

EP-LU30102 Electrocardiograph LUMED[®] EUROECG 601



N.B. Product is subject to change without prior notice. The actual product might differ from the pictures here shown.

Description

EUROECG 601 is a high-resolution digital electrocardiograph for adult and pediatric patients. It acquires the 12 leads in isochronous mode and prints on 110mm paper, in various formats. EUROECG 601 shows the acquired signal also on its color LCD display, in real time or as a review of an exam already acquired and stored. It is equipped with internal memory and additional memory on a removable card. EUROECG 601 also features automatic interpretation and ECG parameters calculation.

The main features of EUROECG 601 are:

- Colour graphic TFT LCD display, foldable
- Powered by mains or internal battery (included)
- Automatic ECG Measurement and Interpretation
- Automatic Screening Mode
- Storage up to 1.000 ECGs in several formats: DICOM, PDF, SCP, FDA-XML, XML, JPG, BMP
- Bi-directional DICOM[®] interface
- HL7 interface
- High-resolution signal
- Detection and processing of Pacemaker's spikes
- Use of external devices, like as USB keyboard, PCL-6 printer or Bar-code reader
- Direct connection to the PC network
- Carrying handle
- PC Software (optional)

Technical features

Language	Italian, English, Spanish, French, Polish, Portuguese, Romanian, German, Russian, Serbian, Turkish, Ukrainian.
Patients	Adults and pediatric
Acquisition	Simultaneous acquisition of 12 leads
Leads	12 Standard, Cabrera, Frank, Right Chest leads, Posterior Chest leads, custom
Help on-line	Graphical map for electrodes placement, hints that explain the usage
Operating modes	<ul style="list-style-type: none"> - Automatic (real-time or pre-sample) - Manual - Rhythm - Programmed - Trigger - Screening - Preview screen - Freeze & Review
A / D conversion	12 bit
Input current	< 0.01 pA
Noise level	<15 μ V
Dynamic range	\pm 400 mV
Input impedance	> 50 M Ω 10Hz
Input voltage	for each channel not less than \pm 7.5 mV
Entrance	Floating, protected against defibrillation discharges
Cmrr	>100 dB no filters AC and >120 dB with AC filter
Frequency response	0.05Hz - 150 Hz
Time constant	> 5 s
Speed	5, 6.25, 10, 12.5, 25 and 50 mm/s \pm 2%
Heart rate	30 - 300 bpm Precision: the greater between \pm 1 bpm or \pm 1 % of the value
Gain, sensitivity	1.25, 2.5, 5, 10, 20 and 40 mm/mV tolerance \pm 2% Automatic gain (limbs / chest) 10/5 or 20/10 mm/mV Automatic Calibration 1 mV \pm 2%
Sampling rate	Acquisition: 2.000 samples/channel/sec Storage and processing: 1.000 samples/channel/sec
Pacemaker detection	Amplitude : \pm 2mV \sim \pm 700mV, Duration : 0.1 ms \sim 2.0 ms Detection sensibility is user selectable
Quantization	4.563 μ V/LSB
ECG grid	Available in ECG displays
Display colors	At least three different color schemes
Freeze and playback	Up to 300 secs of ECG

Automatic acquisition (10 to 300 secs)	Pre-sample Real Time Trigger Periodic
Data mode	ECG, Demo, Calibration
Internal printer	Thermal printer, for 110 mm Roll thermal paper Vertical resolution ≥ 8 dots/mm Horizontal resolution ≥ 40 dots/mm (25 mm/s) ≥ 20 dots/mm (50 mm/s)
Print formats (built-in Thermal printer)	<ul style="list-style-type: none"> - Automatic: 6x2+1R, 6x2, 3x4+3R, 3x4+1R, 3x4 (duration 10 secs, rhythm leads are selectable) - Manual: 1, 2, 3, 6 channels - Rhythm: 1 or 3 selectable leads, duration 60 to 300 secs - Periodic: like as Automatic, printout frequency 1 to 60 min, duration 1 to 60 min - Trigger: like as Automatic, the printout occurs only in case of an event (arrhythmia etc.) - Screening: like as Automatic, but with short ECG evaluation
External printer (optional)	Type: Printing Server, local or network Layout: 12x1, 6x2+1R, 6x2, 3x4+3R, 3x4+1R, 3x4
Filters	<ul style="list-style-type: none"> - EMG (muscular tremors): 20, 25, 30, 35, 40, 45 Hz - Mains Interferences: 50 or 60Hz - Baseline correction (high-pass) 0.05, 0.15, 0.25, 0.32, 0.5, 0.67 Hz - Artefacts (low-pass): 75, 100, 150 Hz
Display	<ul style="list-style-type: none"> - Size and resolution: 7", 800x480 pixel, 152x85 mm; - Type: Backlit TFT LCD graphic colour - Ergonomy: tilting 0°-90° - Available data: 1 to 12 ECG waveforms, patient data, date\time, operating mode, battery status, Heart-Rate, ECG parameters (filters, speed, amplitude etc), contact (each and every electrode or lead), paper status, memory status - ECG Layout <ul style="list-style-type: none"> - Auto Mode: 12x1, 6x2+1R, 6x2, 3x4+3R, 3x4+1R, 3x4 - Manual Mode: 1R, 2R, 3R, 6R - Rhythm Mode: 1R, 3R
Ergonomy and User interface	<ul style="list-style-type: none"> - Intuitive and clear Graphic Interface, User Friendly layout and commands - Foldable & tiltable Display 0°-90° - Built-in carrying handle - Alphanumeric keyboard - Solid Brass screw dies, to fix the device on shelves trolleys etc.
ECG layout	12x1, 6x2+1R, 6x2, 3x4+3R, 3x4+1R, 3x4, 3R, 1R
ECG display mode	Simultaneous or Sequential
Algorithms for ECG processing	<ul style="list-style-type: none"> - ECG interpretation - ECG classification - ECG global measurements (Heart Rate, PR interval, QRS duration, QT/QTc, R/QRS/T electric axis, RV5/SV1 amplitude) - ECG lead-by-lead measurements (QRS type, duration [PR, QRS, QT], duration and amplitude [P, Q, R, R', S, S'], amplitude [P', T, T', STJ, ST40, ST60 and ST80) - Signal Averaging for the 12 leads

Keyboard	Alphanumeric, with function keys and dedicated keys for fast operations
Interface	Ethernet Board RJ45, USB-A Master, USB-B Slave, SD card WiFi is optional
Alarms & signals	Visible: No paper, missing electrode/lead or poor skin contact quality, battery charge status Audible: missing electrode/lead or poor skin contact quality
Self diagnosys	Autotest for display, keyboard, memory, battery, ECG acquisition, Ethernet board, thermal printer, log.
ECG copy	Copy of the last ECG, recorded in Automatic mode.
ECG storage	Up to 1.000 ECGs in digital format. Files include patient data, ECG leads etc. List of the archive content. Expandable on SD or USB removable media
ECG format	DICOM, PDF, FDA-XML, euro_ecg XML, SCP, BKG, JPG, BMP
DICOM[®]	12-Leads ECG Storage, General Waveform ECG Storage, Encapsulated PDF Storage Modality Worklist
Data exchange & communication	<ul style="list-style-type: none"> - DICOM Modality Worklist - HL7 - Delivery File System over FTP - Computers can acceded to the storage, as a generic USB volume. - Built-in SDcard slot and USB port, for data export on removable media
Repository Management	Operators can add or modify personal data. The system allows you to manage exams: delete, transmit, preview, export, search, print, etc.
USB peripherals (optional)	Barcode scanner, Keyboard, Memory dongle (all these parts are optional)
Power & autonomy	AC: 100~240 V, 50/60Hz, 0.17A - 0.4A with Medical Grade adaptor. DC: internal Li-IO rechargeable battery 14.4V 2600mAh, autonomy >= 5 hours in manual print, >= 500 ECGs recorded in Automatic mode or >= 7 hours without printing
Size & weight	310x244x65 mm, approx. 2,5 kg battery included
Environment	Transport & Storage: Temperature -20°C ~ +55°C, Relative Humidity < 93%, Atmospheric Pressure 50-106 kPa Use: Temperature +5°C ~ +55°C, Relative Humidity < 80%, Atmospheric Pressure 86-106 kPa
Protection grade	IP X0
Safety	IEC Class I Type CF
Standard accessories	4mm Banana IEC patient cable, reusable chest and limbs electrodes, gel ECG spray, thermal paper (roll 2 pcs), Schuko power cord (others available on request), internal rechargeable battery, User Manual.
Optional accessories	Patient cable with Pinch/Grabber or Snap endings. Disposable electrodes.