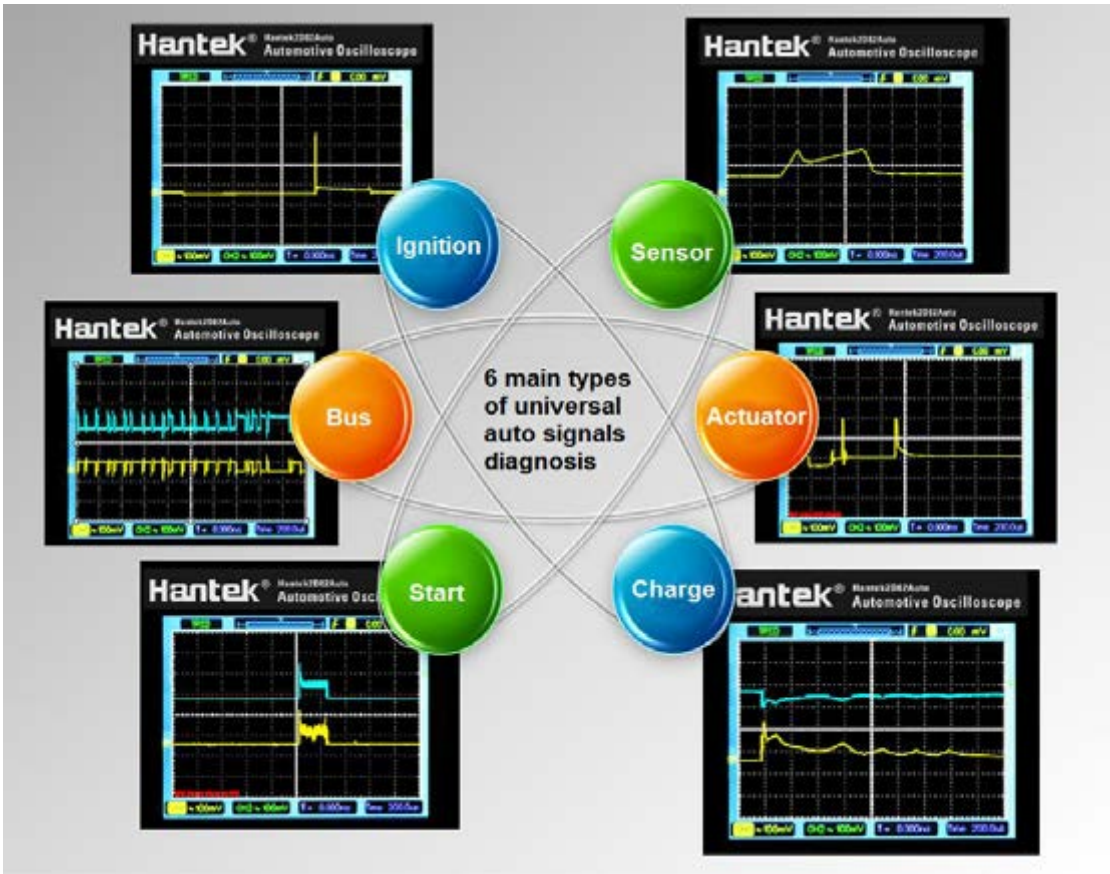
Automotive Diagnostic Handheld Oscilloscope

Automotive Diagnostic Instrument + 2CH Oscilloscope + Multimeter + 1CH Arb. Waveform Generator

Hantek2D82AUTO

Features

Vehicle Testing Function



With more than 80 kinds of car testing, and scan the QR code on the back of device can 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 Function

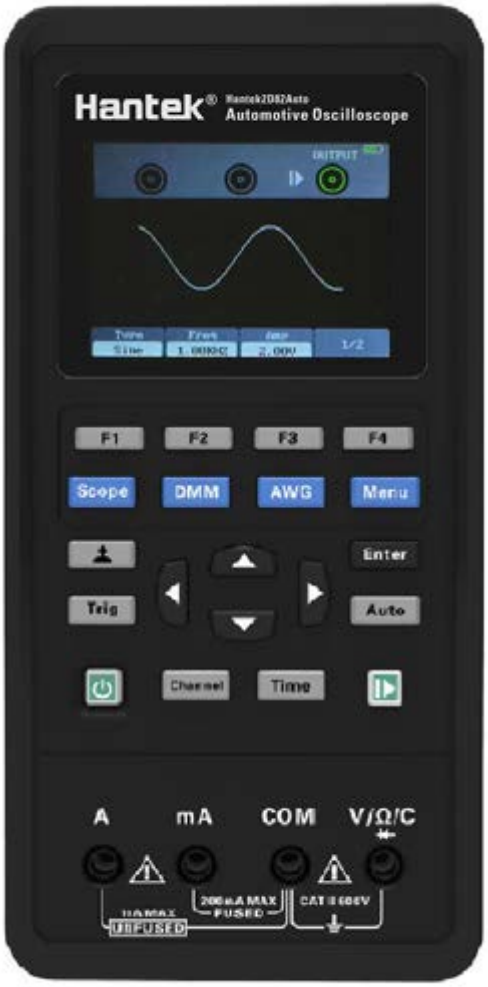
- 2 channels oscilloscope, 80MHz bandwidth, 250M sampling rate.
- 10mV-10V/DIV high input sensitivity and large input range.
- Auto automatic measuring function.
- Adjustable backlight brightness, backlight duration, and auto power off time.
- Cursor measurement, reference waveform, waveform storage function.
- Color highlight LCD screen, legible even in bright sunlight.
- Powered by two universal ICR18650 lithium battery only, be able to work continuously for a full day and standby ower 8 weeks.
- Digital voltmeter function.
- Key tone settings.
- Full function PC software.

Multimeter Function

All series with standard multi-functional digital multimeter which can be used to measure AC/DC voltage, current, resistance, diode, capacitance, continuity test.

- **V~** AC Voltage
- **V-** DC Voltage
- **A~** AC Current
- **A-** DC Current
- Diode Test
- On-off Buzzer
- **Ω** Resistance Test
- **C** Capacitance Test

Signal Simulator Function



- 1 channel arbitrary/function waveform generator.
- 250MSa/s sampling rate.
- 12 bits vertical revolution.
- Output sine wave, square wave, triangle wave, trapezoidal wave and arbitrary wave.
- Sine: 1Hz-25MHz
- Square: 1Hz-10MHz
- Triangle: 1Hz-1MHz
- Trapezoid: 1Hz-5MHz
- 4 types arbitrary wave
- Frequency resolution: 1Hz.
- Output impedance: 50Ω.

Benefits

Primary ignition voltage and crankshaft sensor test

Charging circuit current and voltage test

Primary ignition and secondary ignition test

Primary ignition current test

Secondary ignition test

Cylinder relative pressure test

Crankshaft and camshaft sensor test

ABS wheel speed sensor test

Kit Accessory List

Hantek2D82Auto Kit Accessory List			
Kit	**Hantek2D82Auto Kit I**	**Hantek2D82Auto Kit II**	**Hantek2D82Auto Kit III**
Package Toolcase	1	1	2
Type C cable	1	1	1
Power Adaptor	1	1	1
Multimeter Probe	1	1	1
Test Leads with BNC plug and alligator clip HT324	2	2	2
Auto Test Leads HT30B	1	2	2
Auto Ignition Probe HT25	1	2	2
Acupuncture Probe Set HT307	1	1	2
Coil-on-Plug extension cord HT308	1	2	2
20:1 Attenuator HT201	1	2	2
Large Dolphin/Gator Clips HT18A	0	1	2
Breakout Leads HT301	0	0	1
6 Way Breakout Leads HT306-2.8mm	0	0	1
6 Way Breakout Leads HT306-2.3mm	0	1	1
6 Way Breakout Leads HT306-1.5mm	0	1	1
6 Way Breakout Leads HT306-1.0mm	0	0	1
65A AC/DC Current Clamp CC65	0	0	1
650A AC/DC Current Clamp CC650	0	0	1

Accessories List

Picture	Description	Picture	Description
	Toobcase		Type C cable & Power Adaptor
	Multimeter Probe	 HT324	Test Leads with BNC Plug and Alligator Clip
 HT30B	Auto Test Leads	 HT25	Auto Ignition Probe
 HT307	Acupuncture Probe Set	 HT308	Coil-on-plug Extension Cord
 HT201	20:1 Attenuator	 HT18A	Large Gator Clip
 HT301	Breakout Leads	 HT306	6Way Breakout Leads
 CC65	65A AC/DC Current Clamp	 CC650	650A AC/DC Current Clamp

Specification

Model	Hantek2D82AUTO	
AUTOMOTIVE MEASUREMENT FUNCTION		
Ignition	Primary Ignition	Primary ignition
		Primary ignition (current)
		Primary ignition (voltage & current)
		Primary ignition & crankshaft sensor
		Primary ignition & secondary ignition
	Secondary Ignition	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
Sensor	Air Flow Meter	Air Flow Meter (Hot Wire)
		Air Flow Meter (Hot Wire)
		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
		MAP Digital
		Hall Effect Road Speed Sensor
		Accelerator Pedal (Bosch Diesel)
Bus Diagnosis	CAN Bus	CAN Bus Data View
		CAN Bus Signal Integrity
		CAN Bus LH Long Capture
	LIN Bus	LIN Bus
Engine	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 (Electromagmetic)	
	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	
	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)
Startup & Charge	Relative Compression Petrol, Relative Compression Diesel, Starting Voltage Drop	
	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

OSCILLOSCOPE

Bandwidth	80MHz
Channel	2 CH

Horizontal

Real-time Sampling Rate	250MSa/s dual channels, 125MSa/s single channel
Waveform Interpolation	(sin x)/x
Memory Depth	3K each channel
Time Base Range	5ns/div-500s/div (1-2-5 sequences)

Vertical

Vertical Resolution	8Bit, all channel sampled simultaneously
Input Sensitivity	10mV/div～10V/div at BNC inupt
Bandwidth Limit (Typical)	20MHz
Low Frequency Response (-3db)	≤10Hz at BNC
Rise Time at BNC (Typical)	≤4.4ns
DC Gain Accuracy	±3% for Normal or Average acquisition mode
Note: Bandwidth down to 6MHz when probe at X1	

Acquisition

Acquisition Mode	Normal

Trigger

Trigger Type	Edge
Trigger Mode	Auto, Normal, Single
Trigger Level Range	±4 divisions from center of screen
Trigger Level Accuracy	0.2div × volts/div within ±4 divisions from center of screen
Slope	Rising edge, Falling edge, Rising or Falling edge
Source	CH1, CH2

Input

Inputs Coupling	AC, DC, GND
Input Impedance	25pF±3pF, 1MΩ±2%
Probe Attenuation	1X, 10X
Supported Probe Attenuation Factor	1X, 10X, 100X, 1000X
Maximum Input Voltage	150VRMS

Measurement

Cursor Measurement	Voltage difference between cursors: △V
	Time difference between cursors: △T
Auto Measuerment	Frequence, Pk-Pk

ARBITRARY WAVEFORM GENERATOR

Waveform Frequency	Sine: 1Hz~25MHz Square: 1Hz~10MHz Triangle: 1Hz~1MHz Trapezoidal: 1Hz~5MHz
Sampling Rate	250MSa/s
Amplitude	2.5Vpp (50Ω)
	5Vpp (High impedance)
Frequency Resolution	0.001
Channel	1CH waveform output
Waveform Depth	512 Sa
Vertical Resolution	12 bit
Frequency Stability	<30ppm
Output Impedance	50 Ω

MULTIMETER

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	10MΩ		
Measurement Term	Range	Accuracy	Resolution
DC Voltage	400.00mV	± (0.8% + 5)	100uV
	4.000V		1mV
	40.00V		10mV
	400.0V		100mV
	600.0V	± (1% + 2)	1V
	Overload protection: 400mV: 250V, other: 600Vrms.		
AC Voltage	4.000V	± (1.2% + 5)	1mV
	40.00V		10mV
	400.0V		100mV
	600.0V	±(1.5% + 5)	1V
	Frequency: 40Hz~400Hz		
	Frequency of 400V and 600V: 40Hz~100Hz		
DC Current	40.00mA	± (1.3% + 2)	10uA
	200.0mA	± (1.8% + 2)	100uA
	4.000A	± (2% + 3)	1mA
	10.00A	± (3% + 5)	10mA
	Self restoring fuse: 200mA/250V, 4A and 10A range no fuse.		

AC Current	40.00mA	± (1.3% + 2)	10uA
	400.0mA	± (1.8% + 2)	100uA
	4.000A	± (2% + 3)	1mA
	10.00A	± (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~1.0V		
On-Off	<50Ω		

GENERAL CHARACTORISTICS

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)
Cooling Method	Convection
Mechanical	
Dimension	199 x 98x 40mm (L x W x H)
Weight	400g