Graetz
Strahlungsmeßtechnik

PRODUCT DATA SHEET

11-2025
Subject to change

AREA MONITORS
GRAETZ WS05C-1/WS05C-2/WS05C-3

Product features

The area monitors WS05C-1, WS05C-2 and WS05C-3 are stationary room monitoring systems for the dose rate measurement of γ-radiation and X-rays, preferably used for the permanent monitoring of isotope laboratories, radiotherapy rooms, storage rooms for radioactive materials, etc.

WS05C-3

The WS05C is available in the following versions:

- **WS05C-1:** Area monitor (1 measuring channel) with RS-232 interface for the operation with any probe of the GRAETZ programme.
- **WS05C-2:** Area monitor (2 measuring channels) with RS-232 interface for one measuring channel, for the simultaneous operation of max. two different or similar probes – any of the GRAETZ programme.
- **WS05C-3:** Area monitor (3 measuring channels) with RS-232 interface for one measuring channel, for the simultaneous operation of max. three different or similar probes – any of the GRAETZ programme.

Each measuring channel indicates the measured values on a digital, illuminated LC display (60 x 30 mm). For each measuring channel four individual dose rate alarm thresholds are free programmable over the whole measuring range of the connected probes.

When using γ-probes, the dose rate shown on the LC display is Sv/h. When an end-window probe for α-/β-measurements or a NaI-scintillation probe for β-/γ-measurements is connected, the measured value is displayed in cps. Additionally to the digital display, the dose rate is also indicated in analogue form by a logarithmic bar graph.

The instrument is autoranging. When a measuring channel triggers a dose rate alarm, the integrated alarm light of the WS05C gives an optical and acoustical alarm.

In the standard version:

Green → "Ready for operation"
Orange → "Alarm threshold exceeded"
Red → "Error" (e.g. defective probe)

The red LED situated above the display indicates by which measuring channel the alarm has been triggered.

An RS-232 interface for one measuring channel is available for connecting the WS05C with a computer

Options

- **Relay output** for an additional external alarm lamp for each measuring channel or a **potential free relay output** for each measuring channel instead of the relay output for the external alarm lamps
  (max. switching voltage/current: 24 V, 20 mA)
- **Acoustic alarm disconnectible:** only triggered when an alarm threshold is exceeded and the monitored room's door is open
- **Emergency power supply** (300 W) for the uninterruptible operation of the WS05C in case of mains failure
- **External alarm lamps** (optical/acoustical)
- **Probe cable** (standard length: 1.25 m), extension up to 100 m
- **Time counter**, configurable as**:**
  - Operating time counter: Adds the time during which the wall station/the channel is switched on.
  - Alarm time counter: Adds the time in which the wall station/the channel triggered an alarm.
  - Error time counter: Adds the time in which the wall station/the channel displayed an error.

Adds the time in which a dose rate warning threshold was triggered

- **Special versions upon request**

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Technical Data WS05C

Types:	**WS05C-1** for the connection of one probe (1 channel) **WS05C-2** for the simultaneous connection of max. 2 probes (2 channels) **WS05C-3** for the simultaneous connection of max. 3 probes (3 channels)
Probes:	The probes are preferably connected by means of a probe cable (up to 100 m) or directly to the sockets of the WS05C.
Measurand:	Ambient equivalent dose rate $\dot{H}^*(10)$ for CE probes.
Measuring accuracy:	≤ ± 10%
Display:	Each measuring channel is equipped with an illuminated LC display
Indication:	• Digital indication in Sv/h or cps, depending on the connected probe • Analogue indication by a logarithmic bar graph
Alarm:	• Probe failure alarm • Dose rate alarm thresholds 1 – 4 • Dose alarm thresholds 1 – 4
Alarm signals:	• Integrated optical/acoustical signal, triggered when a connected probe signalises a dose rate alarm (orange) and/or an error (red) • Red LED for alarm indication when an alarm threshold is triggered (at each measuring channel)
Interface:	RS-232 for one measuring channel (WS05C-2/WS05C-3 → first measuring channel)
Dose rate alarm thresholds:	4 dose rate alarm thresholds for each measuring channel, programmable within the measuring range of 0.5 µSv ≤ H*(10) ≤ 10 Sv
Dose alarm thresholds:	4 dose alarm thresholds free for each measuring channel, programmable over the whole measuring range of the connected probe(s)
Temperature range:	0°C up to +40°C for the area monitor -30°C up to +60°C for the probes
Humidity:	Max. 90% relative humidity
Power supply:	90 – 260 V AC 200 mA max. 50/60 Hz
Housing:	Plastic, high-impact
Dimensions:	Approx. 260 mm x 230 (455) mm x 150 mm
Weight:	Approx. 2.8 kg

Available probes:

Probe type	Measuring range Type of radiation	Energy range
18545 C	150 nSv/h ≤ $\dot{H}^*(10)$ ≤ 200 µSv/h γ and X-rays	40 keV – 1.3 MeV
18550 C	10 µSv/h ≤ $\dot{H}^*(10)$ ≤ 20 mSv/h γ and X-rays	40 keV – 1.3 MeV
18529 C	200 mSv/h ≤ $\dot{H}^*(10)$ ≤ 5 Sv/h γ and X-rays	70 keV – 3 MeV
18509 C	50 µSv/h ≤ $\dot{H}^*(10)$ ≤ 1 Sv/h γ and X-rays	55 keV – 1.3 MeV
18526 D	Background approx. 25 cpm Approx. 4 cps at 1 µSv/h ^{137}Cs α, β, γ radiation	
NaI-Scintillation probe 2002	Background approx. 135 cps Approx. 1,500 cps at 1 µSv/h ^{137}Cs β / γ radiation	γ radiation > 25 keV β radiation > 100 keV

For detailed information please see separate data sheed „GRAETZ probes“.

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