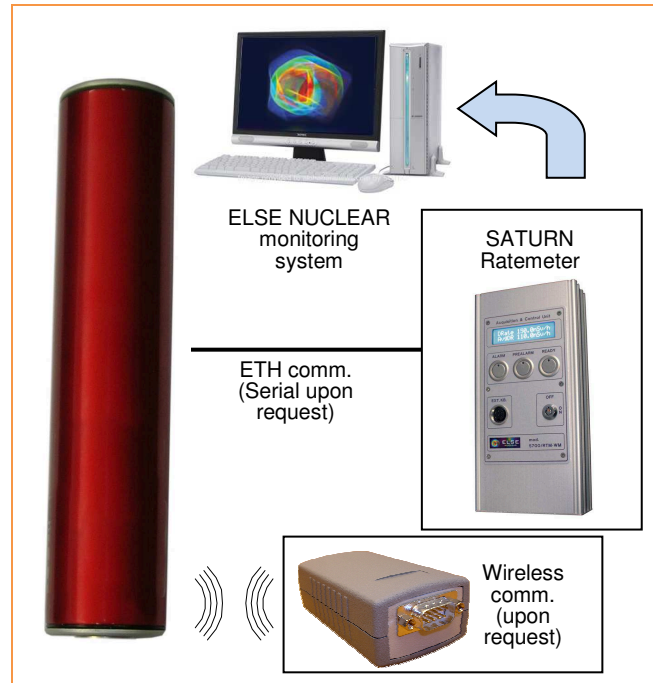


WIDE RANGE GAMMA DETECTOR **MERCURY GMP WR**

MAIN FEATURES

- Measurement range: 0.1 $\mu\text{Sv/h} \div 1 \text{ Sv/h}$ (GMP WR), 10 nSv/h $\div 10 \text{ Sv/h}$ (GMP WR-L)
- Detectors: 2 energy-compensated Geiger-Müller tubes
- Energy range: 40 keV $\div 1300 \text{ keV}$
- Automatic switching between GM tubes, based on acquired counts level
- Integrated power supply electronics
- Microprocessor-based processing unit, anti-saturation and input selection circuits
- Wall mounting accessory
- Suitable for outdoor installation
- Connectable to the PC via the ELSE NUCLEAR ratemeter of the SATURN Series
- Communication interfaces: Ethernet, Wireless ZigBee (upon request), RS232/422/485 (upon request)



DESCRIPTION

The wide range probe **MERCURY GMP WR** is composed by 2 energy-compensated Geiger-Müller detectors for wide-range gamma fields measurements, housed in a high-protection cylindrical aluminum case together with the HV and processing electronics. The measurement range can be further extended from 10 nSv/h to 10 Sv/h in the **MERCURY GMP WR-L** version.

The switching between the 2 GM tubes is automatically controlled by the internal electronics, which continuously surveys the counts level (anti-saturation and input selection).

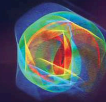
A special IP65 housing can be provided, which makes possible to install the probe outdoor granting its safety and functioning.

MERCURY GMP WR is connected to the ELSE NUCLEAR ratemeter of the SATURN Series, through an Ethernet communication. The ratemeter receives and processes the data from the detector, performs the analysis and comparison with the thresholds, displays the results and the status through proper signals. Also, it allows to set the operative parameters via its keyboard. Several Mercury probes, each connected to a SATURN ratemeter, can be inter-connected to form a multi-point measurement network (ELSE NUCLEAR monitoring system).

MERCURY GMP WR is a low energy consumption probe, so it has a long operating time if power supply is provided by an external battery.

PS-ZB module can be provided upon request: it provides local power supply to the connected Mercury probe as well as ZigBee Wireless communication. A receiver (**ZB-TC**) will be positioned in a place without any barriers such as walls, columns, or machines, so that it can receive a clear signal coming from the probe. The receiver is then connected to the ratemeter to acquire the radiological data.

Upon request, a **GPS** can be installed in the PS-ZB too.



TECHNICAL SPECIFICATIONS

- Input selection circuit
- Anti-saturation circuit
- Dead time correction
- Fail-limit management (counts per time unit)
- Subtraction of intrinsic background
- Overflow management
- Moving average algorithm for instantaneous dose-rate
- Dose rate transmission every second
- Communication protocol management compatible with ELSE NUCLEAR digital probes
- Parameter management and storage
- Communication interfaces:
 - RS232/422/485
 - Wireless ZigBee (upon request)
 - Ethernet (upon request)
- Detector type: two energy-compensated Geiger-Müller tubes
- Dose rate range:
 - GMP WR: 100 nSv/h ÷ 1 Sv/h
 - GMP WR-L: 10 nSv/h ÷ 10 Sv/h
- Total dimensions:
 - GMP WR: Ø = 7 cm; L = 42 cm
 - GMP WR-L: Ø = 7 cm; L = 62 cm
- Weight: 1 kg
- Energy range: 40 keV ÷ 1300 keV
- Energy response (¹³⁷Cs): +30 / -20% from 50 to 1300 keV
- Angular Dependence (¹³⁷Cs): <15% at ±45° from the indicated axes
- Linearity: <10% from 100 nSv/h to 100 mSv/h
- Temperature Range: -25°C ÷ +50°C
- Relative humidity: up to 95% (not condensed)
- Power: 24 VDC
- GMP WR absorption: 65 mA
- PS-ZB absorption: 2.5 A
- ZB-TC absorption: 12 mA
- Holder material: Aluminum
- Mounting: wall mounting

PS-ZB module
(upon request)



OPTIONS

- Communication: RS232/422/485 or ZigBee
- Extended range version (10 nSv/h ÷ 10 Sv/h): MERCURY GMP WR-L

ACCESSORIES AVAILABLE UPON REQUEST

1. Wall mounting accessories
2. IP65 housing for outdoor use
3. PS-ZB: power supply station (batteries) with wireless communication
 - GPS locator (as part of PS-ZB module)
4. ZB-TC: ZigBee transceiver
5. Warranty extension from 12 months to 24 months