

EuroWin
1 to 4 channels compact module with windows
discriminators

INSTRUCTION'S MANUAL



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MAIN CHARACTERISTICS OF THE EUROWIN

The EuroWin is a spectrometric system, specifically adapted to detectors and probes or preamplifier developed by Eurorad.

The EuroWin system features from 1 to 4 independent channels.

The front face is designed according to the number of channels desired.

Example for 2 channels:



Each channel features:

- 1 MCA output
- fine gain settings
- 1 discriminator output (TTL compatible) with energy window settings

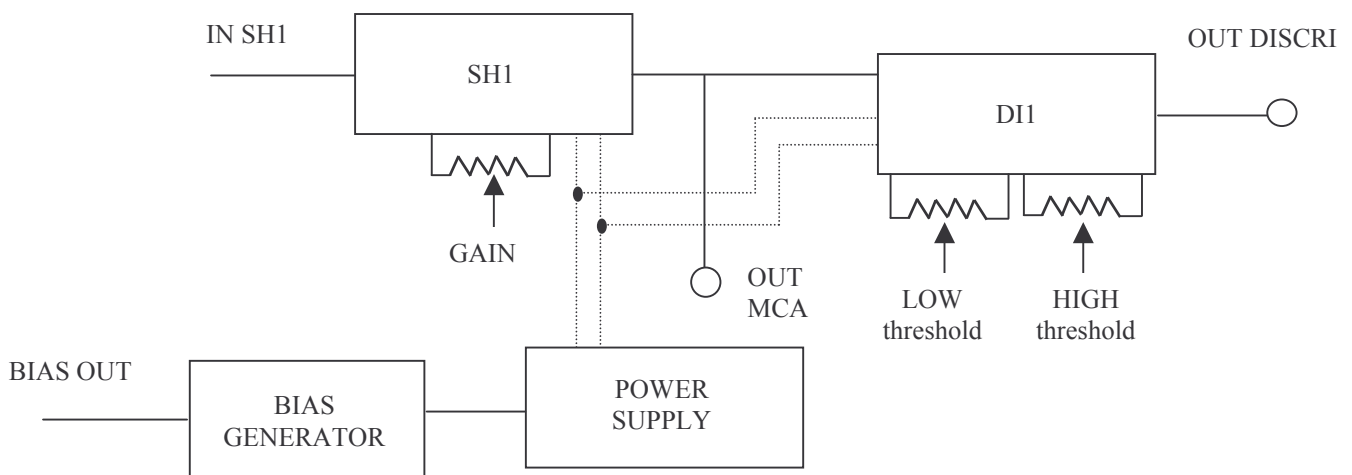
PRESENTATION

The EuroWin set contains:

- From 1 to 4 spectroscopic amplifiers (SH1 model)
- From 1 to 4 discriminators (DI1 model)

On the front panel, you can adjust the gain and the threshold

ONE CHANNEL SYNOPTIC



TECHNICAL SPECIFICATIONS

- DIMENSIONS OF THE BOX : 260 x 255 x 110 mm

- SH1 :

Output polarity (for a positive step at the input) : Negative

Maximum gain : 300

Filter type : CR-RC²

Filter time constant : 3 μ s

Input impedance : 1 kOhm

Output impedance : 50 Ohm

Output range : +10V to -10V on 1kohm

Maximum output current : \pm 18 mA

- D11 :

Supply: $V_{cc} = 5V \pm 10\%$ (2.3 mA)

Output level : 0 - 5V

Maximum output current: ± 5 mA

Output polarity: positive and negative

Output pulse length: $T_w = 10\mu$ s

Thresholds : external setting between 0 to 3.5V ($I_{th} < 100$ nA)

Integrated voltage reference: $V_{ref} = 3.50V$ ($I_{max} = 1$ mA)

Input impedance: > 10 KOhm

Input range: 0 to 3.5V

- HIGH VOLTAGE :

Bias setting : 24V (internal of the probe)

- POWER SUPPLY :

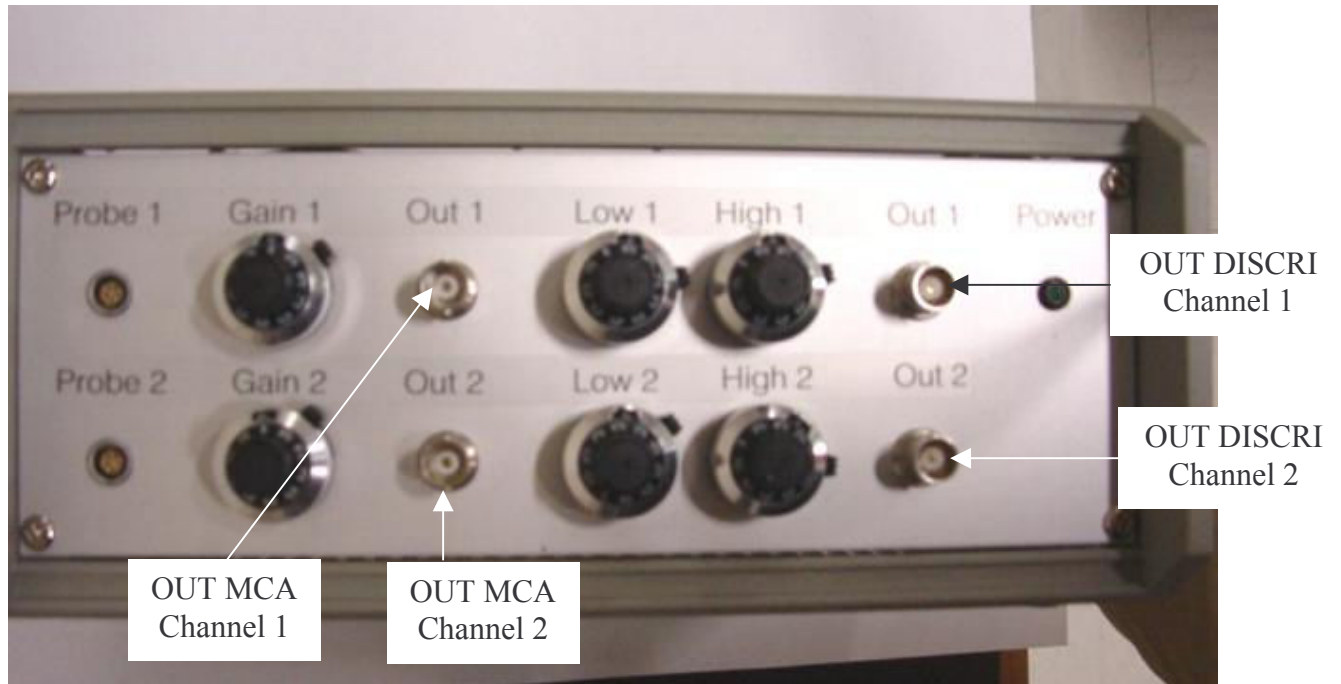
9-18V VDC (on the furnished charger)

or

External Power Supply with IEC 601-1 medical standard compliance.

CONNECTION

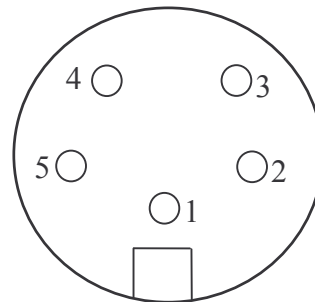
Front panel (example for 2 channels):



Input connector :
LEMO, female (probe)

Front face view

- 1 : GND
- 2 : NC
- 3 : OUT
- 4 : +12V
- 5 : -12V



GAIN : precision potentiometer
 OUT MCA : BNC connector
 LOW : precision potentiometer
 HIGH : precision potentiometer
 OUT DISCRI : BNC connector

Rear panel



Power supply connector containing two fuses T1 A.

PARTICULAR

As the electrical ground of the module is connected to the patient body, **do never touch the module and another electrical equipment at the same time** in order to prevent any electrical shock to patient.

GETTING STARTED

- Connect the power supply to unit and verify if the green LED is ON
- Connect probes on input connectors LEMO
- Put the radioactive standard source on the probe (on the detector)
- Set the shaper gain on each channel according to the characteristics of your MCA
- Remove the source from the detector
- Set the low threshold potentiometer at 0 (minimum)
- Set the high threshold potentiometer at 10 (maximum)
- Observe the OUTPUT pulses
- Turn the low threshold in order to have no pulses at the OUTPUT. The noise level is determined by the position of this potentiometer
- Put the source on the detector and verify that there are some OUTPUT pulses.

CONNECTION DIAGRAMM

