

ADT 761

Automated Pressure Calibrator



OVERVIEW

With a built-in high performance electronic pump and precision pressure controller, the ADT761 series portable automated pressure calibrator provides a turn-key solution for calibration of gauges, transmitters, and switches both in the field and in the laboratory. In a portable package, this calibrator can automatically generate from 90% vacuum to 375 psi (25 bar) pressure with 0.005%FS pressure control stability and 0.02%FS accuracy. To improve the calibrator accuracy, two pressure modules with differing ranges are used. These are built-in and integrated with the internal pump and controller. With optional external pressure modules (ADT160 series), the ADT761 can measure pressures up to 10,000 psi (700 bar) with 0.025%FS accuracy. In addition to the pressure generation, control, and measurement capabilities, the ADT761 also features HART communication capability, supplies 24V loop power, and reads the current or voltage produced by the pressure transducers. The state of art ADT761 automated pressure calibrator brings automated pressure calibration to the field.



- Fully automated pressure calibrator with built-in pressure generator/ controller to 375 psi (25 bar)
- 0.02%FS accuracy
- Dual pressure modules
- Built-in filter and liquid trap with venting system prevents contamination of the calibrator
- Portable (12 lb)

FEATURES

- **Pressure Range**
 - ✓ Pressure generated by built-in pump and controlled automatically from 90% vacuum to 375 psi (25 bar)
 - ✓ Pressure measured with external pressure modules (ADT160 series) to 10,000 psi (700 bar)
- **Accuracy**
 - ✓ 0.02%FS
 - ✓ Fully temperature compensated
- **Control Stability**
 - ✓ 0.005%FS
- **Contamination prevention system**
 - ✓ Built-in filter and liquid trap with venting system prevent contamination of the calibrator
 - ✓ Solid particles can be blocked by built-in filter
 - ✓ A small amount Liquid can be collected by built-in liquid trap
 - ✓ Both solid particles and liquid can be blown out through venting system
- **Automation and Test Program**
 - ✓ Fully Automated pressure calibration
 - ✓ Task preset and auto run
 - ✓ Auto step
- **Easy to Use**
 - ✓ User friendly interface
 - ✓ Intuitive icon driven menu structure
- **Sourcing and Measuring electrical signals**
 - ✓ Measure mA or V with 0.01% RD + 0.005%FS accuracy
 - ✓ Source 0 to 22mA current
 - ✓ 24 VDC loop power supply to pressure transmitter during test
 - Automatic switch test
- **Misuse Protection**
 - ✓ Up to 30V misuse protection on any two sockets
- **Display**
 - ✓ 7" LCD color screen (800X480)

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FEATURES

- **Documenting and data logging**
 - ✓ Task management capability
 - ✓ Internal memory stores 120 tasks
 - ✓ Download tasks and upload results
- **Hart Communication capability**
Support HART instrumentation
- **Rechargeable battery**
Rechargeable battery with up to 8 hours operation between charges
- **Leak testing**
Apply leak test to an external pressure system to determine the magnitude of pressure variations due to leaks
- **Pipeline Protection**
Special design the pipeline layout to avoid possible blockage and leakage
- **Portable**
Only 12 lb
- **Multi Lingual Interface**
English, German, French, Italian, Spanish, Portuguese, Simplified Chinese
(Traditional Chinese, Japanese and Russian are available per request)
- **NIST Traceable Calibration with Data (included)**



SPECIFICATIONS

■ Pressure Ranges

Model	Pressure Range	Pressure Module 1		Pressure Module 2	
		Range	Accuracy	Range	Accuracy
ADT761-D	-0.95 to 1 bar (-14 to 15 psi)	-25 to 25 mbar (-10 to 10 in H ₂ O)	0.05%FS	-1 to 1 bar (-15 to 15 psi)	0.02%FS
ADT761-L	-0.95 to 7 bar (-14 to 100 psi)	-1 to 2.5 bar (-15 to 35 psi)	0.02%FS	0 to 7 bar (0 to 100 psi)	0.02%FS
ADT761-M	-0.90 to 25 bar (-13 to 375 psi)	-1 to 2.5 bar (-15 to 35 psi)	0.02%FS	0 to 25 bar (0 to 375 psi)	0.02%FS

* ADT761 calibrators support ADT160 series intelligent digital pressure modules that are available for gauge, vacuum and absolute pressure from -15 psi to 10,000 psi (-1 bar to 700 bar). Accuracy from 0.025%FS includes operation over 14°F to 122°F (-10°C to 50°C), one year stability and calibration uncertainty. For detailed specification refer to ADT160 series pressure modules datasheet.

■ Electrical Measurement and Source Accuracy

	Range	Resolution	Accuracy
Voltage Measurement	±30.0000V	0.1mV	±(0.01%RD + 0.005%FS)
Current Measurement	±30.0000mA	0.1uA	±(0.01%RD + 0.005%FS)
Current Source	0.000 to 22.000mA	1uA	±(0.02%RD + 0.01%FS)
On-off Measurement	If the switch has detective Voltage, the range is from 3V to 24V		
DC 24V output	24V ± 0.5V		

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SPECIFICATIONS

■ Control Stability

<0.005%FS

■ Pressure Connections

0.156 inch (Φ4 mm) test hose on calibrator (replaceable)

Two 1/4"NPT female hand-tight connectors on the External Pressure Manifold (included)

■ External Pressure Module Connection

External pressure module connector

■ Electrical Connection

0.156 inch (4mm) banana sockets

■ Data Logger

Storage capacity: 120 files maximum

■ Display

☒ 7" LCD color screen (800X400)

☒ Display rate: 5 readings per second

■ Pressure Units

Pa, kPa, MPa, psi, bar, mbar, inH₂O @ 4°C, mmH₂O @ 4°C, inHg @ 0°C, mmHg @ 0°C, kgf/cm²

■ Power

Battery: Rechargeable Li-ion Polymer battery (included)

Li-Battery working time: ~8 hours

Recharge time: ~3 hours

External Power: 110/220V Power adapter (DC 27 V) (Included)

■ Environmental Specification:

Operating temperature: 0 °C to 50°C

Storage temperature: -20°C to 60°C

Humidity: <90%, non-condensing

■ European Compliance

CE Marked

■ Communication

RS232 (DB9/F, environmentally sealed)

Baud rate: 2400, 4800, 9600, 19200, 38400, 57600, 115200

Data length: 7 Bits, 8 Bits

Stop bit: 1 Bit, 2 Bits

Address: from 1 to 121

■ Dimension

11.65" X 7.32" X 7.09" (296mm X186mm X180mm)

■ Weight

12.4 lb (5.6 kg)

■ Warranty

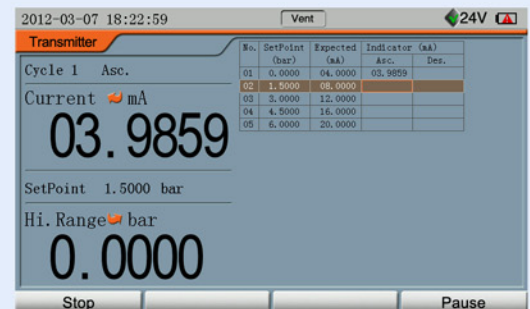
18 months



Task Manual



Built-in User's Manual



Pressure gauge/transmitter/switch calibration



Documenting

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ORDERING INFORMATION

■ Model Number

ADT761 -- L -- N

Pressure range D/L/M:

See pressure range table.

Pressure port type on External






Pressure Manifold:

N-1/4" NPT female


B-1/4" BSP female

M-M20X1.5 female



Accessories (included)		
ADT106-N, ADT106-B or ADT106-M External Pressure Manifold	1 pc	
9818 110V/220V external Power adapter	1 pc	
9722 Chargeable Li-ion battery	1 pc	
9022 Test Leads for calibrator	2 sets (4 pc)	
9020 Short circuit cable	1 set (2 pc)	
9907 Carrying case for ADT761 calibrator and accessory	1 pc	
O-Rings	20 pc	
Manual	1 pc	
Tools	1 set	
Hose	2 pc	
NIST traceable calibration certificate	1 pc	

* Additel/Land software could be downloaded for free at www.additel.com

Optional Accessories		
Model Number	Description	Picture
ADT100-761-4N	Hose Test Kit, 5 feet flexible hose, 0.156" (4mm) tube to 1/4NPT hand-tight quick connector	
ADT100-761-4B	Hose Test Kit, 5 feet flexible hose, 0.156" (4mm) tube to 1/4BSP hand-tight quick connector	
ADT106-N	External Pressure Manifold (with two 1/4NPT hand-tight quick connectors)	
ADT106-B	External Pressure Manifold (with two 1/4BSP hand-tight quick connectors)	
ADT106-M	External Pressure Manifold (with two M20X1.5 hand-tight quick connectors)	
ADT160	Pressure modules (please check ADT160 datasheet)	
9060	Pressure module connection cable	