

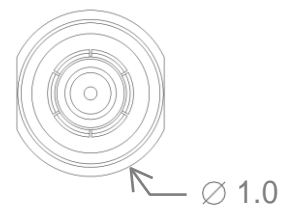
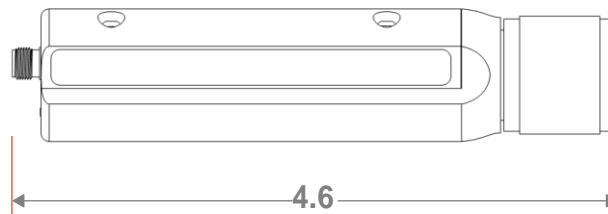
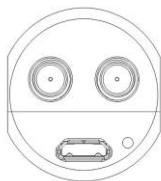
Neutron Detection

NPM

Neuchrometer
Advanced Neutron Pulse Monitor

Neuchrometer Features

- USB/ Ethernet Interface
- TTL Input/ Output
- High Voltage (2800V)
- Multichannel Analyzer (MCA)
- Data Logging
- List Mode
- 1" Diameter



Components & Features	Description
Enclosure	
Dimensions	1in OD x 4.4in length (2.54cm OD x 11.2cm). Cylindrical Profile
High Voltage Connector	HN male (standard). HN female, MHV male/ female, SHV male/ female (optional).
Communication & Power Connector	Micro USB jack or Power over Ethernet.
LED	Indicator LED (red) on rear panel
Analog	
Operating Power	6 - 18VDC
Internal High Voltage	2800V (maximum)
Pulse Shaping Time Constant	1 to 10 μ s (typical).
Dead time / Neutron Counting Rate	30 to 100 μ s (typical) / 30 kHz (maximum).
Amplifier Gain Range	1 – 20
Digital	
Shaped Pulse Waveform Capture	256 points per waveform, 0.5 μ s timing.
Discriminators (Digital)	Standard upper and lower digital discriminator levels are user selectable. Multiple discriminator values that allow for multiple regions of interest (ROIs) are possible through firmware customization.
Digital Timer	1s resolution. Timing up to 4 billion seconds.
Digital Counter	Counts neutron events within user specified Region of Interest. Capacity 4 billion counts.
Multichannel Analyzer (MCA)	Signal pulse height spectrum (histogram) is generated and stored. Histogram resolution 64 to 1024 bins, 4 billion counts per bin.
Temperature / Humidity Sensor	Internal
Data Logging	
Real-Time Clock	Accuracy, 1s per day.
Data Stored	User configurable. Neutron counts and elapsed time, pulse height spectrum histogram, coincidence (Delta-t) histogram, device operating parameters, temperature/humidity (optional). Data stored in FAT 32 file format
Micro SD Card	Internal, up to 128Gb
Battery Life	6 years.
Coincidence Counting	
Time Stamping	Time stamps each neutron count. 125ns resolution. 30 kHz rate. Run duration 7.6hours before clock wrap-around. 40 bit counter.
Pulse Height	Stores pulse height for each neutron count. 12-bit resolution.
Source Tagging	Time stamped data is tagged with device identifier. For use in arrays of up to 256 detectors.
TTL Output Pulse	Output TTL pulse triggers with neutron counts. 25ns to 16ms pulse width (user selectable).
TTL Input Pulse	Counts and/ or transmits external pulses for summing pulses in detector arrays.
Interface	
Communication Type	USB or Power over Ethernet
Terminal Interface	Command line interface. Configure device and download data.
GUI	Configure device, display and download numerical and graphical data.