WALL MOUNTING MONITORING UNIT

SATURN II

MAIN FEATURES

- Data display on alphanumeric LCD screen
- Continuous detector data management
- Maintains internally stored archives of acquired data
- Supports several probe types
- Luminous and acoustic signalling of good operation, alarm and prealarm conditions
- Interfaces available for data communications: Ethernet, serial RS232, RS485 (or 422) for long distances (max 1 km),
- External keyboard for parameter settings
- Wall mounting
- Luminous and acoustic beacon available for remote alarm repetition

DESCRIPTION

The **SATURN II** monitoring unit's main component is a compact ratemeter designed for managing and processing signals from the connected area monitoring detector. **SATURN II** is a modular unit designed to be wall mounted, by means of its supporting lugs, and its layout has been studied to deliver functionality and quality design.

Depending on installation needs, the detector can be installed in the same mechanical module of the ratemeter, or alternatively in a separate one; an alarm module can be added to either of the previously mentioned configurations.
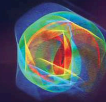
The unit continuously acquires data coming from the detector, processes them and compares results with user defined internally stored threshold parameters.

Possible failure, alarm or prealarm conditions are signalled by means of acoustic, luminous devices and relays. Two user selected measurements can be displayed at the same time on the ratemeter screen, including: istantaneous or average countrate, doserate, activity concentration; counts, dose or activity integrated values.

Measurements, alarm/prealarm thresholds and operating parameters are stored into an internal, non-volatile memory. Thresholds and parameters can be set up by the user by entering a security password that protects the setting menu. Security codes and parameter values can be entered by means of an external keyboard, connectable to the unit when needed. Hereafter we list the main parameters you can set:

- Date and time
- Detector type
- Calibration factor
- Measurement unit
- Alarm and prealarm thresholds
- Minimum duration for prealarm/alarm conditions
- Local acoustic alarm muting option

- Manual reset of alarms/failures/doses/all
- Alarm autoreset option
- Fail-limit levels
- Background value
- Moving average settings
- Serial port communication speed
- Test mode with an external source for quality control purposes

The monitor, or a system of monitors, can be controlled by a host PC through an Ethernet network (or RS485 for long distances). 5700 sMON, the PC control software, is a remote management Windows application with a synoptic diagram that displays in real time the data processed by the monitor and its operating condition and stores all information to disk archives. Some system parameters and alarm/prealarm thesholds can be changed remotely upon password authorization. Alternatively to 5700 sMON, an utility application is available to allow downloading of the **SATURN II** internal data archives to the computer.

TECHNICAL SPECIFICATIONS

- Power supply: 220VAC/24VDC – 50 Hz; max absorption: 60 W
- Temperature range: -25 ÷ +50 °C
- 4 relays with both NC and NO changeover contacts for remote signalling of monitor status
- 1 contact NO/NC for interlock purposes; TTL level for beam-on status input

Display Unit
- 2x16 Alphanumeric LCD back-lit display with contrast regulation
- Monitor status LED: green=good operation; yellow=prealarm; red=alarm
- Resettable acoustic-luminous alarm annunciator
- 3 Function Keys for data/parameters visualization
- External keyboard with multi-pin circular connector for parameter setting

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
- Real time clock circuit
- Watchdog circuit for functioning control
- Interfaces: Ethernet 10/100, RS232, RS485/422 for long distances or wireless (upon request)
- Memory: E2PROM for parameters, DataFlash for measurements

Supported detectors[1]

The monitor SATURN II supports any of the following detectors:
- Geiger-Müller counter series GM
- Proportional counter PCP
- Double Geiger detector MERCURY GMP WR
- Ionisation chamber ICP series, including electrometer board and HV
- Scintillation detector PNAI series
- Neutron probes: pulsed rem counter LUPIN 5401 series

OPTIONS

- Separated acquisition and control unit (5800) and probe (580X)[2]
- Integrated acquisition and control unit and probe (5800-0X)
- Integrated ALU (-ALU)

ACCESSORIES AVAILABLE UPON REQUEST

1. Additional alarm unit for remote signalling (ALU)
2. Software utility for data archive download: model UTAS (connection cables included)
3. Data concentrator PC with 5700 sMON remote management software (connection cables on request)
4. Warranty extension from 12 months to 24 months

ORDER GUIDE

Version	Options	Supported detectors	Accessories
SATURN II	5800 + 580X (X= 1, 2, etc) 5800-0X (X= 1, 2, etc) -ALU	GM series PCP MERCURY GMP WR ICP series PNAI series LUPIN 5401 series	ALU UTAS PC + 5700 sMON Warranty estension

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[1] For more information and technical specifications concerning the detectors, see the relevant data sheets
[2] X number identifies the probe: 1= MERCURY GMP WR, 2= GM-1, etc.