PACE-Module **PACE**



GS Test Module for function tests of external cardiac pacemakers in accordance with IEC 60601-2-31 / IEC 60601-2-4

- ☑ transthoracic and intracardiac pacemakers
- ☑ single-, dual- and triple-circuit cardiac pacemakers
- ☑ testing of demand parameters
- ☑ output of selected test signals
- ☑ graphical display of the pace impulses

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Management System ISO 9001:2015
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Technical Data

Load resistance:	50 - 1600 Ohm in 50 Ohm steps	
Measuring ranges:	0 - ± 20 V	± 0,1 V or ± 5% of measurement value
	0 - ± 250 V	± 0,1 V or ± 5% of measurement value
Maximum time resolution:	dt = 20 µs	
Pulse rate:	30 - 1200 BPM, ± 1 BPM or ± 0,5 % of measurement value	
Synchronization signals:	sinus, square sinus, triangle, rectangle, trapeze, ISO, ventricular fibrillations (VF), ventricular tachycardia (VT), line frequency, QRS	
Pulse duration:	0,1 - 200 ms	± 0,1 ms or ± 5 % of measurement value
Amplitude:	0.5 - 250 V	± 0,1 V bzw. ± 5% of measurement value
ECG Amplitude:	1 - 25 mV	± 5 %
AV-delay time:	10 - 400 ms	± 5 %
Demand frequency:	55 - 100 BPM	± 1 %
Sensitivity measurement:	0.5 - 25 mV	± 10 %
Refractory-period measurement:	50 - 900 ms	± 10 %

Description of functions:

The GS Test Module PACE serves for functional testing of external single-, dual- and triple-circuit cardiac pacemakers for intracardiac or transthoracic stimulation with output of asynchronous or demand pulses. PACE determines the pulse amplitude and the AV delay time. With the aid of a program-controlled test signal, the system can also automatically determine the refractory periods, the sensitivity (demand amplitude), and the demand frequencies. The internal load resistance can be set by program control to 50 - 1600 Ohm.

Determination of the pulse duration and the pulse amplitude:

The pulse duration T_P is measured as the time interval between the 50% signalcurve values, with reference to the maximum voltage. The system calculates and displays the pulse amplitude as the arithmetic mean of the pulse signal within the time intervall T_P.

Inhibition amplitude and demand amplitude:

Once you start the automatic measurement function of inhibition amplitude, the selected test signal increases with every pulse.

Once you start the automatic measurement function of demand amplitude, the selected test signal decreases with pulse.

Demand (inhibition) frequency:

The demand (inhibition) frequency is the cardiac / ECG signal frequency, the pacemaker takes over stimulation of the heart. Once the ECG signal frequency falls below the frequency set at the pacemaker, the pacemaker will emit stimulation pulses. The GS Test Module PACE generates test pulses at its input/output, beginning with a pulse rate of 70 ppm and then slowly falling until the pacemakers begins stimulation.

Output of test-signal pulses:

The output of simulated ECG pulses (test-signal pulses) takes place under program control, according to the parameters which have been entered in the ACTIMED Testing Program. The user can select among ISO, sine^2, triangular and square-waves pulses. Pulse durations are output within the range of 1 ms - 200 ms.

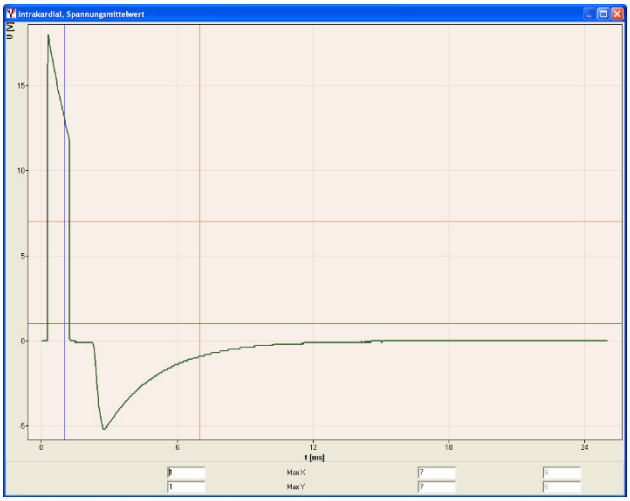
(The specified measuring accuracy refers to the measuring element. Technical modifications and errors reserved. 10/2026)

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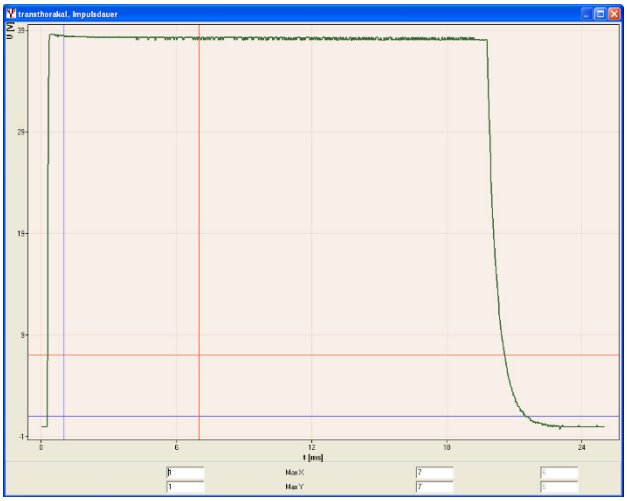
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intracardiac chart



transthoracic chart

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