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.

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.

WS05C-3

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

Graetz
Made in Germany

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 Ḣ*(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 ≤ Ḣ*(10) ≤ 200 µSv/h γ and X-rays	40 keV – 1.3 MeV
18550 C	10 µSv/h ≤ Ḣ*(10) ≤ 20 mSv/h γ and X-rays	40 keV – 1.3 MeV
18529 C	0.5 mSv/h ≤ Ḣ*(10) ≤ 10 Sv/h γ and X-rays	70 keV – 3 MeV
18509 C	50 µSv/h ≤ Ḣ*(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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