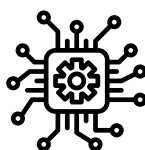# SATURN I, SATURN II

DIGITAL RATEMETERS

Compatible with all detectors

Highly reliable acquisition & processing unit

Advanced user interface

- 2-lines LCD display
- Real-time data management
- Internal and exportable data archive
- Luminous/acoustic status signalling
- Data communication to host PC: ETH or Serial
- External keyboard for parameters setting

The **SATURN** ratemeter is a compact acquisition and control unit, designed for managing and processing signals from any ELSE NUCLEAR connected detector.

- **SATURN I RTM-WM**: standard wall-mounted version
- **SATURN I RTM**: 19" 2U rack version
- **SATURN II**: wall-mounting version compliant with "Good Manufacturing Practice" requirements (no external cable or connectors)

All the ratemeter versions feature local function buttons with status LEDs, internal acoustic buzzer and a relay connector, used to manage external alarm columns or interlocks.

The **SATURN** ratemeter continuously acquires and processes the data coming from the connected detector, and compares results with user-defined alarm thresholds.

Two user-selected measurements can be displayed at the same time on the display, such as instantaneous or average count rate, dose rate, activity concentration, counts, dose or activity integrated values.

The user interface is accessible through an external keyboard, which allows local interaction with the full range of parameters (advanced setting is password protected). Measurements, thresholds and operating parameters are stored into an internal, non-volatile memory.

The ratemeter can communicate to and be remotely managed by a host PC through an Ethernet or RS485 network.

TECHNICAL SPECIFICATIONS

- Dimensions (WxHxD) and weight:
  - SATURN I RTM-WM: 109 x 225 x 46 mm; 1 kg
  - SATURN I RTM: depth = 300 mm
  - SATURN II: 157 x 71 mm, variable height and weight
- Temperature range: -25 ÷ +50 °C
- NC/NO contacts for status remote signalling
- NO/NC interlock contact; TTL level for beam-on status input

Display and front panel

- 2x16 Alphanumeric LCD back-lit display
- Status LED: green = good operation; yellow = pre-alarm; red = alarm
- Internal alarm buzzer
- 3 Function Keys for quick data/parameters visualization
- Connector for external keyboard

Acquisition and control unit

- Dose rate measurements: instantaneous, 1 minute average and 1 minute maximum
- Integrated dose: referred to 10 minutes, 1 hour, 24 hours and total
- Watchdog circuit for self-diagnosis
- Interfaces: Ethernet 10/100 (up to 100 m), RS232 (up to 30 m), RS485/422 (up to 1 km)

Main settable parameters

- Detector type
- Measurement unit
- Alarm and pre-alarm thresholds
- Local acoustic alarm muting enabling
- Manual reset of alarms/failures/doses/all
- Alarm autoreset enabling
- Fail-limit levels
- Moving average settings
- Test mode with an external source for quality control purposes

*SATURN II version
with built-in ALU*

ORDER GUIDE

| SATURN I RTM-WM |
| SATURN I RTM |
| SATURN II |

Supported detectors

GM-1
MERCURY GMP WR
ICP-T
LUPIN

Accessories

TOUCHKEY2
ALU
IP54 container (RTM-WM)
Warranty extension

ACCESSORIES AVAILABLE UPON REQUEST

- TOUCHKEY2 external keyboard
- ALU alarm unit for status signalling
- IP54 container (SATURN I RTM-WM)
- Warranty extension from 12 months to 24 months