Metrology Made Simple

Additel 760
Automatic Handheld Pressure Calibrators

- **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 and Wi-Fi 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 build-in pressure module of your choice. The maximum range module compatible with the ADT760-LLP is to ±30 inH2O (±75 mbar) and provides an accuracy to 0.05%FS (see ordering information for configurations with the option of the ADT760 and a module of your choice). Additional internal pressure modules (ADT155 series) are available and 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 of your choice. The maximum range module compatible with the ADT760-D is to 35 psi. Lower pressure configurations 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, mH2O@68°F, inH$_2$O@20°C, kgf/cm2, mtorr, torr, lb/ft2, tsi, custom		
Barometric Accuracy	N/A	N/A	55 Pa[4]
Connection	Barb fitting	Hose, 5 ft (1.5 m), with built-in filter to 1/4BSPF, 1/4NPTF, and M20F adapters	Hose, 5 ft (1.5 m), with built-in filter to 1/4BSPF, 1/4NPTF, and M20F adapters
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. Stability is 0.005%FS or 0.05 pa whichever is greater. Internal module is switchable.
[3] Specification based on gauge measurement. An additional 55 pa uncertainty will need to be included when measuring in absolute mode.
[4] 55 Pa uncertainty (k=2) includes calibration uncertainty, linearity, and long-term stability (<30 Pa per year). Barometer range of 60 to 110 kPa.

Electrical Specifications

Specification	Range	Resolution	Accuracy	Note
mA Measure	± 30 mA	0.0001 mA	0.01%RD + 1.5 µV	Impedance <10 Ω
V Measure	± 30 V	0.0001 V	0.01%RD + 1.5 mV	Impedance >1 MΩ
mA Source	24 mA	0.001 mA	0.01%RD + 1.2 µV	20 mA @ 1 K
Loop Power Source	24 V	N/A	± 1 V	50 mA (Max Loading)
Pressure Switch	Open, close. Support for mechanical switches and NPN/PNP digital switches.			
Temperature Compensation	8 °C to 38 °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

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Module	Module Range[6]		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[3]	100x	●		
DP1	±1	±2.5	G	0.05[4]	100x	●		
DP2	±2	±5	G	0.05[4]	100x	●		
DP5	±5	±10	G	0.05[4]	50x	●		
DP10	±10	±25	G	0.05[4]	20x	●	●	
DP20	±20	±50	G	0.05	20x	●	●	
DP30	±30	±75	G	0.05	20x	●	●	
DP50	±50	±125	G	0.05	3x		●	
DP100	±100	±250	G	0.02	3x		●	
DP150	±150	±350	G	0.02	3x		●	
DP300	±300	±700	G	0.02	3x		●	
DP400	-380 to 400	-950 to 1K	G	0.02	3x		●	
DP800	-380 to 800	-950 to 2K	G	0.02	3x		●	
DP1K	-380 to 1K	-950 to 2.5K	G	0.02	3x		●	
Gauge Pressure	psig	bar.g						
CP10	±10	±0.7	G	0.02[5]	3x		●	●
CP15	-13.5 to 15	-0.95 to 1	G	0.02[5]	3x		●	●
CP30	-13.5 to 30	-0.95 to 2	G	0.02[5]	3x		●	●
CP35	-13.5 to 35	-0.95 to 2.5	G	0.02[5]	3x		●	●
CP50	-13.5 to 50	-0.95 to 3.5	G	0.02[5]	3x			●
CP100	-13.5 to 100	-0.95 to 7	G	0.02[5]	3x			●
CP150	-13.5 to 150	-0.95 to 10	G	0.02[5]	3x			●
CP200	-13.5 to 200	-0.95 to 14	G	0.02[5]	3x			●
CP300	-13.5 to 300	-0.95 to 20	G	0.02[5]	3x			●

[1] FS specification applies to the span of the module range. Accuracy includes one-year stability, except for DP025 to DP10 modules.

[2] Accuracy is a 6 months spec, 1-year long-term drift is 0.2%FS.

[3] Accuracy is a 6 months spec, 1-year long-term drift is 0.1%FS.

[4] Accuracy is a 6 months spec, 1-year long-term drift is 0.05%FS.

[5] Specification based on gauge measurement. An additional 55 pa uncertainty will need to be included when measuring in absolute mode. Applicable only for use with the ADT760-MA

[6] The low module pressure range may be outside the pressure range of the calibrator

* ADT155 Pressure Modules are calibrated in psi & inH2O

General Specifications

Specification	Description
Channels	Four total: one electrical, one internal pressure, two external pressure (measure only)
Enclosure IP Rating	IP52 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 and WiFi
Weight	<4 lbs (<1.8 kg)
Size	9.3 x 4.3 x 2.8 in (235 x 110 x 70 mm)
Certification	ISO 17025 accredited 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 1000 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: 4 g (20 to 2,000 Hz) Shock: 8 g
Compliance	CE
Software	ACal, Land, LogII
Warranty	1 year

Optional Internal Pressure Modules

Module Number	Description
ADT155-20-DP025	Pressure module for ADT760-LLP, ±0.25 inH_2O, ±0.2%FS
ADT155-10-DP050	Pressure module for ADT760-LLP, ±0.5 inH_2O, ±0.1%FS
ADT155-05-DP1	Pressure module for ADT760-LLP, ±1 inH_2O, ±0.05%FS
ADT155-05-DP2	Pressure module for ADT760-LLP, ±2 inH_2O, ±0.05%FS
ADT155-05-DP5	Pressure module for ADT760-LLP, ±5 inH_2O, ±0.05%FS
ADT155-05-DP10	Pressure module for ADT760-LLP & -D ±10 inH_2O, ±0.05%FS
ADT155-05-DP20	Pressure module for ADT760-LLP & -D, ±20 inH_2O, ±0.05%FS
ADT155--05-DP30	Pressure module for ADT760-LLP & -D, ±30 inH_2O, ±0.05%FS
ADT155-05-DP50	Pressure module for ADT760-D, ±50 inH_2O, ±0.05%FS
ADT155-02-DP100	Pressure module for ADT760-D, ±100 inH_2O, ±0.02%FS
ADT155-02-DP150	Pressure module for ADT760-D, ±150 inH_2O, ±0.02%FS
ADT155-02-DP300	Pressure module for ADT760-D, ±300 inH_2O, ±0.02%FS
ADT155-02-DP400	Pressure module for ADT760-D, -380 to 400 inH_2O (-13.5 to 15 psi), ±0.02%FS
ADT155-02-DP800	Pressure module for ADT760-D, -380 to 800 inH_2O (-13.5 to 30 psi), ±0.02%FS
ADT155-02-DP1K	Pressure module for ADT760-D, -380 to 1K inH_2O (-13.5 to 35 psi), ±0.02%FS
ADT155-02-CP10	Pressure module for ADT760-D & -MA, ±10 psi, ±0.02%FS
ADT155-02-CP15	Pressure module for ADT760-D & -MA, -13.5 to 15 psi, ±0.02%FS
ADT155-02-CP30	Pressure module for ADT760-D & -MA, -13.5 to 30 psi, ±0.02%FS
ADT155-02-CP35	Pressure module for ADT760-D & -MA, -13.5 to 35 psi, ±0.02%FS
ADT155-02-CP50	Pressure module for ADT760-D & -MA, -13.5 to 50 psi, ±0.02%FS
ADT155-02-CP100	Pressure module for ADT760-MA, -13.5 to 100 psi, ±0.02%FS
ADT155-02-CP150	Pressure module for ADT760-MA, -13.5 to 150 psi, ±0.02%FS
ADT155-02-CP200	Pressure module for ADT760-MA, -13.5 to 200 psi, ±0.02%FS
ADT155-02-CP300	Pressure module for ADT760-MA, -13.5 to 300 psi, ±0.02%FS

* ADT155 Pressure modules are calibrated in psi & inH2O

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Selection Guide

Features \ Model	760-LLP	760-LLP-DL	760-D	760-D-DL	760-MA	760-MA-DL
Pressure Range[1]	±30 in H$_2$O (±75 mbar)	±30 in H$_2$O (±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%FS[1]	0.02%FS[1]	0.02%FS[1][3]	0.02%FS[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 Electrical 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 and Wi-Fi	●	●	●	●	●	●

[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 55 pa uncertainty will need to be included when measuring in absolute mode.

Ordering Information

■ Model Number

| ADT760 | — | MA | — | 02 | CP100 | • • | DL |

Pressure range:
See Model Type table

02 - 0.02% full span
05 - 0.05% full span
10 - 0.1% full span
20 - 0.2% full span

Internal Pressure Module Range:
See Optional Internal Pressure Model table.
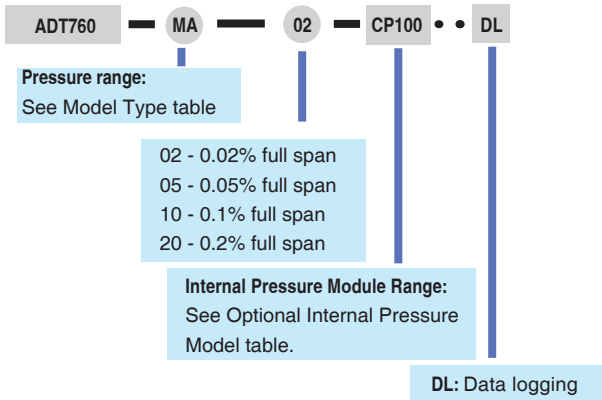
DL: Data logging

Model Type

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

* Configurations available for ADT760 units with different internal pressure sensor range

Accessories (Included)

Model	Quantity	Picture
ADT100-760-KIT adapter set (excl ADT760-LLP)	1 set (to 1/4BSPF, to 1/4NPTF, to M20F)	
USB to USB cable (ADT760-X-DL only)	1 pc	
9816-X 110V / 220V external power adapter	1 pc	
9724 chargeable Li-ion battery	1 pc	
9025 test leads for calibrator	1 sets (3 pcs)	
ADT100-760 Hose	1 pc for the ADT760-MA	
Pressure Hose	1 pc for the ADT760-D	
Silicone Tube	2 meters for the ADT760-LLP 1 meter for the ADT760-D	
1220211206 Adapter, quick female to barb (Only for ADT760-D)	1 pc	
ISO17025 accredited certificate	1 pc	

Optional Accessories

Model	Description	Picture
ADT161	See datasheet of ADT161 for more info; connection cable sold separately	
9060	Pressure module connection cable	
ADT100-760-N	Special Connector to 1/4NPT quick connector	
ADT100-760-B	Special Connector to 1/4BSP quick connector	
ADT100-760-M	Special Connector to M20x1.5 quick connector	
ADT100-760-N2	Special Connector to 1/2NPT quick connector	
ADT100-760-B2	Special Connector to1/2BSP quick connector	
ADT128-B	Pneumatic Pressure Manifold for ADT760, -15 to 1000 psi, single port, 1/4 BSP F	
ADT128-B2	Pneumatic Pressure Manifold for ADT760, -15 to 1000 psi, single port, 1/2 BSP F	
ADT128-N	Pneumatic Pressure Manifold for ADT760, -15 to 1000 psi, single port, 1/4 NPT F	
ADT128-N2	Pneumatic Pressure Manifold for ADT760, -15 to 1000 psi, single port, 1/2 NPT F	
ADT128-M	Pneumatic Pressure Manifold for ADT760, -15 to 1000 psi, single port, M20x1.5	
9240	DP gauge holder with a built-in 80 ml chamber	
1220211087	Filter, set of 1 pc	
9913-760-SC	Soft carrying case for ADT760, test leads, and many accessories	
9914-760	Carry case for ADT760 and various accessories	
ADT100-760-CNT	Special connector (to be used to adapt from the ADT760 to ADT100-760-KIT adapters)	

* Additel/Land software available for free download Call Us

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