SATURN 5702

GAMMA-NEUTRON MOBILE MONITORING STATION



Completely modular system

Ideal for monitoring in particle accelerator facilities

Removable detectors for remote use

- Trolley-mounted gamma and neutron monitoring station
- Gamma detector: ion chamber ICP-T
- Neutron detector: rem counter LUPIN BF3
- Local dedicated displays for data visualisation
- Good functioning, pre-alarm and alarm relay outputs

SATURN 5702 is a mobile station equipped with two detectors for gamma and neutron dose rate monitoring. The station includes:

- Ion-chamber-based gamma radiation monitoring unit: ICP-T or ICP-T-PF
- Neutron rem counter for pulsed fields: LUPIN BF3

The detectors and the electronics are housed in a trolley-mounted mechanical structure. The height of the trolley can be customized according to the customer needs, for example to centre the detectors with the beam line height.

Each detector can be removed from the trolley to be employed remotely, up to 20 m. An ALU alarm column is mounted on the top, providing luminous and acoustic warning signals related to the status of the mobile station (good functioning, pre-alarm and alarm). **SATURN 5702** stations can also manage external devices through 4 sets of relay contacts.

The detectors are connected via external cables to a standard 19" electronics rack equipped with two dedicated SATURN ratemeter units (rack version). Each ratemeter features a display, 3 function keys with status LEDs, and a connector for E-N-KEY external keyboard.

SATURN 5702 can be connected to a remote host PC running a data management software (5700 sMON) through ETH or RS485/422 connection.

Detailed information about the detectors and the ratemeter employed in SATURN 5702 mobile stations are available in dedicated data sheets.

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Information in this publication supersedes all earlier versions
All specifications are subject to change without notice

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TECHNICAL SPECIFICATIONS

SATURN 5702 general features

- Weight: about 130 kg
- Dimensions: 60 x 68 x 160 cm (typical)
- Temperature range: -20 ÷ +50°C

ICP-T gamma detector

- Energy range: 30 keV ÷ 10 MeV
- Measurement range: 10 nSv/h ÷ 10 Sv/h (ICP-T), 10 nSv/h ÷ 100 mSv/h (ICP-T-PF)
- Sensitivity: approx. $2x10^{-8}$A/R/h (Cs-137)
- Electrometer characteristics: 9 decades (ICP-T) or 7 decades (ICP-T-PF)

LUPIN BF3 neutron rem counter

- Energy range: thermal (0.025 eV) ÷ 10 GeV
- Measurement range: 10 nSv/h ÷ 100 mSv/h
- Neutron sensitivity: 0.6 cps/uSv/h
- Gamma sensitivity: < 0.5 uSv/h at 50 mSv/h (Cs-137)

SATURN ratemeter

- Independent display unit for each detector
- Dose rate measurements: instantaneous, 1 minute average and 1 minute maximum
- LCD display 2x16 characters with LED and siren for alarm, pre-alarm and good functioning



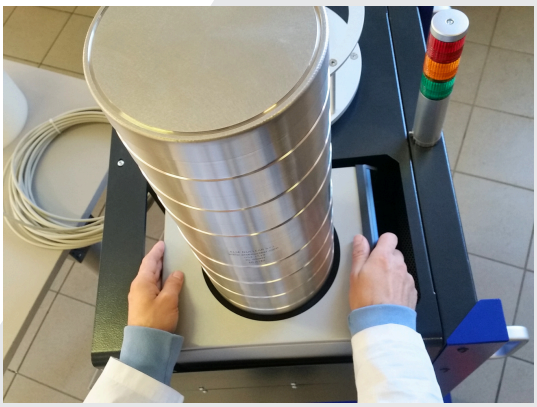
SATURN 5702 mobile monitoring station

OPTIONS

- Separate racks and relays for gamma and neutron electronics

ACCESSORIES AVAILABLE UPON REQUEST

- E-N-KEY external keyboard
- Warranty extension from 12 months to 24 months





Removable detectors

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