

# WECG400 Parallel Testing ECG Tester for wearable device production lines

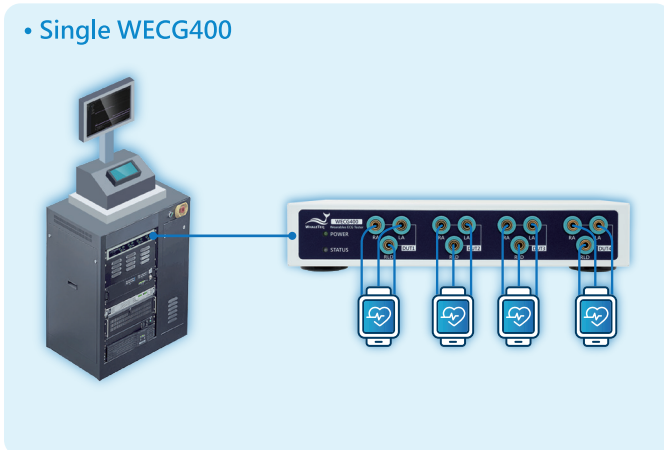
Simultaneously test ECG function on up to 4 wearable devices with a single computer

- **Parallel testing** - sends the same signals to 4 DUTs simultaneously to accelerate testing time
- **Integrates IEC 60601-2-47 test items** - includes dynamic range, input impedance, frequency response, etc.\*, to assist DUTs in conforming with regulatory requirements
- **Raw data playback** - reproduces clinical data or user-defined waveforms for customized testing
- **Equipped with 4 sets of electrode terminals** - RA / LA / RLD electrode terminals on each set to meet testing needs for wearable device's ECG function
- **Outputs 7 types of standard ECG waveforms** - ECG Waveform, Sine, Triangle, Square, Exponential, Rectangle Pulse, and Triangle Pulse
- **Provides SDK** - users can flexibly develop automated testing programs and control multiple WECG400 to test more than 4 DUTs simultaneously
- **Supports sequential testing** - tests DUTs one at a time according to a user-defined sequence
- **Equipped with 4 DUT Monitor ports** to connect to an oscilloscope - amplifies the ECG signals to help users monitor the signal output with higher resolutions
- **Rack-mountable and easy to deploy** with the 1U height design

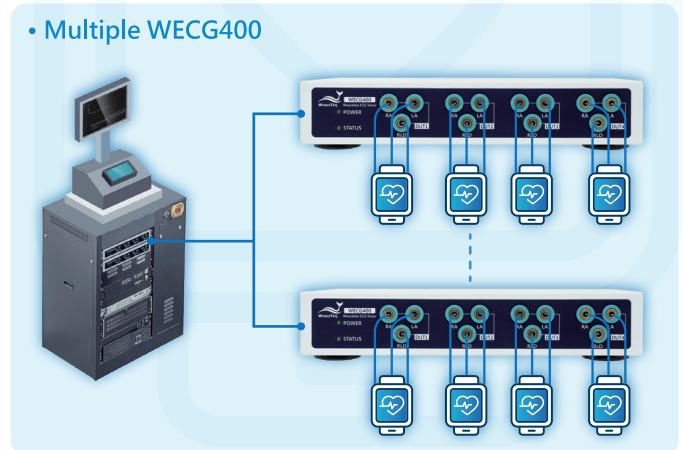
\*Note: For the two test items as system noise and common mode rejection, please refer to the WhaleTeq CMRR 3.0+ Common Mode Rejection Ratio Tester for testing.

## Testing Scenario

### • Single WECG400



### • Multiple WECG400





## Specifications

### Standard ECG waveforms

Parameters		Range	Resolutions
ECG Waveform	Frequency (Hz)	0.02 ~ 6Hz	0.01
	Frequency (BPM)	1 ~ 360BPM	1
	Amplitude	(-5) ~ 5mV	0.01
Sine	Frequency (Hz)	0.05 ~ 500Hz	0.01
	Frequency (BPM)	3 ~ 3000BPM	1
	Amplitude	(-10) ~ 10mV	0.01
Triangle	Frequency (Hz)	0.05 ~ 500Hz	0.01
	Frequency (BPM)	3 ~ 3000BPM	1
	Amplitude	(-10) ~ 10mV	0.01
Square	Frequency (Hz)	0.05 ~ 500Hz	0.01
	Frequency (BPM)	3 ~ 3000BPM	1
	Amplitude	(-10) ~ 10mV	0.01
Exponential	Frequency (Hz)	0.05 ~ 5Hz	0.01
	Frequency (BPM)	3 ~ 300BPM	1
	Amplitude	(-5) ~ 5mV	0.01
Rectangle Pulse	Frequency (Hz)	0.05 ~ 5Hz	0.01
	Frequency (BPM)	3 ~ 300BPM	1
	Amplitude	(-5) ~ 5mV	0.01
	Pulse width (frequency: 0.05Hz)	1 ~ 300ms	1
Triangle Pulse	Frequency (Hz)	0.05 ~ 5Hz	0.01
	Frequency (BPM)	3 ~ 300BPM	1
	Amplitude	(-5) ~ 5mV	0.01
	Pulse width (frequency: 0.05Hz)	1 ~ 300ms	1
	Pulse width (frequency: 5Hz)	1 ~ 200ms	1

### Input Impedance / Frequency Response Signal add-on

Parameters		Range	Default Values	Resolutions
Play raw data	Sample rate	Maximum: 40K Hz		
DC offset (non-Variable)		-300, 0, +300mV	0mV	300
DC offset (Variable)		(-1000) ~ 1000mV	0mV	100
Input impedance switch		100Ω (short circuit)		
		620kΩ / 4.7 nF on / off	Off (on: short circuit)	
		10MΩ / 180 pF on / off	Off (on: short circuit)	

### Product System Capacity and Standard Requirements Table

Parameters	Specifications	System Capability
Main output voltage accuracy	±1% for amplitudes of 0.5mVpp or higher	±0.3%
Main output voltage resolution (DAC resolution)	N/A	0.15μV
Frequency / pulse repetition rate accuracy	±1%	±0.1%
Pulse duration / timing accuracy	±1ms	±0.2ms
Resistor tolerance	±1%	±0.5%
Capacitor tolerance	±5%	±5%
Precision 1000 : 1 divider	±0.5%	±0.3%
Sample rate	5kHz±0.1%	10kHz±0.05% (50ppm)
DC offset (fixed, noise-free, sourced from the internal supercapacitor)	300mV±1%	300mV±0.1%
DC offset (variable, up to 1000mV)	Setting±1% or ±3mV	Setting±1% or ±3mV
Environment	15 ~ 30°C (by design) 30 ~ 80% RH (by design)	5 ~ 40°C 30 ~ 80% RH altitude < 2000M Overvoltage CAT II

## Ordering Information

### WECG400 Standard Package

Model No.	Description
100-AE00009	Parallel Testing ECG Tester for wearable device production lines

### Optional Accessories

Model No.	Description
S92-0204021	DC12V Power Adaptor x 1
K21-0738301	RCA to BNC Cable x 2
K27-1800301	USB Cable x 1
K22-1050101	Signal Grounding Wire x 1
K29-1000801	Grounding Wire x 1
N54-0120013	Compound Terminal x 12

### Optional Calibration Service and Warranty Extension

Model No.	Description
C3	Provides (3) years of calibration service coverage. WhaleTeq equipment can be calibrated to original performance on the basis of (1) year interval.
R3	Extends the limited warranty from (1) year to (3) years.

