Additel 760
Automatic Handheld Pressure Calibrator

Selection Guide

Model / Features	760-LLP	760-LLP-DL	760-D	760-D-DL	760-MA	760-MA-DL
Pressure Range[1]	±30 in H_2O (±75 mbar)	±30 in H_2O (±75 mbar)	-12.5 to 35 psi (-0.86 to 2.5 bar)	-12.5 to 35 psi (-0.86 to 2.5 bar)	-12.5 to 300 psig (-0.86 to 20 bar)	-12.5 to 300 psig (-0.86 to 20 bar)
Accuracy (%FS)	0.05[1]	0.05[1]	0.02[1]	0.02[1]	0.02[1][3]	0.02[1][3]
Stability (%FS)	<0.005[2]	<0.005[2]	<0.005[2]	<0.005[2]	<0.005[2]	<0.005[2]
Gauge Pressure	●	●	●	●	●	●
Differential Pressure	●	●	●	●		
Absolute Pressure					●	●
Barometric Pressure					●	●
Removable Internal Module	●	●	●	●	●	●
External Pressure Module	●	●	●	●	●	●
Temperature Compensated	●	●	●	●	●	●
Built-in Electrial Pump	●	●	●	●	●	●
Built-in Filter	●	●	●	●	●	●
Built-in Liquid Trap	●	●	●	●	●	●
Source/Simulate 24 mA	●	●	●	●	●	●
Measure mA or V	●	●	●	●	●	●
24V Loop power	●	●	●	●	●	●
Pressure switch test	●	●	●	●	●	●
HART Communication		●		●		●
Task Documentation		●		●		●
Data Logging		●		●		●
Channels	4	4	4	4	4	4
USB, Wi-Fi, and Bluetooth	●	●	●	●	●	●

[1] FS specification applies to the span of the module range.
[2] Stability based on FS of the internal pressure module. Internal module is switchable.
[3] Specification based on gauge measurement. An additional 40 pa uncertainty will need to be included when measuring in absolute mode.

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Additel 760
Automatic Handheld Pressure Calibrator

- **Fully automatic calibrator with built-in pump and controller**
- **Switchable internal pressure modules for expandable ranges**
- **Accuracy (1 year) of 0.02%FS**
- **External pressure modules available (measure only)**
- **Less than 4 lbs (1.8 kg) for handheld operation**
- **Source pressure, measure pressure and electrical**
- **4 channels**
- **Optional HART communications**
- **Optional data logging and task documenting**
- **USB, Wi-Fi, and Bluetooth communications**

OVERVIEW

A portable automated pressure calibrator in the palm of your hand—this could be our most exciting product yet! The Additel 760 series Automatic Handheld Pressure Calibrator takes portable pressure calibration to new levels. Weighing less than 4 lbs (1.8 kg), the ADT760's innovative design contains a built-in pump, precision pressure sensor, internal controller and a large touch-screen color display. To generate pressure, simply key in the desired pressure and the Additel 760 will do the rest. Each unit has four channels: one internal pressure channel for source and measure pressures, two external pressure measurement channels, and one electronic measure and source channel. This series of calibrator has three standard models with the option of adding HART communications, documentation and data logging.

FEATURES

ADT760-LLP

The 760-LLP is designed for low pressure calibration and comes with a built-in pressure module to ±30 inH$_2$O (±75 mbar) and provides an accuracy to 0.05%FS. If you need to go lower in pressure, you can purchase additional internal pressure modules (ADT155 series), which for the 760-LLP provide a variety of ranges down to ±0.25 inH$_2$O (±0.62 mbar). The accuracy of 0.05%FS and control stability 0.005%FS is based on the internal module's span. Measurements can be made in gauge or differential mode.

ADT760-D

The 760-D gives you differential and gauge pressure but at a higher pressure range than the ADT760-LLP. Covering the range of -12.5 to 35 psi (-0.86 to 2.5 bar) and with an accuracy of 0.02%FS, the ADT760-D is an ideal solution to cover very common gauge and differential pressure measurements. The Additel 760-D comes with an internal module covering its full range, but lower pressure modules down to ±10 inH$_2$O differential can be purchased to improve accuracy at lower pressures.

ADT760-MA

The 760-MA generates and controls pressure from vacuum pressures up to 300 psig (20 bar.g) with an accuracy of 0.02%FS. Equipped with a built-in barometric reference, each unit can switch between gauge and absolute pressure types. A variety of internal sensors are available which offer lower pressure ranges for improved performance.

Documenting Process Functionality

Each model of the Additel 760 series has an option incorporating documentation and communication functions turning your 760 into a multifunction documenting process calibrator. This feature provides HART communication, task documentation and data logging.

Pressure Specifications

Specification	760-LLP	760-D	760-MA
Max Pressure Range	±30 inH$_2$O (75 mbar)	-12.5 to 35 psi (-0.86 to 2.5 bar)	-12.5 to 300 psig (-0.86 to 20 bar.g)
Accuracy	0.05%FS[1]	0.02%FS[1]	0.02%FS[1][3]
Stability	<0.005%FS[2]	<0.005%FS[2]	<0.005%FS[2]
Pressure Type	Differential, Gauge	Differential, Gauge	Gauge, Absolute
Over Range Indication	120%		
Resolution	6 digits		
Measurement Units	Pa, hPa, kPa, mPa, bar, mbar, psi, mmHg@0°C, cmHg@0°C, mHg@0°C, inHg@0°C, inH$_2$O@4°C, mmH$_2$O@4°C, cmH$_2$O@4°C, mH$_2$O@4°C, mmH$_2$O@20°C, cmH$_2$O@20°C, mH$_2$O@20°C, inH$_2$O@20°C, kg/m2, mtorr, torr, lb/ft2, tsi, custom		
Barometric Accuracy	N/A	N/A	40 Pa[4]
Connection	Barb fitting	G1/8 BSPF	G1/8 BSPF
Pressure Output Rate	<30 Seconds (30 inH$_2$O/100 ml)	<10 Seconds (35 psi/5 ml)	<90 Seconds (300 psi/5 ml)

[1] FS specification applies to the span of the module range.
[2] Stability based on FS of the internal pressure module. Internal module is switchable.
[3] Specification based on gauge measurement. An additional 40 pa uncertainty will need to be included when measuring in absolute mode.
[4] 40 Pa uncertainty (k=2) includes calibration uncertainty, linearity, and long-term stability (<30 Pa per year). Barometer range of 60 to 120 kPa.

Electrical Specifications

Specification	Range	Resolution	Accuracy	Note
mA Measure	±30 mA	0.0001 mA	0.01%RD+0.005%FS	Impedance <10Ω
V Measure	±30 V	0.0001 V	0.01%RD+0.005%FS	Impedance >10MΩ
mA Source	24 mA	0.001 mA	0.01%RD+0.005%FS	20 mA @ 1K
Loop Power Source	24 V	N/A	±0.5 V	100 mA (Max Loading)
Pressure Switch	Open, close. Support for mechanical switches and NPN/PNP digital switches.			
Temperature Compensation	41°F to 95°F (5°C to 35°C)			
Temperature Coefficient	< ± (0.001%RD + 0.001%FS) / °C outside of 5°C to 35°C			

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Internal Modules Specifications and Compatibility

Module	Module Range		Media	Accuracy (%FS)[1]	Burst Pressure	760-LLP	760-D	760-MA
	inH$_2$O	mbar						
DP025	±0.25	±0.62	G	0.2[2]	100x	●		
DP050	±0.5	±1.25	G	0.1[2]	100x	●		
DP1	±1	±2.5	G	0.05[2]	100x	●		
DP2	±2	±5	G	0.05[2]	100x	●		
DP5	±5	±10	G	0.05[2]	50x	●		
DP10	±10	±25	G	0.05[2]	20x	●	●	
DP20	±20	±50	G	0.05	20x	●	●	
DP30	±30	±75	G	0.05	20x	●	●	
DP50	±50	±160	G	0.05	3x		●	
DP150	±150	±350	G	0.02	3x		●	
DP300	±300	±700	G	0.02	3x		●	
DP400	-350 to 400 (-12.5 to 15 psi)	-860 to 1K (-0.86 to 1 bar)	G	0.02	3x		●	
DP800	-350 to 800 (-12.5 to 30 psi)	-860 to 2K (-0.86 to 2 bar)	G	0.02	3x		●	
DP1K	-350 to 1K (-12.5 to 35 psi)	-860 to 2.5K (-0.86 to 2.5 bar)	G	0.02	3x		●	
Gauge Pressure	psi	bar						
CP10	±10	±0.7	G	0.02[3]	3x		●	●
CP15	±15	±1	G	0.02[3]	3x		●	●
CP30	-12.5 to 30	-0.86 to 2	G	0.02[3]	3x		●	●
CP35	-12.5 to 35	-0.86 to 2.5	G	0.02[3]	3x		●	●
CP100	-12.5 to 100	-0.86 to 7	G	0.02[3]	3x			●
CP150	-12.5 to 150	-0.86 to 10	G	0.02[3]	3x			●
CP200	-12.5 to 200	-0.86 to 14	G	0.02[3]	3x			●
CP300	-12.5 to 300	-0.86 to 20	G	0.02[3]	3x			●

[1] FS specification applies to the span of the module range. Accuracy includes one-year stability, except for DP025 to DP10 modules.
[2] 0.05%FS accuracy (incl 6-month stability). One-year accuracy is 0.05%FS calibration accuracy combined with 0.05%FS one-year stability.
[3] Specification based on gauge measurement. An additional 40 pa uncertainty will need to be included when measuring in absolute mode. Applicable only for use with the ADT761-MA

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General Specifications

Specification	Description
Channels	Four total: one electrical, one internal pressure, two external pressure (measure only)
Enclosure IP Rating	IP54 water and dust proof
Battery	Rechargeable Li-Ion battery, typically 10 hours of operation, recharges in less than 4 hours
Display	Color 800 x 480 TFT 5-inch touch screen
Communications	USB, WiFi, Bluetooth
Weight	<4 lbs (<1.8 kg)
Size	9.3 x 4.3 x 2.8 in (235 x 110 x 70 mm)
Certification	NIST-traceable certificate with data included
HART Communications	Optional (ADT760-X-DL model)
Data Logging	Optional (ADT760-X-DL model), up to 1,000,000 readings (date and time stamped)
Task Documentation	Optional (ADT760-X-DL model) up to 250 tasks
Automation Functions	Switch test, auto step, leak test
Misuse Protection	Up to 30 V on any two sockets
Multi Lingual Interface	English, German, French, Italian, Spanish, Portuguese, Chinese, Japanese, and Russian
Pump Life	>500,000 cycles
Power	Rechargeable Li-Ion battery, external power: 110/220 V power adapter 10 V
Environment Specifications	Operation: 32°F to 122°F (0°C to 50°C), 0-90% RH, less than 3,000 meters Compensated temperature: 32°F to 122°F (0°C to 50°C) Storage temperature: -4°F to 158°F (-20°C to 70°C)
Vibration and Shock	Vibration: 4g (20 to 2,000 Hz) Shock: 8g, 1 meter drop test
Compliance	CE
Warranty	1 year

Optional Internal Pressure Modules	
Module Number	Description
ADT155-DP025-760	Pressure module for ADT760, ±0.25 inH_2O, ±0.2%FS
ADT155-DP050-760	Pressure module for ADT760, ±0.5 inH_2O, ±0.1%FS
ADT155-DP1-760	Pressure module for ADT760, ±1 inH_2O, ±0.05%FS
ADT155-DP2-760	Pressure module for ADT760, ±2 inH_2O, ±0.05%FS
ADT155-DP5-760	Pressure module for ADT760, ±5 inH_2O, ±0.05%FS
ADT155-DP10-760	Pressure module for ADT760, ±10 inH_2O, ±0.05%FS
ADT155-DP20-760	Pressure module for ADT760, ±20 inH_2O, ±0.05%FS
ADT155-DP30-760	Pressure module for ADT760, ±30 inH_2O, ±0.05%FS
ADT155-DP50-760	Pressure module for ADT760, ±50 inH_2O, ±0.05%FS
ADT155-DP150-760	Pressure module for ADT760, ±150 inH_2O, ±0.02%FS
ADT155-DP300-760	Pressure module for ADT760, ±300 inH_2O, ±0.02%FS
ADT155-DP400-760	Pressure module for ADT760, -350 to 400 inH_2O (-12.5 to 15 psi), ±0.02%FS
ADT155-DP800-760	Pressure module for ADT760, -350 to 800 inH_2O (-12.5 to 30 psi), ±0.02%FS
ADT155-DP1K-760	Pressure module for ADT760, -350 to 1K inH_2O (-12.5 to 35 psi), ±0.02%FS
ADT155-CP2-760	Pressure module for ADT760, ±2 psi, ±0.05%FS
ADT155-CP5-760	Pressure module for ADT760, ±5 psi, ±0.02%FS
ADT155-CP10-760	Pressure module for ADT760, ±10 psi, ±0.02%FS
ADT155-CP15-760	Pressure module for ADT760, -12.5 to 15 psi, ±0.02%FS
ADT155-CP30-760	Pressure module for ADT760, -12.5 to 30 psi, ±0.02%FS
ADT155-CP35-760	Pressure module for ADT760, -12.5 to 35 psi, ±0.02%FS
ADT155-CP50-760	Pressure module for ADT760, -12.5 to 50 psi, ±0.02%FS
ADT155-CP100-760	Pressure module for ADT760, -12.5 to 100 psi, ±0.02%FS
ADT155-CP150-760	Pressure module for ADT760, -12.5 to 150 psi, ±0.02%FS
ADT155-CP200-760	Pressure module for ADT760, -12.5 to 200 psi, ±0.02%FS
ADT155-CP300-760	Pressure module for ADT760, -12.5 to 300 psi, ±0.02%FS

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Ordering Information

Model Number

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ADT760 ─ LLP
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Pressure range:
See Model Type table.

Model Type

Model Number	Description
ADT760-LLP	Automatic Handheld Pressure Calibrator, ±30 inH$_2$O (DP30 sensor included)
ADT760-LLP-DL	Automatic Handheld Pressure Calibrator, ±30 inH$_2$O (DP30 sensor included) w/HART and data logging
ADT760-D	Automatic Handheld Pressure Calibrator, -12.5 to 35 psi (CP35 sensor included)
ADT760-D-DL	Automatic Handheld Pressure Calibrator, -12.5 to 35 psi (CP35 sensor included) w/ HART and data logging
ADT760-MA	Automatic Handheld Pressure Calibrator, -12.5 to 300 psi (CP300 sensor included)
ADT760-MA-DL	Automatic Handheld Pressure Calibrator, -12.5 to 300 psi (CP300 sensor included) w/ HART and data logging

Accessories (Included)

Model	Quantity	Picture
ADT100-760-KIT adapter set with built-in filter	1 set (1/4NPTM to G1/8M, G1/4M to G1/8M, M20M to G1/8M)	
9819-X 110V/220V external power adapter	1 pc	
9724 chargeable Li-ion battery	1 pc	
9025 test leads for calibrator	1 sets (3 pcs)	
CD Manual	1 pc	
Tools to remove module and battery	1 pc	
Touch Screen Pen	1 pc	
NIST-traceable certificate	1 pc	

* Additel/Land software available for free download at www.additel.com

Optional Accessories

Model	Description	Picture
ADT160A	Pressure modules (reference 160A data sheet; module connection cable sold separately)	
9060	Pressure module connection cable	
9510	Additel/Cal task management software	
ADT100-760-N	Hose test kit, 5 feet flexible hose, 0.156" (Ø4mm) tube to 1/4NPT quick connector	
ADT100-760-B	Hose test kit, 5 feet flexible hose, 0.156" (Ø4mm) tube to 1/4BSP quick connector	
ADT100-760-M	Hose test kit, 5 feet flexible hose, 0.156" (Ø4mm) tube to M20x1.5 quick connector	
ADT100-760-N2	Hose test kit, 5 feet flexible hose, 0.156" (Ø4mm) tube to 1/2NPT quick connector	
ADT100-760-B2	Hose test kit, 5 feet flexible hose, 0.156" (Ø4mm) tube to 1/2BSP quick connector	
ADT128-B	Pneumatic Pressure Manifold for ADT760, -15 to 3000 psi, single port, 1/4 BSP F	
ADT128-B2	Pneumatic Pressure Manifold for ADT760, -15 to 3000 psi, single port, 1/2 BSP F	
ADT128-N	Pneumatic Pressure Manifold for ADT760, -15 to 3000 psi, single port, 1/4 NPT F	
ADT128-N2	Pneumatic Pressure Manifold for ADT760, -15 to 3000 psi, single port, 1/2 NPT F	
ADT128-M	Pneumatic Pressure Manifold for ADT760, -15 to 3000 psi, single port, M20x1.5	
9240	DP gauge holder, rubber	
1220211087	Filter, set of 2 pcs	
9913-760-SC	Soft carrying case for ADT760, test leads, and many accessories	
9914-760	Carry case for ADT760 and various accessories	