

Network Neutron Counter (NNC)

N2000-2

Introduction

The ANTECH Network Neutron Counter, Model N2000-2 combines Total Neutron Counting, Shift Register Coincidence Counting and Multiplicity Counting in a portable package to provide a state of the art instrument. The N2000-2 offers the benefits of immediate measurement results provided by the Instruments real-time software, displayed on the front panel touch screen. The 512 channel multiplicity histogram information, saved on an internal flash-drive, can be re-analysed as necessary.

The unit has four BNC input connectors compatible with current single TTL output neutron counting systems such as a Neutron Coincidence Collar.

Each input is equipped with a de-randomising buffer (5-bits) and can accept short bursts of incoming pulses with a maximum frequency of 50MHz.

The N2000-2 also provides a High Voltage output, which can be set in a range of 0 - 2000Vdc and is provided through an SHV output bulkhead. The High Voltage output is controlled through a software switch in the system setup and is inhibited by a hardware switch on the front panel. The HV status is indicated by a red LED.

The N2000-2 has a built-in control and analysis computer and a 2.4" touch screen for system and measurement setup, for displaying results and for setup and analysis of a fully automatic high voltage plateau measurement. This enables the unit to act as a standalone instrument without the requirement for any external computer.

The N2000-2 is fully compatible with INCC in AMSR mode via serial to Ethernet conversion, and the provision of analysis results both in INCC format and as ANSI/IEEE/IEC N.42 files on a network served flash drive makes the N2000-2 ideally suited for remote operation over Local or Wide Area Network using the built-in Ethernet Port.



Features

- High frequency 50MHz acquisition clock for high accuracy
- 4 BNC input connectors
- Built-In 4 Input De-Randomizer Buffer Mixer (DRBM)
- High Voltage Supply for ^3He neutron detectors - max. 2000Vdc (max. 2mA)
- Low Voltage 5Vdc supply for amplifier boards (max. 2A)
- 2.4" touch screen for stand-alone operation to set parameters, start measurements and readout results
- Automatic High Voltage plateau measurement
- Remote operation using INCC or other compatible clients
- Access to results (INCC format and N.42 format), logfiles and default setup file via external PC using LAN or WAN (Samba protocol)
- 1.5GByte internal storage for results and log information
- Signal, LV, Power and HV LED indication

Mounting Options

The N2000-2 is designed to be mounted in a standard 19" rack. It can be mounted as either a single unit, or as two units side-by-side. For a single unit, a blanking plate connects to the side of the rack. For dual mounting, brackets connect both units. All cable connectivity is provided on the rear of the unit, allowing for easy installation and removal in a 19" rack.



Benefits

- Capable of standalone use with or without an external computer
- Fully unattended capability through Ethernet and INCC compatibility
- Automatic High Voltage Plateau measurement
- Compact portable design
- Multiple Inputs - up to 4 TTL (BNC) of which two can be configured as external scalers
- Powered via 12Vdc mains adaptor
- 19" rack compatible with mounting kits holding a single unit or two side by side.

Specification

Dimensions (H x W x D)		85mm x 185mm x 190mm (without rack mounting kit)
Weight		1.4kg
Temperature Range	Operation	0°C to 50°C (>86% RH non-condensing)
	Storage	-10°C to 60°C
Output Power	LV	5Vdc (max. 2.0A)
	HV	Programmable 0 - 2000Vdc (max. 2000 µA)
Maximum input count rate (burst)		50MHz
Minimum input pulse width		12.5ns
Pulse pair resolution		20.0ns
Interfaces		Ethernet (10Base-T)
Scalar		40bit per input
Input		4 x BNC (Up to 2 configurable as ext. scaler)
Pre-delay		0.1 - 25.6µs
Gate Width		0.1 - 512µs
Long Delay		4096µs
Cycle Timer		1 - 2000s
Compliance		European Directive 2014/30/EU...concerning Electromagnetic Compatibility European Directive 2011/65/EU...concerning the restriction of hazardous substances in electronic equipment FCC 37 CFR Part 15B

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