





# Neutron radiation detection units

DETECTION UNIT	BDKN-01 / BDKN-02	BDKN-03 / BDKN-04	BDKN-05	BDKN-06
Detector	<sup>3</sup> He proportional counter in polyethylene moderator		Two <sup>3</sup> He proportional counters in polyethylene moderator	<sup>3</sup> He proportional counter in polyethylene moderator
Energy range	0.025 eV – 14 MeV	0.025 eV – 14 MeV	0.025 eV – 14 MeV	0.025 eV – 16 MeV
Indication range of neutron count rate	0 – 5·10 <sup>4</sup> s <sup>-1</sup>	0 – 5·10 <sup>4</sup> s <sup>-1</sup>	0 – 5·10 <sup>4</sup> s <sup>-1</sup>	0 – 5·10 <sup>4</sup> s <sup>-1</sup>
Measurement range of ambient neutron radiation dose equivalent rate	0.1 μSv/h – 10 mSv/h [from Pu-Be source]	0.1 μSv/h – 10 mSv/h	–	0.1 μSv/h – 30 mSv/h
Measurement range of ambient neutron radiation dose equivalent	0.1 μSv – 10 Sv [Pu-Be]	0.1 μSv – 10 Sv	–	0.1 μSv – 10 Sv
Typical sensitivity to neutron radiation (In dose rate measurement mode)	0.355 cps/(μSv·h <sup>-1</sup> ) [Pu-Be]	0.355 cps/(μSv·h <sup>-1</sup> ) [Pu-Be]	–	0.71 cps/(μSv·h <sup>-1</sup> ) [Pu-Be]
Measurement range of neutron flux density	0.1 – 10 <sup>4</sup> neutron·s <sup>-1</sup> ·cm <sup>-2</sup>	0.1 – 10 <sup>4</sup> neutron·s <sup>-1</sup> ·cm <sup>-2</sup>	0.1 – 2·10 <sup>3</sup> neutron·s <sup>-1</sup> ·cm <sup>-2</sup>	–
Measurement range of neutron fluence	1 – 3·10 <sup>6</sup> neutron·cm <sup>-2</sup>	1 – 3·10 <sup>6</sup> neutron·cm <sup>-2</sup>	1 – 3·10 <sup>6</sup> neutron·cm <sup>-2</sup>	–
Typical sensitivity to neutron radiation (In flux density measurement mode)	0,5 cps/(neutron·s <sup>-1</sup> ·cm <sup>-2</sup> ) [Pu-Be]	0,5 cps/(neutron·s <sup>-1</sup> ·cm <sup>-2</sup> ) [Pu-Be]	8 cps/(neutron·s <sup>-1</sup> ·cm <sup>-2</sup> ) [Pu-Be] 13 cps/(neutron·s <sup>-1</sup> ·cm <sup>-2</sup> ) [Cf-252]	1 cps/(neutron·s <sup>-1</sup> ·cm <sup>-2</sup> ) [Pu-Be]
Limits of tolerable intrinsic relative error - Ambient dose equivalent rate - Flux density	±35% ±20%	±20% ±35%	– ±20%	±20% –
Protection class	IP64		IP54	IP64
Interface	RS232(BDKN-01) / RS485(BDKN-02)	RS232(BDKN-03) / RS485(BDKN-04)	RS232	RS232
Mean operating life	≥15 years	≥15 years	≥15 years	≥15 years
Operation temperature range	-40°C to +50°C		-20°C to +50°C	-30°C to +50°C
Relative air humidity	≤95% (Air temperature ≤35°C without condensation)			
Overall dimensions, weight	Ø90x290 mm / 2 kg	316x220x265 mm / 8 kg	105x115x380 mm / 3.5 kg	550x254x254 mm / 10 kg (w/o tripod)
Image				
<i>Design and specifications are subject to change without notice</i>				



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