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UNIQUE FEATURES OF TECHNICAL ASSOCIATES PORTABLE TBM-ICs (ION CHAMBERS)

- The variety of TBM-IC instruments provide a wide diversity of applications.
- Most of TA's TBM-ICs see very low energy including measurement of low energy x-ray fields, measurement of very low levels: 0.01 mR/h and as high as 10^7 R/h/
- With the plasma chamber high energy events such as 50 mR/s are also available.
- With the Beta cap removed TBM-ICs can measure Alphas and low energy Betas of 30 KeV and Gammas down to 1 KeV.
- TBM-IC meters small size is designed to fit in a briefcase.
- TBM-IC meters have **OPTIONAL** RS-232 communications for data collection or remote computer readout.

FOR UNDERWATER WORK

- CP-MU meters have a Rugged Water proof design for underwater Ultra High-level monitoring in reactor and in spent fuel pool.
- CP-MU meters have **STANDARD** RS-232 communications for data collection or remote computer readout.

	Model	Range	Decades	Chamber Volume	Features	Lock Out Features
1	**CURIE-H3-PLO**	0.1 – 10,000 milliCuries (10 C) 3.7 x 10^6 Bq to 37 x 10^{10} Bq	5	53 cc	**HIGH RANGE TRITIUM WIPE TEST COUNTER** 3" Sample drawer	**HIGH RANGE TRITIUM** Sample Measurement Range Is Up To 10 Curies. Display Units User Settable: Femto Amps, µCi, DPM, Bq, No Counting Gas Or LSC Cocktail Required ~**Does Not Generate Waste**~
2	**TBM-ACC-X**	50 mR/s 500 mSv/s	4	450	**ULTRA HIGH ENERGY BETA, GAMMA, COSMIC RAYS** **Sealed Plasma Chamber. Detects accelerator produced pulses and radiation.**	**HIGH ENERGY EVENT DETECTOR** **The ONLY portable accelerator plasma chamber® that will detect accelerator produced pulses and radiation.** **NOTE:** Uses a unique plasma chamber that prevents high ion recombination to achieve a strong accurate signal. **NOTE:** Use in high energy accelerator - LINAC

	Model	Range	Decades	Chamber Volume	Features	Lock Out Features
3	**TBM-IC-AJI**	0.05-10 R/h 0 µSv/hr to 100,000 µSv/hr (In a single range)	5.5	1,000 cc	**ALPHA, BETA, GAMMA** **More stable below 2mR/h.**	**MEDICAL VERSION** **Enhanced sensitivity with large volume chamber.** **NOTE:** Preferred unit by medical users. (In a single range) Removable Beta Cap
4	**TBM-IC-LR**	0.01-1.0 R/h 1.0 uSv/h to 10 Sv/h (In a single range)	5	2,000 cc	**ALPHA, BETA, GAMMA** Sees 10 times lower, 2 liter chamber.	**ULTRA-LOW RANGE SENSITIVITY**. **NOTE:** with extra-large volume chamber – 2 liter detects background levels in 10 sec. (In a single range) Removable Beta Cap
5	**TBM-IC-HLS**	0.1 mR/h-1,000 R/h 1 uSv/h to 10 Sv/h (In a single range)	7	300 cc	**ALPHA, BETA, GAMMA** Toggle switch to additional second range to 1,000 R/h.	**HOMELAND SECURITY VERSION** **NOTE: .** This ultra-wide range conforms to **ANSI N42.33 Homeland Security Type 2** (In a single range) Removable Beta Cap
6	**TBM-IC-MARK V**	0.1-10 R/h 0 µSv/hr to 100,000 µSv/hr (In a single range)	5	300 cc	**ALPHA, BETA, GAMMA** **All-around Multi-purpose with Wide versatility from 0.1 mR/h - 10 R/h.**	**MULTIPLE-USE** **With the Beta cap removed TBM-ICs can measure Alphas and low energy Betas of 30 KeV and Gammas down to 1 KeV.** **NOTE:** Most popular model. (In a single range) Removable Beta Cap
7	**TBM-IC-MVR**	0.1-50,000 mR/h 1.0 uSv/h to 0.5 Sv/h (In a single range)	5.5	450 cc	**GAMMA & HIGH BETA** **Rugged aluminum chamber. Up to 50R/h.**	**MILITARY VERSION.** **NOTE:** Rugged for use in power plants, industry, and military. (In a single range)
8	**TBM-IC PULSE-X**	0.01 R/h to 50 R/h 0.1 µSv/h to 500 mSv/h (In a single range) _____ **PULSE MODE** 1.0 mR/h to 50 R/h 10 µSv/h to 500 mSv/h (In a single range) (8 digits)	5	450 cc	**PULSED X-RAY** **Sealed Plasma Chamber**. Detects pulsed X-Ray response.	**WORLD'S ONLY 20 NANOSECOND PULSED X-RAY DETECTOR.** Wide Energy Response **(In a single range)** **NOTE:** Uses a unique plasma chamber that prevents high ion recombination to achieve a strong accurate signal. **Suitable for Pulse Width:** 20 nano-seconds to continuous emission **Repetition Rates:** Single pulse to 1000/second and above **Wide Energy Response:** 2 KeV to 10 MeV & above

	Model	Range	Decades	Chamber Volume	Features	Lock Out Features
9	**TBM-IC-RN**	10 pCi/l to 1 µCi/l 370 Bq/m^3 to 3.7 x (In 10^7 Bq/l a single range)	4	600 cc.	**WIDE RANGE RADON** **Optional:** 4 cfm pump for solid wall chamber	**PORTABLE WIDE RANGE RADON** 10 picoCi/l in 5 seconds & detects public release level in less than 10 minutes. Two non-pressurized ion chambers are included; an open screen chamber, (no pump required) and a solid wall chamber , (pump required). (In a single range) **NOTE:** *less than 1 minute Indication FOR VERY HIGH LEVELS.
10	**TBM-IC-XRAY**	1mR/h -10 R/h 0 µSv/hr to 100,000 µSv/hr (In a single range)	5	300 cc	**X-RAY** Includes required 10cm^2 aperture sleeve. X-Ray compliance meter.	**X-RAY COMPLIANCE METER** (In a single range) **NOTE:** Complies with **FDA regulation 21 CFR1020.40**

	ULTRA HIGH RANGE ION CHAMBERS - RUGGED WATER PROOF DESIGN					
	Model	**Range**	**Decades**	**Chamber Volume**	**Features**	**Lock Out Features**
11	**CP-MU-GN**	0.1KR/h to 1000.0 KR/h 100 R/h to 10^6 R/h 1 Sv/h to 10,000 Sv/h	4	Ion Chamber 1 cc Proportional Chamber	**GAMMA & NEUTRON** System includes CP-MU electronics unit and dual probes: (1)Gamma – Ion Chamber and (1) Neutron – Proportional Chamber 60-foot low noise cable, up to 10^6 R/h **OPTIONAL:** 100 ft cable	**VERY HIGH RANGE GAMMA & NEUTRON** **Dual INLINE Detector Two Channel System** RS-232 communications for data collection or remote computer readout. **NOTE:** Rugged Water proof design allows for underwater Ultra High-level monitoring in reactor and in spent fuel pool to 10^6 R/h.
12	**CP-MU-10K**	1 mR/h to 10,000 R/h 1R/h 10^4 R/h 10 Sv/h to 100,000 Sv/h **Optional:** 0.1 – 20,000 R/h	5	100 cc	**GAMMA** System includes CP-MU electronics unit and one stainless steel chamber/probe. 60-foot low noise cable, up to 10^6 R/h **OPTIONAL:** 100 ft cable	**VERY HIGH RANGE GAMMA** Works as both underwater and as a Super High Range Survey Meter. RS-232 communications for data collection or remote computer readout. **NOTE:** Rugged Water proof design allows for underwater Ultra High-level monitoring in reactor and in spent fuel pool to 10^4 R/h.
13	**CP-MU-D1**	0.1-1,000 KR/h 1Sv/h to 10KSv/h	4	1 cc	**GAMMA** System includes CP-MU electronics unit and one stainless steel chamber/probe. 60-foot low noise cable, up to 10^6 R/h **OPTIONAL:** 100 ft cable	**VERY HIGH RANGE GAMMA** RS-232 communications for data collection or remote computer readout. **NOTE:** Rugged Water proof design allows for underwater Ultra High-level monitoring in reactor and in spent fuel pool to 10^6 R/h.

	ULTRA HIGH RANGE - RUGGED WATER PROOF DESIGN					
	Model	**Range**	**Decades**	**Chamber Volume**	**Features**	**Lock Out Features**
14	**CP-MU-D100**	1mR/h to 10,000 R/h 1R/h 10^4 R/h 10 mSv/h to 100 Sv/h	4	100 cc	**GAMMA** System includes CP-MU electronics unit and one aluminum chamber/probe. 60-foot low noise cable, up to 10^3 R/h **OPTIONAL:** 100 ft cable	**MID RANGE GAMMA** RS-232 communications for data collection or remote computer readout. NOTE: Rugged Water proof design allows for monitoring in both reactor and spent fuel pools to 10^3 R/h.
15	**CP-MU-D1000**	0.1-1,000 R/h 1 uSv/h to 10 Sv/h	4	1,000 cc	**LOW RANGE GAMMA** System includes CP-MU electronics unit and one aluminum chamber/probe. 60-foot low noise cable, up to 10^3 R/h **OPTIONAL:** 100 ft cable	**LOW RANGE GAMMA** RS-232 communications for data collection or remote computer readout. **NOTE:** Rugged Water proof design allows for monitoring in both reactor and spent fuel pools to 10^3 R/h.
16	**CP-MU-7-D1 & D1000**	1.0-10 million R/h 10mSv/h to 100KSv/h	7	1 cc & 1,000 cc	**GAMMA** System includes CP-MU-7 electronics and dual probes: (2) Gamma – Ion Chambers (1)High Range and (1)Low Range 60-foot low noise cable, up to 10^7 R/h **OPTIONAL:** 100 ft cable	**DUAL DETECTOR SYSTEM** **ULTRA- HIGH AND LOW RANGES** RS-232 communications for data collection or remote computer readout. **NOTE:** Rugged Water proof design allows for Ultra High-Level monitoring in both reactor and spent fuel pools to 10^3 R/h Unplug one detector and plug in the other to switch ranges