



Design varies for different models

DIAVOLT kV_p and Dose Meter

Non-invasive kV_p, PPV, dose and time meter for acceptance tests and quality control of diagnostic X-ray equipment

Features

- ▶ Measures kV_p, dose and time non-invasively
- ▶ Includes display of the quantity PPV (practical peak voltage) according to IEC 61676¹⁾
- ▶ Available in different models depending on your requirements
- ▶ Can be used both for acceptance tests and routine quality control

The DIAVOLT meter family was developed to combine easy performance with high accuracy of measurements in different X-ray applications. Its multipurpose design enables the user to measure the IEC quantity "practical peak voltage" as well as kV_p, dose and irradiation time. Depending on your needs you can choose from a range of models.

The key features that provide easy handling are the built-in automatic functions like autostart, autostop, autorange and a display reading that automatically rotates by 180° depending on the orientation of the device; so it does not matter if the device is used for over-couch or under-couch applications.

In addition to the readings on the built-in display, the unit communicates with a PC via an RS232 interface. It also has an analog output, which can be connected to an oscilloscope for displaying the voltage waveform. The delivery includes a manual in English.

Ordering Information

T43014 DIAVOLT UNIVERSAL

covers the applications RAD, FLU, DENT, CT and MAM

T43016 DIAVOLT MULTI

covers the applications RAD, FLU, DENT and CT

T43017 DIAVOLT RAD/FLU

T43020 DIAVOLT MAM

L991041 Power supply (100 ... 240) V, (50 ... 60) Hz

Specification

- ▶ Type of product Non-invasive kV_p, PPV, dose and time meter
- ▶ Application Measurements for acceptance test and quality control in radiography, fluoroscopy, dental X-ray, CT and mammography (depending on model)
- ▶ Measuring quantities and units
 - Maximum peak voltage (kV)
 - Mean maximum peak voltage (kV)
 - Practical peak voltage (kV)
 - Dose (Gy, R), RQR, RQM qualities
 - Irradiation time (s)
- ▶ Measuring ranges:
 - Tube voltage (40 ... 150) kV (conventional)
 - (22 ... 40) kV (MAM)
 - Dose 50 µGy ... 50 Gy (conventional)
 - 150 µGy... 150 Gy (MAM)
 - Time 0.3 ms ... 999 s
- ▶ Digital resolution:
 - Tube voltage 0.1 kV
 - Dose 0.5 µGy (convent.), 1.5 µGy (MAM)
 - Time 300 µs
- ▶ Accuracy:
 - Tube voltage ≤ ± 1 % or ± 1 kV (conventional)
 - (IEC 61676¹⁾ ≤ ± 0.7 kV (MAM)
 - Dose (IEC 61674²⁾ ≤ ± 2 %
 - Time ≤ ± 0.3 ms
- ▶ Minimum field size 34 x 34 mm² (RAD, FLU, DENT, MAM)
- 34 x 3 mm² (CT, DENT-PANORAMIC)
- ▶ Ranges of use:
 - Dose rate (1 ... 200) mGy/s (kV measurement)
 - Temperature (15 ... 35) °C, (59 ... 95) °F
 - Relative humidity (20 ... 80) %, max. 20 g/m³
 - Air pressure (700 ... 1060) hPa
- ▶ Display 4-line LCD, automatic display flip
- ▶ Interface RS232 and analogue kV waveform
- ▶ Power supply 4 NiMH batteries (AA) 1.2 V charged by external power supply
- ▶ Dimensions 45 mm x 95 mm x 155 mm
- (H x W x D) 1.77 in x 3.74 in x 6.10 in
- ▶ Weight approx. 770 g, 1.70 lbs without batteries

¹⁾IEC 61676: "Medical electrical equipment - Dosimetric instruments used for non-invasive measurement of X-ray tube potential in diagnostic radiology"

²⁾IEC 61674: "Medical electrical equipment - Dosimeters with ionization chambers and/or semi-conductor detectors as used in X-ray diagnostic imaging"