HIGH ENERGY ACCELERATOR AREA MONITOR
PLASMA CHAMBER®
PLASMA-ACC SERIES
Model – PLASMA-ACC - Installed
Model – TBM-ACC-X - Portable

FEATUERs:
• HIGH MeV BETA, GAMMA, X-RAY, PHOTONS, POSITRONS, PROTONS, MESONS
• WALL MOUNT – PLASMA-ACC
• READS UP TO 50 mR/SECOND (other ranges available)
• DIGITAL READOUT: 6 digit-rate, DOSE RATE
• WALL MOUNT BRACKET – PLASMA-ACC
• PORTABLE – TBM-ACC-X
• FLAT RESPONSE - SEALED PLASMA CHAMBER®
• FAST RESPONSE
• ALARMS: AUDIO / VISUAL
• AC OPERATION – PLASMA-ACC
• BATTERY BACK UP – TBM-ACC-X
• IP 64
• CE MARK

AREa MONITOR FOR ACCELERATORS
UNIQUE PLASMA CHAMBER® PROVIDES
MORE ACCURATE RESPONSE
HIGH MeV GAMMA / X-RAYS / PHOTONS / PARTICLES.

APPLICATION:
Use in Accelerator & Linac facilities for high energy density from High MeV Gammas or X-Rays and from Nano Second Pulsed X-Rays / Photons.

PHOTON PLASMA DETECTOR FOR MEDICAL, INDUSTRIAL & GOVERNMENT ACCELERATORS WITH X-RAYS OR GAMMAS OVER 2 MeV ENERGY.
WHY IS THIS CAPABILITY NEEDED?

➢ Accurately measures high energy particles, x-rays and events. The 3 MeV and higher X-Rays and Gammas have so much energy that they create dense plasma inside the plasma chamber. The plasma quickly collapses and disappears & the energy turns into minor heat and turbulence.

➢ The PLASMA-ACC Series accurately collects and displays the amount of energy in the dense plasma before it collapses. Other brands and models do not.

<table>
<thead>
<tr>
<th>PLASMA-ACC SERIES</th>
<th>MODEL TYPE</th>
<th>SURVEY METER PORTABLE</th>
<th>AREA MONITOR FIXED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TBM-ACC-X</td>
<td>PLASMA-ACC</td>
<td></td>
</tr>
<tr>
<td>POWER</td>
<td>BATTERY</td>
<td>AC</td>
<td></td>
</tr>
<tr>
<td>MULTIDETECTOR SYSTEM</td>
<td>NO</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>CENTRAL HUB (FM-9W)</td>
<td>N/A</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>WEIGHT - FM-9W</td>
<td>N/A</td>
<td>3 LBS</td>
<td></td>
</tr>
<tr>
<td>WEIGHT</td>
<td>2.9 LBS</td>
<td>1.5 LBS</td>
<td></td>
</tr>
<tr>
<td>WALL MOUNT</td>
<td>NO</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>ALARM</td>
<td>NO</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>OVER RANGE INDICATOR</td>
<td>YES</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>LOCAL DISPLAY</td>
<td>YES</td>
<td>OPTIONAL</td>
<td></td>
</tr>
<tr>
<td>ULTRA LOW ENERGY WINDOW</td>
<td>STANDARD</td>
<td>AVAILABLE</td>
<td></td>
</tr>
<tr>
<td>HANDLE</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
</tbody>
</table>

RESPONSE:

The PLASMA-ACC Series are the ONLY accelerator plasma chambers® that will detect accelerator produced pulses and radiation. It will accurately measure the integrated Total Dose from high energy radiation and events over a wide range of pulse widths & repetition rates.
DESCRIPTION:

The PLASMA-ACC consists of a plasma chamber coupled to a Digital display that reads out directly the average mR/h or total mR. and is a fixed mount detector with electronics.

The TBM-ACC-X consists of a plasma chamber with read out in a portable hand held instrument.

SPECIFICATIONS:

PULSED X-RAY RESPONSE

MEASURES RADIATION DELIVERED AT 10^5 R/sec FOR THAT 20 NANO SECOND PERIOD

Total Dose:                  1 mR to 100 R in a single range (8 digits)
Dose Rate Range:            1 mR/hr to 10,000 mR/hr (6 digits) or 10 mR/h to 100,000 mR/h
Pulse Width Range:          20 nano-seconds to continuous emission
Repetition Rates:           Single pulse to 1000/second
Wide Energy Range:          2 KeV to 10 MeV (Higher energy available for both models)
High Dose Limits:           Per customer specification*

User should inform TA of highest-expected: 10-second, total-dose exposure

*Note: TA also makes ion chambers that measure up to 10 million R/hr

Detector:                   Sealed Plasma chamber: TBM-ACC-X; PLASMA-ACC-X

TBM-ACC-X - Portable

Cap:                        Removable protective cap
Window:                     0.5 mg/cm² Kapton.
Local Readout:              LCD 8 digits with capacity backlight
Count Lamp:                 Green Flashing LED
Over-Range:                 Red LED Indicator
Power:                      6 AA Batteries
Dimensions:                 5-1/2" x 3-1/2" x 8" including handle.
Weight:                     2.9 lbs. complete with batteries.

PLASMA-ACC – Installed / Wall Mounted

OPTIONAL:

Cap:                        Removable protective cap
Window:                     0.5 mg/cm² Kapton.
## PLASMA-ACC - Read Out Electronics:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Units</td>
<td>User can input correct conversion factor and change to any units.</td>
</tr>
<tr>
<td>Controls: Front Panel</td>
<td>On-Off, Alarm-mute, Rate, Integrate, Reset, Digital</td>
</tr>
<tr>
<td>Recessed or Internal</td>
<td>Discriminator level, high voltage. Other adjustable settings.</td>
</tr>
<tr>
<td>Input Sensitivity</td>
<td>Adjustable from less than 1 millivolt to 100 millivolt</td>
</tr>
<tr>
<td>Anti-saturation and Dead-time Corrections are available.</td>
<td></td>
</tr>
<tr>
<td>Alarm Audio &amp; Visual</td>
<td>2000 Hz audio tone with Audio “mute” switch + RED LIGHT</td>
</tr>
<tr>
<td>High current relay. 0-100% of full scale.</td>
<td></td>
</tr>
<tr>
<td>Alarm Set Point</td>
<td>User settable to any point on detector range.</td>
</tr>
<tr>
<td>Serial Output</td>
<td>Two way USB standard, Ethernet optional.</td>
</tr>
<tr>
<td>Power</td>
<td>105-125 volts, 50-60 Hz (220 V optional)</td>
</tr>
<tr>
<td>Construction</td>
<td>Gasketed aluminum case.</td>
</tr>
<tr>
<td>Cables</td>
<td>User Specified</td>
</tr>
</tbody>
</table>

## OPTIONAL:

- **Read Out**: Local – Single Detector
- **Power**: AC 110/220

### ELECTRONICS - FM-9W - DIMENSIONS & WEIGHT:

- **Dimensions**: 13.5" W X 11" H X 3.6" D (25 cm x 18 cm x 10 cm), excluding probe holder, feet, and knobs.
- **Weight**: 3 pounds (1.4 kg) including batteries and hardware, excluding probe.

### WEIGHT – PLASMA DETECTOR

- **1.5 LBS**

### Options:

- Other Rate or Integrated Ranges
- Other Readout Units such as Si units: Sv and Sv/h.