DIAMENTOR RS-KDK can either be controlled via PC



support (interface RS232 or 485) or it can be used in combination with the DIAMENTOR RS-D display unit for control and direct result indication.

Accessories

DIAMENTOR BT interface

The DIAMENTOR BT interface can be connected to the DIAMENTOR RS-KDK system for wireless data transfer via Bluetooth®. It replaces the cable between the DIAMENTOR RS-KDK and the PC, enabling fast, convenient installation by removing the extension cables.

DIAMENTOR RS-D display unit

The DIAMENTOR RS-D display unit features a touch display to which up to two DIAMENTOR RS-KDK, version RS485, can be connected – ideal for usage at biplane systems. The measuring values are read out via RS232 or RS485. The display unit can be fixed arbitrary, e.g. close to the X-ray modality to provide a clear indication of patient exposure during radiological examinations. For maximum flexibility the DIAMENTOR RS-D display unit allows to control the DIAMENTOR RS-KDK with and without PC support.

Your benefits

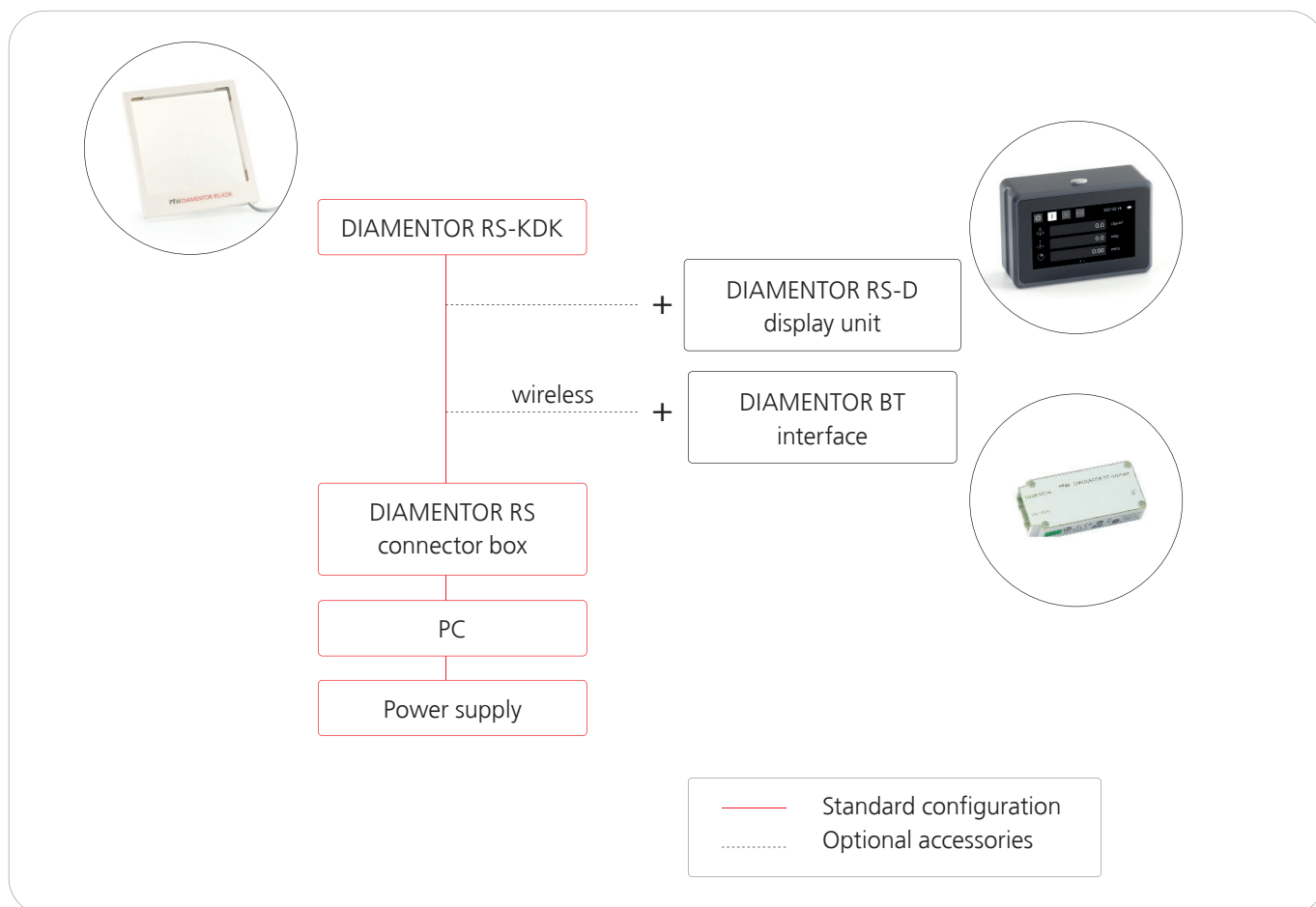
- ▶ Simultaneous measurements of DAP, dose, and exposure time
- ▶ Convenient installation via the DIAMENTOR RS connector box
- ▶ Energy response: $\pm 5\%$... $\pm 8\%$ for tube voltage in the range (40 ... 150) kV
- ▶ Automatic air density correction
- ▶ Optional operation via Bluetooth
- ▶ Different selectable measuring quantities and units
- ▶ Suitable for use at an extended temperature range (+10 ... 65) °C, (+50 ... +149) °F
- ▶ Hardware safety performance test

Your choice

Which DIAMENTOR system combination is best for your application? Choose your optional devices in addition to the standard configuration. Add a DIAMENTOR RS-D display unit and/or a DIAMENTOR BT interface. Connect an additional DIAMENTOR RS-KDK for biplane modalities.

- ▶ With RS232 or RS485 interface
- ▶ Control via a display unit and/or via PC
- ▶ Wired or wireless data transfer

Possible DIAMENTOR RS-KDK configurations:

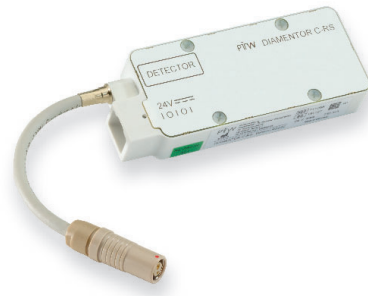


DIAMENTOR RS-KDK ordering information

L981400	Set DIAMENTOR RS-KDK with RS-D, wireless	L981418	Set DIAMENTOR RS-KDK, version RS232
L981415	Set DIAMENTOR RS-KDK, wireless	L981419	Set DIAMENTOR RS-KDK, version RS485
L981416	Set DIAMENTOR RS-KDK with RS-D, version RS232	E41750B/S/G	Service contract Bronze, Silver, Gold
L981417	Set DIAMENTOR RS-KDK with RS-D, version RS485		

DIAMENTOR® C-RS

The DIAMENTOR C-RS is a flexible dose area product meter. The highly integrated and miniaturized electronics in a small and space-saving housing, can be combined with any PTW dose area product ionization chamber (CARD or rectangular chamber, connecting system A). The DIAMENTOR C-RS can be fixed arbitrary, but most likely under the housing of the X-ray modality. This allows maximum flexibility for the usage with any radiographic and fluoroscopic diagnostic X-ray modality.



Accessories

DIAMENTOR BT interface

For wireless data transfer via Bluetooth® the DIAMENTOR BT interface can be connected to the DIAMENTOR C-RS. Thus, the DIAMENTOR BT interface replaces the cable between the DIAMENTOR C-RS and the PC and enables convenient and fast installation due to the removal of extension cables.

Available DIAMENTOR ionization chambers

Different DIAMENTOR ionization chambers are available:

- ▶ TA34028, size B, 141 mm x 141 mm
- ▶ TA34054, 85 mm x 85 mm
- ▶ TA34002, circular, Ø 73 mm
- ▶ TA34037, circular, Ø 72 mm

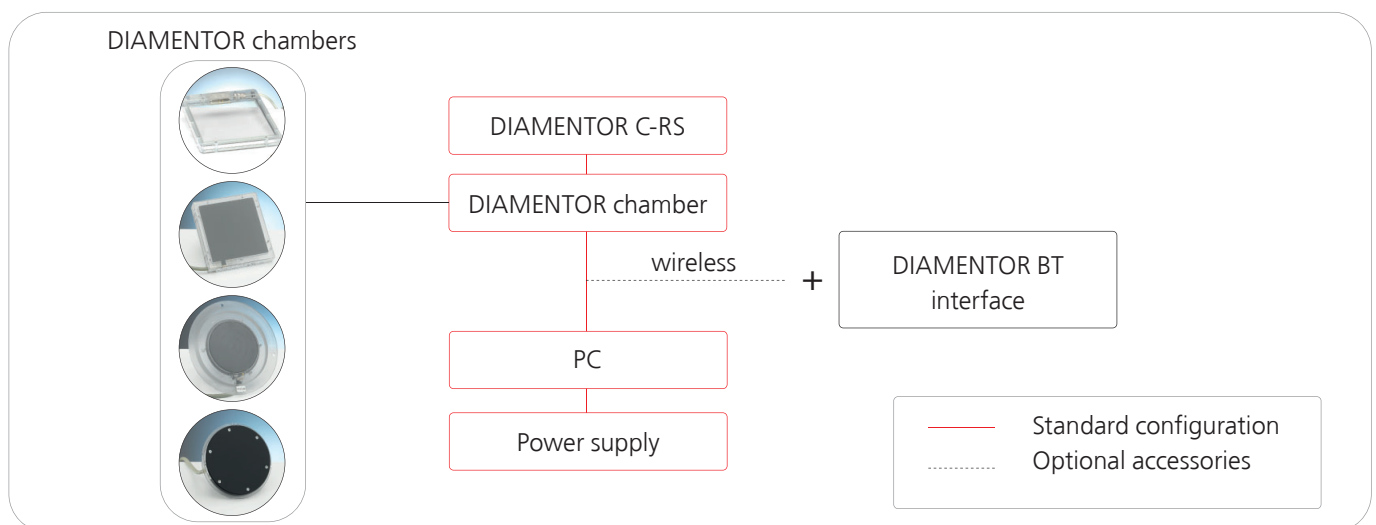
Your benefits

- ▶ Energy response: 5 % ... ± 8 % for tube voltage in the range (40 ... 150) kV
- ▶ Automatic air density correction
- ▶ Optional operation via Bluetooth®
- ▶ Different selectable measuring quantities and units
- ▶ Hardware safety performance test

Your choice

Choose the appropriate DIAMENTOR system combination for your application:

- ▶ With RS232 or RS485 interface
- ▶ Cable based or wireless data transfer
- ▶ Control via PC and/or a display unit (work in progress)



DIAMENTOR C-RS ordering information

L981470	Set DIAMENTOR C-RS, wireless
L981471	Set DIAMENTOR C-RS, version RS232
L981472	Set DIAMENTOR C-RS, version RS485
E41750B/S/G	Service contract Bronze, Silver, Gold

The New Generation of the Diamond Standard



Technical Specifications

DIAMENTOR RS-KDK

Measuring units	dose, dose rate, dose area product (DAP), DAP rate, exposure time
Power supply	(12 ... 32) VDC
Dimensions	(182.2 x 163.2 x 17.75) mm ³
Weight	approx. 290 g

Measuring ranges

DAP	(0.1 ... 10 ⁸) μGym ²
Digital resolution	0.01 μGym ²
DAP rate	(0.1 ... 30 000) μGym ² /s
Digital resolution	0.001 μGym ² /s
Entrance dose	(0.01 ... 30 000) mGy
Digital resolution	0.001 mGy
Exposure time	1 s ... 60 000 s
Digital resolution	0.1 s

Ranges of use

DAP rate	(0.01 ... 30 000) μGym ² /s
Tube voltage	(40 ... 150) kV
Temperature	(10 ... 65) °C
Atmospheric pressure	(700 ... 1060) hPa

DIAMENTOR C-RS

Measuring units	dose area product (DAP), DAP rate, exposure time
Power supply	(12 ... 32) V DC
Dimensions	(45 x 18 x 100) mm ³
Weight	approx. 122 g

Measuring ranges

DAP	(0.1 ... 10 ⁶) μGym ²
Digital resolution	0.01 μGym ²
DAP rate	(0.1 ... 15 000) μGym ² /s
Digital resolution	0.01 μGym ² /s
Entrance dose	-
Digital resolution	-
Exposure time	1 s ... 60 000 s
Digital resolution	0.1 s

Ranges of use

DAP rate	(0.005 ... 15 000) μGym ² /s
Tube voltage	(40 ... 150) kV
Temperature	(10 ... 40) °C
Atmospheric pressure	(700 ... 1060) hPa



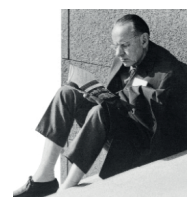
65 Years DIAMENTOR®

PTW is a global market leader for dosimetry and quality control solutions in radiation medicine, serving the needs of medical radiation experts in more than 160 countries worldwide. Starting with the famous Hammer dosimeter in 1922, the German manufacturer is the pioneer in medical radiation measurement, known for its unparalleled quality and precision.

For PTW, making medical radiation safer is both a passion and lifetime commitment. The family-run high-tech company operates the oldest and largest accredited calibration laboratory in the field of ionizing radiation and established THE DOSIMETRY SCHOOL to globally promote the exchange of knowledge in clinical dosimetry.

In 1957, Herbert Pychlau had the idea of a new diagnostic measuring device determining the patient load during medical X-ray examinations. This measuring device was meant to show young radiologists, working in a teaching hospital, the patient dose consequences of radiological procedures, also considering minimizing techniques like collimation or filtration adjustment.

For reading the whole *Story of the Dose Area Product Meter* please scan the QR code:



PTW Freiburg GmbH
Lörracher Str. 7
79115 Freiburg · Germany
Phone +49 761 49055-0
info@ptwdosimetry.com
ptwdosimetry.com

© PTW. All Rights Reserved. Specifications subject to change without prior notice.
All trademarks mentioned in this document are the property of their respective owners.
D150.139.00/02, 2021-11

PTW
THE
DOSIMETRY
COMPANY