



Testing System for function tests of ECG devices

- ECG impulse output
- periodic signals
- arrhythmia output
- pacemaker outputs
- simulation of respiration
- signal output according to IEC 60601
- user specific language setting

Technical Data

Line voltage: 83 – 264 V ac, 50 / 60 Hz
or internal accumulator operation
Nominal power: max. 25 VA – internal power supply
Protection class: Internal power supply
Environmental temperature: + 5 - + 40 °C
Storage temperature: - 10 - + 50 °C

ECG impulse amplitude: 1 – 5 mV ± 1%
in 1 mV steps
ECG signal duration: 1 – 200 ms ± 1%
in 1 ms steps
ECG impulse form: sinus, sinus square, triangle,
rectangle, trapeze, ISO,
ventricular fibrillation,
ventricular tachycardia,
mains frequency, NSR

ECG impulse frequency: 10 - 300 bpm ± 2 %
in 1 bpm steps
Signal frequency variable: 1 - 100 Hz ± 2 %
in 1 Hz steps
Signal frequency sine: 0,3 Hz ± 2 %
Respiration: basic value ± 1 Ohm

Interface: 1 x RS-232 for PC-connection
Testing device connection: 10 sockets 4 mm for ECG
Digital display: 4 x 16 char display
Keyboard: 6 key foil keyboard
Accessories: 10 x STA8 ECG adapter clip
1 x charger

Mechanical data: light weight metal case IP20
Dimensions: 140 x 220 x 30 mm (W x H x D)
Weight: approx. 0,5 kg
Selectable languages: german, english, french, polish
spanish, Italian, portuguese, turkish

The ES-300 serves as a test-signal generator for ECG impulses. These ECG impulses can be used for the functional testing of the signal-representation and signal-evaluation of ECG monitors. Furthermore, the extended ECG functionality can be tested over a respiration-function with apnoea-alarm-control.

The execution of a signal-output can be done with the PC-Software. The results of the signal-representation can be determined, assessed and stored.

PC-Software can be used for a flexible output of the offered waveforms. Consequently, integration into complex test instructions and into automatic test-sequences is possible. For that reason, a high-quality documentation of the signal-representation and signal-evaluation of an ECG appliance is possible.

Because of the, as far as possible, freely configurable and variable ECG signal forms, a large variety of signal sequences can be brought to the output. The simulation of arrhythmic signal forms offers the possibility to test more complex devices in accordance with a standard.

The generation of the calibration impulse CAL after IEC 60601-2-51 enables practical operating function-controls for manufacturers and examiners.

Level ratios:

-	Voltage
Abl. I (L - R)	+ 1,00 mV
Abl. II (F - R)	+ 1,56 mV
Abl. III (F - L)	- 0,56 mV
N - R	+ 0,59 mV
N - L	+ 1,59 mV
N - F	+ 2,15 mV
N - C1	+ 0,59 mV
N - C2	+ 1,18 mV
N - C3	+ 1,75 mV
N - C4	+ 2,03 mV
N - C5	+ 2,83 mV
N - C6	+ 3,35 mV

(Technical modifications and errors reserved. 09/2022)