ADL7103 Automotive Scope

ADL7103
Three Instruments In One

- ***Dual Channel Digital Storage Oscilloscope***
- ***TRMS Graphing Multimeter***
- ***OBDII Code Reader***

Quickly diagnose automotive faults from making voltage checks, reading codes, resetting the MIL (malfunction indicator lamp) to viewing signal waveforms.

The ADL7103's combination of features also includes a library of known good patterns with preset test parameters for common automotive signals. Each test can be fine tuned to view any portion of the signal for further analysis.

ADL7103 Includes

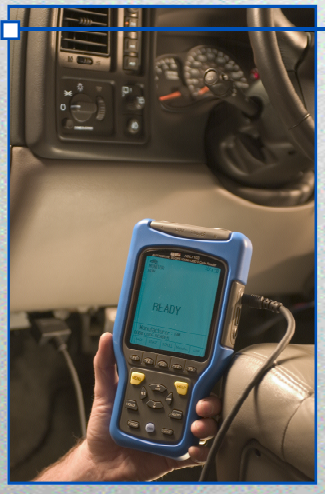
- *1 ADL7103 Automotive Scope*
- *1 AC/DC Power Adapter / Battery Charger*
- *2 Shielded test leads (red & yellow)*
- *2 Grounded leads for shielded leads*
- *3 Alligator clips (red, yellow, & black)*
- *3 Back probe pins (red, yellow, & black)*
- *2 BNC extension leads*
- *1 Secondary Pick up*
- *1 Ground lead for capacitive secondary probe (black)*
- *1 Inductive pick up*
- *1 OBD Code reader cable*
- *1 User manual*
- *1 Soft carrying case*

Scope Mode

- Sample rate 25 Meg per second
- 48 Pre-set waveforms that include sensor, actuator, electrical and ignition patterns
- DC to 5 MHz Bandwidth
- Sweep rate 1µS to 50 seconds in the scope mode
- "Glitch Snare" mode captures, displays and optionally saves abnormal signal patterns in the Scope or Component Test modes
- Secondary Ignition displays the waveform and includes spark volt age, RPM, burn time and burn voltage
- Capable of parade pattern on secondary ignition "Parade" mode
- Built in 'Help' includes test procedure showing how to connect to the circuit, a sample of the expected waveform, theory of operation and troubleshooting tips
- Optional Diesel accessory to test injector pump timing and RPM

Graphing Multimeter Mode

- TRMS Graphing Multimeter
- 5 seconds to 24 hour sweep rate
- AC / DC Volts
- Ohms, Continuity, Diodes
- Frequency, Duty Cycle, Dwell
- Ignition Peak and Burn Volts, Ignition Burn Time
- Amps (with optional adapter)
- Temperature (with optional adapter)



OBDII Code Reader

- Active and Pending Codes
- Generic and Manufacture Specific Definitions (GM, Ford, Chrysler, Toyota and Honda)
- I/M Readiness Monitor Status Indication
- Erase DTC's (diagnostic trouble codes) and reset MIL capability

USB Interface easily supports future updates

Basic Specifications

[DOS]

Horizontal

Sample Rate:	20 Mega sample/second
Record Length:	800 points
Update Rate:	Real time
Accuracy:	±(0.1% + 1 pixel)
Sweep Rate:	1µs to 50 sec in a 1,2,5 sequence (scope mode) 5 s to 24 hours in a 1. 2. 5 sequence (GMM mode)

Vertical

Band Width:	DC to 5MHz; -3 Db
Resolution:	8 bit
Channel:	2 Channel
Coupling:	AC, DC, GND
Input Impedance:	1 M
Max Input Voltage:	DC or AC 600 Vrms
Volt Division:	50mV~100V in a 1,2,5 sequence
Accuracy:	±3%

Trigger

Trigger Source:	CH A, trigger (external)
Modes:	Single shot, normal, auto
Coupling:	AC, DC
Slop:	Rising and falling edge

Others

Glitch Snare:	Scope mode
Glitch Mode:	Scope mode
Setup Memory:	8 Waveform & setup
Reference Waveform:	49 Waveform & setup
Cursor:	Time & Volt
Instrument Setup:	Language, Contrast, Graticule

Detailed Specifications

RPM

Range	Resolution	Accuracy
120 ~ 12000	1 RPM	± 2 RPM

Frequency

Function	Range	Resolution	Accuracy
Frequency	10 Hz	0.001 Hz	± (0.1 % + 3 d)
	100 Hz	0.01 Hz	
	1 kHz	0.1 Hz	
	10 kHz	1 Hz	
	100 kHz	10 Hz	
	1 MHz	100 Hz	
	5 MHz	1 kHz	
% Duty	2.0 % ~ 98 %	0.1 %	
Dwell	3.6 ° ~ 356.4 °	0.1 °	1.2 °/krpm + 2 d
Pulse Width	2 µs ~ 450 ms (Pulse Width > 2 µs)		

DC Voltage

Range	Resolution	Accuracy
500 mV	0.1 mV	± (0.3 % + 5 d)
5 V	0.001 V	
50 V	0.01 V	
600 V	0.1 V	

> Input Impedance: 10MΩ

AC Voltage

Range	Resolution	Accuracy	
		40 Hz ~ 400 Hz	400 Hz ~ 20 kHz
500 mV	0.1 mV	± (0.5 % + 5 d)	± (2.5 % + 5 d)
5 V	0.001 V		
50 V	0.01 V		
600 V	0.1 V		

> Input Impedance: 10MΩ

AC + DC

Range	Resolution	Accuracy	
		40 Hz ~ 400 Hz	400 Hz ~ 10 kHz
DC 500 mV	0.1 mV	± (0.8 % + 5 d)	± (3.0 % + 5 d)
DC 5 V	0.001 V		
DC 50 V	0.01 V		
DC 600 V	0.1 V		

Ohms

Range	Resolution	Accuracy
500 Ω	0.1 Ω	± (0.5 % + 5 d)
5 kΩ	0.001 kΩ	
50 kΩ	0.01 kΩ	
500 kΩ	0.1 kΩ	
5 MΩ	0.001 MΩ	± (0.75 % + 5 d)
30 MΩ	0.01 MΩ	± (0.75 % + 10 d)

DC Amps (current probe outlet)

Range	Resolution	Accuracy
30 mA ~ 20 A	1 mV/10 mA	± (1.5 % + 20 mA)
100 mA ~ 40 A	1 mV/100 mA	± (2.0 % + 20 mA)
40 A ~ 60 A	1 mV/100 mA	± (4.0 % + 0.3 A)

AC Amps (current probe outlet)

Range	Resolution	Accuracy	
		40 Hz ~ 1 kHz	1 kHz ~ 5 kHz
30 mA ~ 10 A	1 mV/10 mA	± (2.0 % + 20 mA)	± (4.0 % + 30 mA)
100 mA ~ 40 A	1 mV/100 mA	± (2.0 % + 20 mA)	± (6.0 % + 30 mA)
40 A ~ 60 A	1 mV/100 mA	± (8.0 % + 0.3 A)	

Continuity

Test Voltage	Threshold	Response time
1.2 V	Approx. 70 Ω	1 ms

Diode Test

Range	Open Circuit Voltage	Accuracy
2.0 V	3.0 V	± (2.0 %5 d)

Temperature

Range	Resolution	Accuracy
-50 °C to 1300 °C	0.1 °C	± 3 °C
-58 °F to 2372 °F	1 °F	± 5 °F