

Hantek2D82AUTO



An all-new handheld oscilloscope-Hantek2000 series, it continues the compact and lightweight concept but with a new generation of 4 in 1 multifunction tester: Automotive Diagnostic, oscilloscope, signal source and multimeter; A small volume of the non-profit grip by a single hand; The suspending stand was designed to support multi-angle adjustment; Ultra-low-power, Type C charging interface, each 2 hours battery charge allow working one full day or standby two months; High-definition color LCD screen display clear and delicate; Minimalist keyboard design simplify operation, easy to use.

With more than 80 kinds of car testing, and scan the QR code on the back of device can open open video help files to show you how to test vehicles

- **First test projects:** intake manifold vacuum degree & ignition, lampblack adjustment valve vacuum degree & ignition, exhaust ignition (idle), exhaust ignition (start).
- **Start & Charge:** Charging circuit, current and voltage.
- **Actuator:** Gasoline / Diesel.
- **Bus Detection:** CAN bus data observation, CAN bus signal integrity, CAN bus LH long-term acquisition, LIN bus.
- **Sensors:** air flow meter, camshaft, crankshaft, distributor, lambda sensor, throttle position. . .
- **Ignition:** Primary/Secondary.
- **Oscilloscope:** 2 channels oscilloscope, 80MHz bandwidth, 250M sampling rate.
- **Universal multimeter function:** voltage, current, resistance, diode, capacitor, on-off test;
- **Waveform generator output function:** output sine, square, triangle, trapezoidal and other waveforms; sine up to 25MHz;

| Model | | Hantek2D82AUTO | |
|-----------------------------|-----------------------------|----------------|---|
| Vehicle Testing Mode | | | |
| Vehicle Diagnosis | Vehicle Diagnostic Function | Ignition | Primary Ignition (Voltage) |
| | | | Primary Ignition (current) |
| | | | Primary Ignition (Voltage& Current) |
| | | | Primary Ignition (Crankshaft Sensor) |
| | | | Primary Ignition&Secondary Ignition |
| | | Secondary | Secondary Ignition Distributor Type (Plug Lead) |
| | | | Secondary Ignition Distributor Type (King Lead) |
| | | | |

| | | | |
|---------|-------------------|-------------------------------------|--|
| | | | Secondary DIS (Positive-fired) |
| | | | Secondary DIS or CPC (Negative-fired)) |
| | | Secondary Coil Output Diagnosis | |
| | | Secondary Ignition&Primary Ignition | |
| Sensors | Air Flow Meter | | Air Flow Meter (Hot Wire) |
| | | | Air Flow Meter (Air Vane) |
| | | | Air FlowSensor (BOSCH Diesel) |
| | | | Air Intake PressureSensor (BOSCH Diesel) |
| | Camshaft | | Camshaft (Inductive) |
| | | | Camshaft (AC Excited) |
| | | | Camshaft (Hall Effect) |
| | | | Camshaft (BOSCH Common Rail Diesel) |
| | Crankshaft | | Crankshaft Inductive Running |
| | | | Crankshaft Inductive Cranking |
| | | | Crankshaft Hall Effect |
| | | | Crankshaft Sensor &Primary Ignition |
| | Distributor | | Distributor Pick-up (Hall Effect) |
| | | | Distributor Inductive Pick-up Cranking |
| | | | Distributor Inductive Pick-up Running |
| | Lambda Sensors | | Lambda Sensor Titania |
| | | | Lambda Sensor Zirconia |
| | | | Lambda Sensor Zirconia Pre & Post cat |
| | Throttle Position | | Throttle Position Potentiometer |
| | | | Throttle Position Switch |
| | | | Throttle Pedal Switch (Bosch Diesel) |
| | | | ABS Digital Speed Sensor |
| | | | ABS Analog Speed Sensor |
| | | | Coolant Temperature (5V) |
| | | | Coolant Temperature (GM/Vauxhall Simtec |
| | | | Crash Sensor |
| | | | MAP Analog |

| | | | |
|--|---------------|---------|--------------------------------------|
| | Bus Diagnosis | | MAP Digital |
| | | | Hall Effect Road Speed Sensor |
| | | | Accelerator Pedal (Bosch Diesel) |
| | | CAN Bus | CAN Bus Data View |
| | | | CAN Bus Signal Integrity |
| | | | CAN Bus LH Long Capture |
| | LIN Bus | LIN Bus | |
| | Engine | Petrol | Single-point Injector (Voltage) |
| | | | Single-point Injector (Current) |
| | | | Multi-point Injector (Voltage) |
| | | | Multi-point Injector (Current) |
| | | | Injector Voltage & Current |
| | | | Injector Current & Primary Ignition |
| | | Diesel | Common Rail Diesel (Current) |
| | | | Injector Bosch CDi 3 (Current) |
| | | | Injector Bosch Diesel (Idling) |
| | | | Injector Bosch Diesel (Accelerating) |
| | | | Diesel Glow Plugs |
| | | | Electronic Fuel Pump |
| | | | Carbon Canister Solenoid Valve |
| ERG Recirculation Solenoid Valve | | | |
| Stepper Motor Example 1 | | | |
| Stepper Motor Example 2 | | | |
| Idle Speed Control Valve (Rotary) | | | |
| Idle Speed Control Valve (Electromagnetic) | | | |
| Throttle Servomotor (Idling) | | | |
| Throttle Servomotor (Accelerating) | | | |
| Bosch CDi3 Quantity Control Valve | | | |
| Bosch CDi3 Pressure Regulator Valve | | | |
| Variable-Speed Cooling Fan On | | | |

| | | | |
|--|------------------|-------------------|--|
| | | | Variable-Speed Cooling Fan Off |
| | | | Variable Camshaft Valve Timing |
| | Startup & Charge | Charging Circuits | Charging Circuits Current/Voltage |
| | | | Charging Circuits Current/Voltage Starting 24V |
| | | | Charging Circuits Current/Voltage Idling 24V |
| | | | Charging Circuits Alternator AC Ripple/Diode Diagnosis |
| | | | Relative Compression Petrol |
| | | | Relative Compression Diesel |
| | | | Starting Voltage Drop |
| | | | |

Oscilloscope Mode

| | |
|--|---|
| Bandwidth | 80MHz |
| Channel | 2CH+DMM+AWG |
| Horizontal | |
| Sample Rate Range | 250MSa/s(Single-channel), 125MSa/s(Dual-channel) |
| Waveform Interpolation | (sin x)/x |
| Record Length | 3K samples per dual-channel |
| SEC/DIV Range | 5ns/div~500s/div 1, 2, 5 sequence |
| Vertical | |
| A/D Converter | 8-bit resolution,each channel sampled simultaneously |
| VOLTS/DIV Range | 10mV/div~10V/divat input BNC |
| Bandwidth Limit, typical | 20MHz |
| Low Frequency Response (-3db) | ≤10Hz at BNC |
| Rise Time at BNC, typical | ≤5ns |
| DC Gain Accuracy | ±3% for Normal or Average acquisition mode, 10V/div to 10mV/div |
| Note: Bandwidth reduced to 6MHz when using a 1X probe. | |
| Acquisition | |
| Acquisition Modes | Normal |
| Trigger | |
| Type | Edge |

| | |
|--|--|
| Mode | Auto, Normal, single |
| Level | ±4 divisions from center of screen |
| Trigger Level Accuracy | 0.2div × volts/div within ±4 divisions from center of screen |
| Slope | Rising, Falling, Rising & Falling |
| Source | CH1/CH2 |
| Input | |
| Coupling | DC, AC or GND |
| Input Impedance, DC coupled | 25pF±3 pF, 1MΩ±2% |
| Probe Attenuation | 1X, 10X |
| Supported Probe Attenuation Factors | 1X, 10X, 100X, 1000X |
| Maximum Input Voltage | 150V _{RMS} |
| Measurement | |
| Cursor | Voltage difference between cursors: ΔV |
| | Time difference between cursors: ΔT |
| Automatic Measurements | Frequency, Amplitude |
| Arbitrary Waveform Generator Mode | |
| Waveform Frequency | Sine: 1Hz~25MHz |
| | Square: 1Hz~10MHz |
| | Ramp: 1Hz~1MHz |
| | EXP: 1Hz~5MHz |
| Sampling | 250MSa/s |
| Amplitude | 2.5Vpp(50Ω) |
| | 5Vpp(High impedance) |
| Frequency Resolution | 0.001 |
| Channel | 1CH waveform output |
| Waveform Depth | 512Sa |
| Vertical Resolution | 12 bit |
| Frequency Stability | <30ppm |

| | | | | |
|--------------------------|--|-------------------|------------|--|
| Output Impedance | 50 Ω | | | |
| DMM Testing Modes | | | | |
| Maximum Resolution | 4000 Counts | | | |
| DMM Testing Modes | Voltage, Current, Resistance, Capacitance, Diode & On-Off | | | |
| Maximum Input Voltage | AC: 600V, DC: 800V | | | |
| Maximum Input Current | AC: 10A, DC: 10A | | | |
| Input Impedance | 10M Ω | | | |
| Measurement Term | Range | Accuracy | Resolution | |
| DC Voltage | 400.00mV | $\pm (0.8\% + 5)$ | 100uV | |
| | 4.000V | | 1mV | |
| | 40.00V | | 10mV | |
| | 400.0V | | 100mV | |
| | 600.0V | $\pm (1\% + 2)$ | 1V | |
| | Overload protection: 400mV: 250V, other: 600Vrms. | | | |
| AC Voltage | 4.000V | $\pm (1.2\% + 5)$ | 1mV | |
| | 40.00V | | 10mV | |
| | 400.0V | | 100mV | |
| | 600.0V | $\pm (1.5\% + 5)$ | 1V | |
| | Frequency: 40Hz~400Hz; | | | |
| | Frequency of 400V and 600V: 40Hz~100Hz | | | |
| DC Current | 40.00mA | $\pm (1\% + 2)$ | 10uA | |
| | 200.0mA | $\pm (1.5\% + 2)$ | 100uA | |
| | 4.000A | $\pm (1.8\% + 2)$ | 1mA | |
| | 10.00A | $\pm (3\% + 2)$ | 10mA | |
| | Overload protection: | | | |
| | self restoring fuse: 200mA/250V, 4A and 10A range no fuse. | | | |
| AC Current | 40.00mA | $\pm (1.3\% + 2)$ | 10uA | |
| | 400.0mA | $\pm (1.8\% + 2)$ | 100uA | |
| | 4.000A | $\pm (2\% + 3)$ | 1mA | |
| | 10.00A | $\pm (3\% + 5)$ | 10mA | |

| | | | |
|-------------------------------|--|-------------|-------|
| | Frequency: 40Hz~400Hz; | | |
| | self restoring fuse: 200mA/250V, 4A and 10A range no fuse. | | |
| Resistance | 400.0Ω | ±(1% + 3) | 0.1Ω |
| | 4.000KΩ | ±(1.2% + 5) | 1Ω |
| | 60.00KΩ | | 10Ω |
| | 400.0KΩ | | 100Ω |
| | 4.000MΩ | | 1KΩ |
| | 40.00MΩ | ± (1.5%±3) | 10KΩ |
| | Overload protection: 220Vrms | | |
| Capacitance | 40.00nF | ±(3% + 5) | 10pF |
| | 400.0nF | | 100pF |
| | 4.000uF | | 1nF |
| | 40.00uF | | 10nF |
| | 100.0uF | | 100nF |
| | Overload protection: 220Vrms | | |
| Diode | 0V~2.0V | | |
| On-Off | <50Ω | | |
| General Specifications | | | |
| Display | | | |
| Display Type | 2.8 inch64K color TFT | | |
| Display Resolution | 320 horizontal by 240 vertical pixels | | |
| Display Contrast | Adjustable | | |
| Power Supply | | | |
| Supply Voltage | 100V-240VAC, 50Hz-60Hz; DC INPUT: 5VDC, 2A | | |
| Power Consumption | <2.5W | | |
| Fuse | T, 3A | | |
| Battery | 2600mA*2 | | |
| Environmental | | | |
| Operating Temperature | 0~50 °C (32~122 °F) | | |

| | | |
|---------------------|---|--|
| Storage Temperature | -40~+71 °C (-40~159.8 °F) | |
| Humidity | ≤+104°F(≤+40°C): ≤90% relative humidity | |
| | 106°F~122°F (+41°C ~50°C): ≤60% relative humidity | |
| Cooling Method | Convection | |
| Altitude | Operating and | 3,000m (10,000 feet) |
| | Nonoperating | |
| Mechanical Shock | Random Vibration | 0.31g _{RMS} from 50Hz to 500Hz, 10 minutes on each axis |
| | Nonoperating | 2.46g _{RMS} from 5Hz to 500Hz, 10 minutes on each axis |
| | Operating | 50g, 11ms, half sine |
| Mechanical | | |
| Dimension | 199 x 98x 40mm (L x W x H) | |
| Weight | 400g | |



Hantek2D82AUTO I



Hantek2D82AUTO II



Hantek2D82AUTO III