

## HSE-Harvard ECG Amplifier Module (ECGA)

- ECG amplifier for single lead derivation (I, II or III)
- Floating input
- Frequency range suitable for all species from mouse up to large animals

This module is especially designed to amplify ECG signals. A floating input circuit is used to avoid hum and grounding problems. A bar graph display is integrated in the module to visualize the ECG signal. The filters are designed for heart rates up to 1000 beats per minute. The analog ECG signal is available at a BNC connector on the front panel and also internally on the PLUGSYS system bus. Both outputs can be used for recording on a chart recorder or for data acquisition. A square-wave signal generator with amplitudes of 0.3 mV and 1 mV is incorporated for calibration.



### Specifications

<b>Input</b>	Floating differential input, isolated barrier internally clamped to 300 V, with protection against static discharges and 10 kHz input filter for h.f. suppression
<b>Input Connector</b>	5-pin binder socket with screw lock; pin connections correspond to those of standard 3-pin ECG input cable
<b>Input Impedance</b>	10 <sup>10</sup> Ω
<b>Common Mode Rejection</b>	106 dB
<b>Filters:</b>	
Low-Pass Filter	(HIGH CUT OFF) 150 Hz, 120 Hz, 100 Hz, 50 Hz
High-Pass Filter	(LOW CUT OFF) 5 Hz, 1 Hz, 0.5 Hz, 0.1 Hz
<b>Filter Indication</b>	By green LEDs on front panel
<b>Gain Trimmer:</b>	
Switch In Position x0.5	1000 to 5000
Switch In Position x1	2000 to 10000
Switch In Position x2	4000 to 20000
<b>Display</b>	Bar graph 0.75 V/LED
<b>Output</b>	BNC connector on front panel (±10 V); output voltage also available on PLUGSYS bus
<b>Calibration</b>	Square-wave signal generator with amplitudes of 0.3 mV and 1 mV
<b>Recorder Output</b>	Internal output is connected to bus system via jumpers; ECG signal is connected to recorder via Recorder Output Module (ROM); also possible to connect recorder directly to BNC connector 'ECG OUT' at front panel
<b>Quick Start</b>	For rapid discharge of coupling capacitors by pressing QUICK START key
<b>Power Supply</b>	5 V/600 mA, through connector from PLUGSYS bus system
<b>Dimensions, H x W x D</b>	128.7 x 40.4 x 220 mm (5.1 x 1.6 x 8.7 in)
<b>PLUGSYS Width</b>	2 slot units
<b>Connector</b>	DIN 41612, 96-pin VG
<b>Weight</b>	0.4 kg (0.9 lbs)

### Catalog No.

CGS 8407.71

### Product

ECGA ECG Amplifier Module