# Area Monitors GRAETZ WS05C-1/WS05C-2/WS05C-3

The area monitors WS05C-1, WS05C-2 and WS05C-3 are stationary room monitoring systems for the dose rate measurement of  $\gamma$ -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 RS232-interface for the operation with any probe of the GRAETZ-programme.
- **WS05C-2:** Area monitor (2 measuring channels) with RS232-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 RS232-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  $\gamma$ -probes, the dose rate shown on the LC-display is Sv/h. When an end-window probe for  $\alpha$ -/ $\beta$ -measurements or a Nal-scintillation probe for  $\beta$ -/ $\gamma$ -measurements is connected, the measured value is displayed in cps. Additionally to the digital display, the dose rate is also indicated in analog 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	$\rightarrow$	"Ready for operation",
Orange	$\rightarrow$	"Alarm threshold exceeded"
Red	$\rightarrow$	"Error" (e.g. defective probe)

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

An RS232-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: 24V, 20 mA)
- Acoustic alarm disconnectible: only triggered when an alarm threshold is exceeded and the monitored room's door is open
- Emergency power supply (300W) 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
- Alarm time counter: 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 dose rate equivalent rate H*(10) for CE-probes. Available probes			
	(The PTB-approval of the probes is only valid when used together with the dose rate meter X5C <i>plus</i> .)			

Probe type	Measuring range	PTB-approved measuring range <sup>1)</sup>
18545 CE	60 nSv/h – 200 μSv/h	150 nSv/h – 200 μSv/h (γ-radiation and X-rays)
18550 CE	100 nSv/h – 20 mSv/h	10 μSv/h – 20 mSv/h (γ-radiation and X-rays)
18529 CE	10 μSv/h – 10 Sv/h	0.5 mSv/h – 10 Sv/h (γ-radiation and X-rays)
18509 CE	10 μSv/h – 1 Sv/h	50 μSv/h – 1 Sv/h (γ-radiation and X-rays)
18526 D	cps, α-, β-, γ-radiation	
Nal-Scintillation probe 2002	cps, β-/ γ-radiation	

<sup>1)</sup> PTB-approved measuring range for measurements specifically demanded by German authorities

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 connecte probe		
	<ul> <li>Analog indication by a logarithmic bar graph</li> </ul>		
Alarm:	Probe failure alarm		
	<ul> <li>Dose rate alarm thresholds 1 – 4</li> </ul>		
	<ul> <li>Dose alarm thresholds 1 – 4</li> </ul>		
Alarm signals:	<ul> <li>Integrated optical/acoustical signal, triggered when a connected</li> </ul>		
	probe signalizes a dose rate alarm (orange) and/or an error (red)		
	<ul> <li>Red LED for alarm indication when an alarm thresholds is</li> </ul>		
	triggered (at each measuring channel)		
Interface:	RS232 for one measuring channel		
	(WS05C-2/WS05C-3 $\rightarrow$ first measuring channel)		
Dose rate alarm			
thresholds:	4 dose rate alarm thresholds for each measuring channel, free		
	programmable over the whole measuring range of the connected		
	probe(s)		
Dose alarm			
thresholds:	4 dose alarm thresholds free for each measuring channel,		
	programmable over the whole measuring range of the connected		
Tomporatura rango:	$0^{\circ}$ C up to $140^{\circ}$ C for the area monitor		
lemperature range.	$-30^{\circ}$ C up to $+60^{\circ}$ C for the probes		
Humidity:	Max 90% relative humidity		
Power supply:	90 - 260V AC 200 mA max 50/60 Hz		
Housing:	Plastic high-impact		
Dimensions:	260 mm x 230 (455) mm x 150 mm		
Weight:	Approx. 2.8 kgs		
GRAFT7	Strahlungsmeßtechnik GmhH		
GRAETZ Stranungsmebtechnik Onibin			





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