



PORTABLE RADIATION MEASUREMENT

ABG-100™ Detection Module



CSPevo®
POWERED BY LIGHTLink®

The ABG-100 Detection Module is a versatile multi-purpose 100 cm² frisker designed for enhanced gamma sensitivity. Built on advanced LightLink® technology, it provides reliable surface contamination measurements in multiple operating modes: Alpha only, Beta and Gamma and Alpha/Beta/Gamma.

The CSPevo® 100 cm² Detection Module offers a lightweight, ergonomic design that reduces user fatigue and enhances ease of use, making it ideal for reliable frisking and smear counting. Its robust construction minimizes maintenance, while improved detection homogeneity ensures accurate results.

It integrates with Mirion smart probes and compatible survey meters (i.e. RDS-32™ and AVIOR®-2) for flexibility in various applications. The CSPevo family, enhanced with LightLink technology, combines interchangeable modules, handles and survey meters for flexible user experience and efficiency. An evolution of the Canberra™ Smart Probes (CSP™) product family, the CSPevo family ensures backwards compatibility with existing CSP products.

FEATURES

- ✓ **Advanced LightLink Technology:** Enhances light collection and robustness and improves product availability
- ✓ **High Detection Homogeneity:** Over 85% detection homogeneity ensures reliable and consistent results
- ✓ **USB-C Compatibility:** Facilitates connectivity with third-party systems and calibration software
- ✓ **Lightweight, Ergonomic Design:** Reduces operator fatigue and supports comfortable use during extended contamination monitoring tasks
- ✓ **Broad Integration Options:** Flexible integration with legacy CSP meters and RDS-32 survey meter
- ✓ **One-Handed Operation:** Allows seamless use in situations where the operator's other hand is occupied

A lightweight design facilitates one-handed operation – ideal for frisking and contamination assessment. Optimized for always-ready use, the CSPevo family ensures reliable performance and seamless integration across diverse radioprotection environments.

Cable-handle for meter/probe connection

Cable-free use with the RDS-32 meter

Snap-on handle & meter connection



SPECIFICATIONS

Nuclear Characteristics:

- **Units to Display:** Depending on survey meter (c/s, Bq, Bq/cm² with SI units and CPM, DPM, DPM/100 cm² with US units)
- **Emitters:** Alpha and Beta-Gamma
- **Detector:** ZnS(Ag) adhered to 1.5 mm thick plastic scintillation material
- **Detection area:** 101.25 cm² (67.5 x 150 mm – 2.66 x 5.9 in.)
- **Detection uniformity:** ≥85% (IEC 60325)
- Removable aluminized Mylar entrance window on metallic frame, thickness: 6 µm (0.84 µg/cm²) made of 2 layers of 3 µm each.
- **Protection Grid Transparency:** 83%. Honeycomb mesh of 7.1 mm held to detector housing via 2 screws only.
- **Measurement Range:** 0 to 10,000 c/s (600 kcpm) for Alpha and 0 to 100,000 c/s (6,000 kcpm) for Beta. The conversion factors are factory-set using ²³⁹Pu for the alpha channel and ⁶⁰Co for the beta channel.
- **Dead Time:** Beta ≤3 µs, Alpha ≤80 µs
- **Energy Range:** Beta: 50 keV to 2.2 MeV, Alpha: 3 MeV to 8 MeV
- **Gamma Sensitivity for ¹³⁷Cs:** Beta 45 c/s per µGy/h
- **Background:** Ambient ≤100 nSv/h (10 µR/h): alpha ≤ 0,05 c/s (3 cpm), beta ≤ 10,0 c/s (600 cpm)
- **Cross Talk:** Alpha to Beta (²³⁹Pu) ≤5.0%, Beta to Alpha (⁹⁰Sr-⁹⁰Y) ≤0.1%

Norms:

- **EMC:** Conform
- **CE:** Meets CE requirements
- **IEC:** Type tested to IEC 60325-2002 (DOC025689)
- **ANSI:** Type tested to ANSI 42.17A-2003 (DOC025689)

Electrical:

- **Power:** Dual voltage with automatic selection supplied by survey meter or computer (+5 V or +3.3 V)
- **Battery Life:** 50 hrs approx. with AVIOR-2 meter operating on back-up battery (Backlight level 1, no alarm, one probe connected). 140 hrs approx. with RDS-32 powered with NiMH rechargeable batteries and 180 hrs with Alkaline batteries (No radio, backlight, LED, or alarm)

- **Consumption:** ≤25 mW. 5 mA maximum with 5 V power and 7.6 mA maximum with 3.3 V power

Ergonomic:

- **Display:** Provided by survey meter
- **Alarm Setpoints:** 10 values for each unit to display. Saved in probe memory. They can be changed with CSPA™ and PC. Default alarm threshold is chosen in a list by use of survey meter keypad
- **Connection:** CSP-EVO USB-C versatile interface

Mechanical:

- **Housing:** Molded ABS/PC easily decontaminable
- **Drop:** Tested from 1 meter height on concrete
- **Dimensions (Length x Width x Height):**
 - ABG-100 module alone: 187 x 84 x 71 mm (7.4 x 3.3 x 2.8 in.)
 - With RDS-I-HANDLE: 278 x 84 x 151 mm (10.9 x 3.3 x 5.9 in.)
 - With C-HANDLES: 278 x 84 x 121 mm (10.9 x 3.3 x 4.8 in.)
- **Weight:** ABG-100 alone: 370 g (13 oz), with RDS-I-HANDLE: 570 g (20.1 oz), with RDS-C-HANDLE or CSP-C-HANDLE: 640 g (22.6 oz)

Environment:

- **Operating Temperature:** -20 °C to +50 °C (-4 °F to +122 °F)
- **Storage Temperature:** -25 °C to +50 °C (-13 °F to +122 °F) device in shipping package
- **Relative Humidity:** 10% to 95% at 35 °C (95 °F)
- **Cleaning:** Housing easy to decontaminate
- **Ingress Protection:** ABG-100: IP53, RDS-I-HANDLE: IP54, RDS-C-HANDLE/CSP-C-HANDLE: IP64

ORDERING INFORMATION

- **ABG-100:** NOM008877
- **RDS-I-HANDLE (cable-free for RDS-32):** NOM008005
- **RDS-C-HANDLE (wired for RDS-32):** NOM008214
- **CSP-C-HANDLE (wired for CSP meter):** NOM008216
- **Calibration/Setup Software (CSPA):** CSPA-F (French, SI units): NOM006289 or CSPA-E (English, SI/US units): NOM006299

Detection efficiencies and MDAs with 100 cm² ISO 8769 sources in contact with probe:

Nuclide	Emitter	Typical efficiency over 2π (%)	Guaranteed efficiency over 2π (%)	Response to activity (c/s)/Bq	MDA (Bq)
²⁴¹ Am	Alpha	46	35	0.22	1.9
²³⁹ Pu	Alpha	46	35	0.20	2.1
⁹⁰ Sr+ ⁹⁰ Y	Beta	52	39	0.67	4.4
³⁶ Cl	Beta	51	38	0.31	9.5
¹³⁷ Cs	Beta + Gamma	46	35	0.29	10.3
⁶⁰ Co	Beta + Gamma	33	25	0.16	19
¹⁴ C	Beta	8	6	0.03	121.1

- **MDA:** Background = 0.01 c/s (Alpha), 6 c/s (Beta), measured during 100 s in a 0.1 µSv/h ambience

- Measuring time on source = 10 s
- **Statistic:** False alarm = 5% and non-detection = 5%



Copyright © 2026 Mirion Technologies, Inc. or its affiliates. All rights reserved. Mirion, the Mirion logo, and other trade names of Mirion products listed herein are registered trademarks or trademarks of Mirion Technologies, Inc. or its affiliates in the United States and other countries. Third party trademarks mentioned are the property of their respective owners.