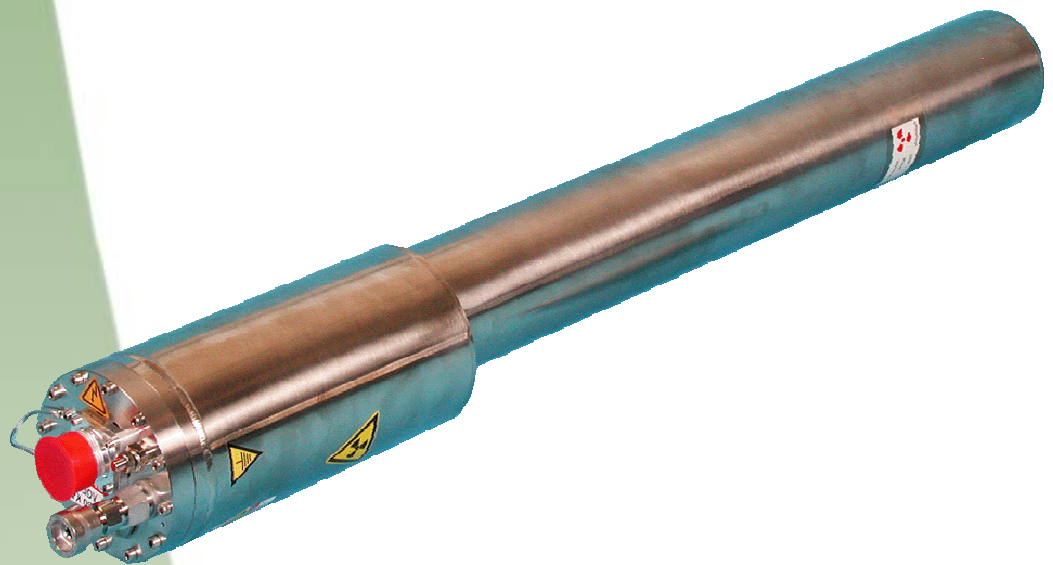


SODERN NEUTRON GENERATOR GENIE 16 GT



*Suitable for industrial analytical systems
such as this Coal On Line Analyser*



The GENIE 16 GT offers a variety of advantages:

- Easy to use:

Manually or remotely controlled
& user friendly software

- Reliability:

Suitable for full-time operation
& advanced design for easy
industrial system integration

- Unsurpassed tube life

Up to 8000 working hours insuring
low cost operation

- Safety:

No radiation in the off position,
Safety loops

The GENIE 16 GT is a neutron generator that has been specially designed for material analysis. Its reliability and its user-friendliness added to other electric neutron source advantages make this neutron generator very attractive compared with conventional isotopic source.

This neutron generator draws on Sodern's extensive experience in manufacturing reliable sealed neutron tubes for industrial applications.

Its high energy, neutron-pulsed emission and reliability makes the GENIE 16 GT suitable for a wide range of uses:

- Neutron analysis for scientific education
- Neutron analysis for research
- Industrial on line analysis

*All components, assemblies and systems are designed,
built or integrated in-house and are subject to the world's
highest standards of testing and quality insurance.*



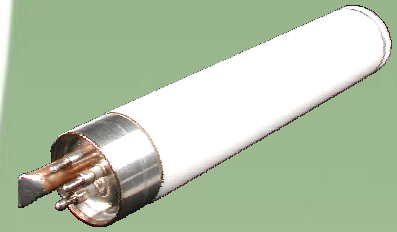
Technical specifications

The GENIE16 GT features the SODILOG sealed tube, which is well known for its extended lifetime (**up to 4000 working hours**) at 10^8 neutrons/s. Such tube have been used for a number of years in the oil logging industry and more recently in the Controlled Neutron Analyser which is the first industrial on-line analyser to use a neutron sealed tube as neutron source.

The GENIE16 Neutron Emitting Module is a stainless steel probe filled with insulating SF6 gas.

Key part

Sodern Sealed Neutron Tube



Neutron output

- Neutron Energy: 14 MeV (2.5 MeV for D-D)
- Neutron yield: up to $2 \cdot 10^8$ n/s ($2 \cdot 10^6$ n/s for D-D)
- Typical tube lifetime: 4000 working hours (for $1 \cdot 10^8$ n/s) or 8000 working hours (for $5 \cdot 10^7$ n/s)

Pulsing parameters

- Pulse rate: 10Hz to 10kHz
- Duty factor: 5% to 100%
- Rise and fall time <math>< 1.5 \mu s</math>

Electrical

- Accelerator Voltage: Up to 110kV
- Maximum Beam current: $80 \mu A$
- Power supply: 220V/50Hz or 110V/60Hz
- 2 synchronisation output (TTL) are provided.

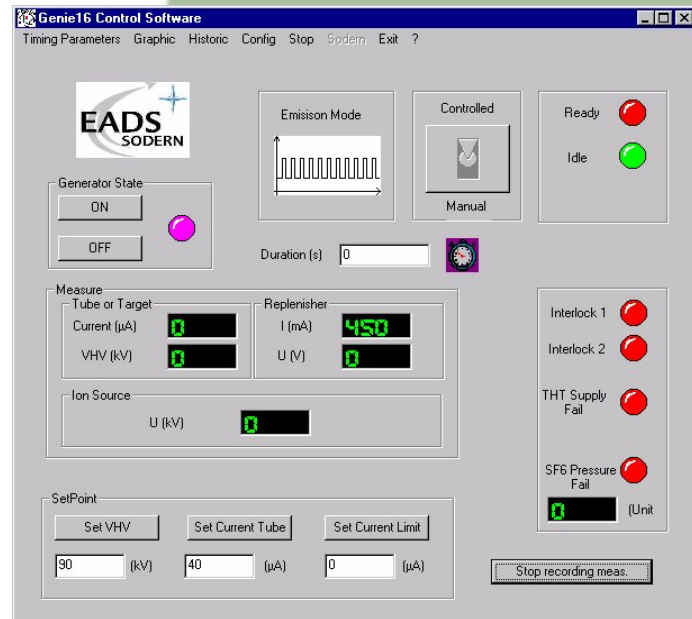
Mechanical

- Neutron Emitting module: 8kg
- MC16: Rack 19"/3U (133 mm) - Length=680 mm - 23 Kg

Remote control

The GENIE16 GT is supplied with SODERN control software, and an Active X driver allowing users to control GENIE16 GT from their own control software.

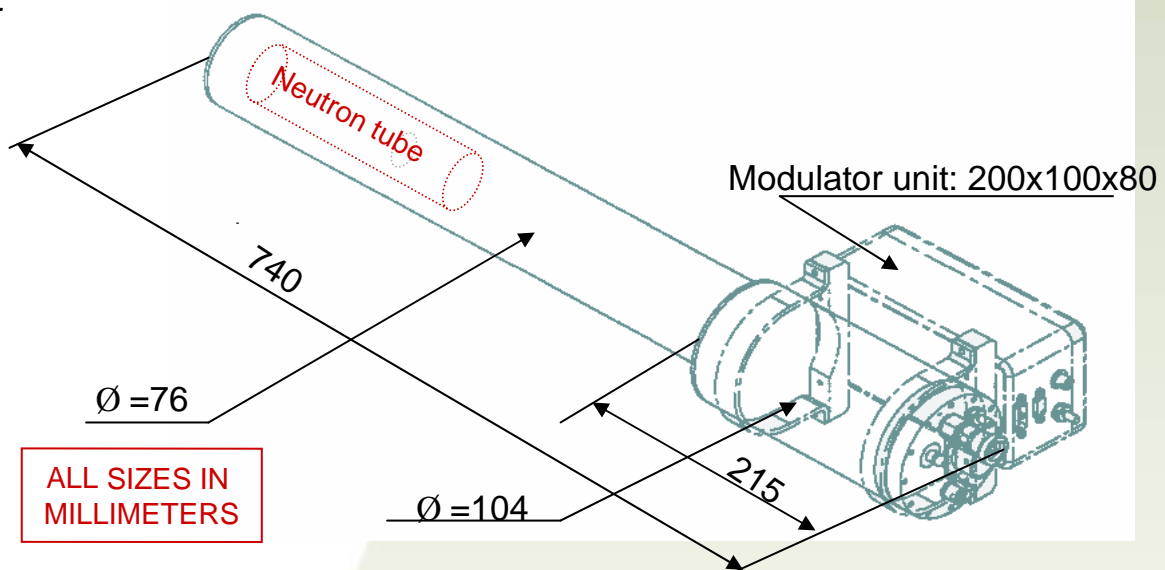
The computer communicates with MC16 using either an RS232 or an RS485 interface.



User-friendly operator interface

Other versions and options

Remote service by modem & Technical assistance contract on request.



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