





Spectrometric smart probes

SMART PROBE	BDKG-211M	BDKG-205M	BDKG-203M	BDKG-201M
Detector	Scintillator, NaI(Tl) Ø63x63 mm	Scintillator, NaI(Tl) Ø40x40 mm	Scintillator, NaI(Tl) Ø25x40 mm	Scintillator, NaI(Tl) Ø25x16 mm
Energy range	20 keV ... 3 MeV	20 keV ... 3 MeV	20 keV ... 3 MeV	20 keV ... 3 MeV
Measurement range of ambient radiation dose rate equivalent	10 nSv/h ... 150 µSv/h	10 nSv/h – 300 µSv/h	10 nSv/h – 500 µSv/h	10 nSv/h – 1 mSv/h
Absorbed dose rate measurement range	–	–	–	–
Limit of dose rate measurement intrinsic relative error	±20%	±20%	±20%	±20%
Energy dependence relative to 662 keV (¹³⁷ Cs)	±20% (20 keV ... 3 MeV)	±20% (20 keV ... 3 MeV)	±20% (20 keV ... 3 MeV)	±20% (20 keV ... 3 MeV)
Sensitivity to gamma radiation ²⁴¹ Am ¹³⁷ Cs ⁶⁰ Co	(cps/µSv·h ⁻¹) 13900 2450 1300	(cps/µSv·h ⁻¹) 5400 800 420	(cps/µSv·h ⁻¹) 350	(cps/µSv·h ⁻¹) 125
Spectrometry (Instrument spectrum)	+	+	+	+
Typical resolution at 662 keV (¹³⁷ Cs)	7.5%	7%	8%	8%
Burn-up life	≥100 Sv	≥100 Sv	≥100 Sv	≥100 Sv
Number of ADC channels	1024	1024	1024	1024
Protection class	IP67	IP67	IP67	IP67
Interface	USB / RS232 / RS485	USB / RS232 / RS485	USB / RS232 / RS485	USB / RS232 / RS485
Power supply	<i>For USB and RS 232 interface: USB port of a PC or other device; For RS485 interface: External 6.5-32 VDC power source</i>			
Mean operating life	≥15 years	≥15 years	≥15 years	≥15 years
Operation temperature range	-30°C ... +50°C	-30°C ... +50°C	-30°C ... +50°C	-30°C ... +50°C
Relative humidity with air temperature ≤35°C without condensation	≤98%	≤98%	≤98%	≤98%
Overall dimensions, weight	Ø78x350 mm, 2 kg	Ø68x320 mm, 1 kg	Ø68x320 mm, 1 kg	Ø68x300 mm, 1 kg
Appearance				

Dosimetric smart probes

SMART PROBE	BDKG-24	BDKG-04	BDKG-25	BDKG-22	BDKG-23
Detector	Scintillation plastic, Ø50x40 mm	Scintillation plastic, Ø30x15 mm	Scintillation plastic, Ø10x5 mm	Geiger-Muller counter tube with energy compensating filter	Two Geiger-Muller counter tubes with energy compensating filters
Energy range	30 keV ... 3 MeV	15 keV ... 3 MeV	60 keV ... 3 MeV	60 keV ... 3 MeV	60 keV ... 3 MeV
Measurement range of ambient radiation dose rate equivalent	20 nSv/h ... 1 Sv/h	50 nSv/h ... 10 Sv/h	–	0.1 µSv/h ... 10 Sv/h	–
Absorbed dose rate measurement range	–	–	0.1 µGy/h ... 1 Gy/h	–	0.1 µGy/h ... 100 Gy/h
Limit of dose rate measurement intrinsic relative error	±20%	±20%	±30%	±20%	±20%
Energy dependence relative to 662 keV (¹³⁷ Cs)	±25% (30 keV ... 3 MeV)	±35% (15 keV ... 60 keV) ±20% (60 keV ... 3 MeV)	±35% (60 keV ... 3 MeV)	-25%...+35% (60 keV ... 3 MeV)	-25%...+35% (60 keV ... 3 MeV)
Sensitivity to gamma radiation ²⁴¹ Am ¹³⁷ Cs ⁶⁰ Co	(cps/µSv·h ⁻¹) 3200 530 270	(cps/µSv·h ⁻¹) 370 70 40	(cps/µSv·h ⁻¹) 75 3.5 2	(cps/µSv·h ⁻¹) 0.4 0.4 0.4	(cps/µSv·h ⁻¹) 0.46 0.46 0.46
Spectrometry (Instrument spectrum)	–	–	–	–	–
Burn-up life	≥100 Sv	≥100 Sv	≥100 Sv	≥100 Sv	≥100 Sv
Protection class	IP64	IP64	IP57	IP67	IP67
Interface	RS232	RS232	RS485	RS422 / RS485	RS422 / RS485
Power supply	External 6 VDC power source		External 9-30 VDC power source		
Mean operating life	≥15 years	≥15 years	≥15 years	≥15 years	≥15 years
Operation temperature range	-40°C ... +50°C	-30°C ... +50°C	-40°C ... +50°C	-40°C ... +70°C	-40°C ... +70°C
Relative humidity with air temperature ≤35°C without condensation	≤98%	≤95%	≤95%	≤98%	≤98%
Overall dimensions, weight	Ø60x200 mm, 0.65 kg	Ø60x200 mm, 0.45 kg	Ø61x210 mm, 0.6 kg	Ø59.5x255 mm, 1 kg	Ø59.5x255 mm, 1 kg
Appearance					