Additel 773
Pressure Controller/Generator

Additel
Metrology Made Simple

- ■ **Pressure ranges from -380 inH2O (-0.95 bar) to 400 inH2O (1 bar)**
- ■ **Two removable internal pressure modules with multi-range selection**
- ■ **0.02%FS accuracy**
- ■ **Control stability of 0.003%FS**
- ■ **Ultra-High speed pressure generation and control**
- ■ **Optional barometric pressure module**
- ■ Built-in differential pressure pump
- ■ Large 7" color touch screen display
- ■ Modular design for easy maintenance, greatly reducing on-site downtime
- ■ Emulation mode

OVERVIEW

These modular pressure controllers combine speed, cutting-edge control/ measurement technology, modular design, and user-friendly features. The Additel 773 controller is optimized for low pressure work by utilizing Additel's proven low-pressure pump technology in combination with control capabilities that revolutionized the industry as seen in the well-known handheld model ADT760. For users who require automated production, test, and calibration, Additel has the workload covered with these pressure controllers. The ADT773 can be quickly outfitted with two controlling modules and one reference barometric module to cover a wide pressure range.

Quick Change Pressure Modules (30 seconds)

Additel's 151 pressure control modules can be installed or replaced within 30 seconds or less. The upper edge of the cabin is simple to open. As the door opens, the controller will automatically release pressure, providing the safe removal and installation of the ADT151 modules. Additel offers various different pressure ranges for the ADT773 controller by utilizing these easy to swap pressure modules. Select from the module ranges listed on page 3.

20% Pressure Step within 10 seconds

In the process of efficient and fast-paced end-of-line testing, verification and calibration, companies have strict requirements on the speed of pressure controllers. ADT773 adopts professional pressure control technology to effectively improve control speed and control stability. Air pressure controller: control response time (typical) $\leq$10S, control stability $<$ 0.003%FS, see specifications for more details.

Built-in pump

The Additel 773 comes with an integrated internal low-pressure pump which provides users with a turnkey solution for pressure calibration work. Additel pump designs are well known and dependable. Not only are the fast, but they also offer the best control and stability in their class. In fact, the automated pumps in other Additel models have revolutionized the industry.

External Drive Valve Control

The ADT773 Controller provides valve control for up to 3 external valves. One of the channels is designated for controlling contamination prevention system (CPS), which helps to prevent media contamination. The remaining two channels can be used to control external vacuum pumps or external isolation valves for greater flexibility and compatibility for individual situations.

Contamination Prevention System (CPS) Extends the Maintenance Interval of the Controller

Calibration of DUT's (devices under test) often introduces contaminates to a calibration system. Contaminates can cause restrictions in valves, lines and filters. Additel has included a turn-key solution with the ADT773 to help reduce these concerns and improve durability and dependability when calibrating customers devices. The use of an automatic contamination prevention system and integration firmware to allow for purges between pressure cycles to further reduce the possibility of introducing contaminates into the system.

Pressure Specifications

Specification \ Model	ADT773
Max Pressure Range[1]	400 inH2O (14.5 psi, 1 bar)
Min Pressure Range	-380 inH2O (-13.5 psi, -0.95 bar)
Precison[2]	0.015%FS (DP2-DP5) 0.025%FS (DP10-DP1K)
Accuracy[3]	0.05%FS (DP2-DP5) 0.02%FS (DP10-DP1K)
Control Stability[4]	< 0.003%FS
Control Response Time[5]	< 10 Seconds
Pressure Type	Low Differential Pressure
Interchangeable Pressure Module Bays	2
Max Pressure Control Range of Internal Module	(-400~400) inH2O / (-1~1) bar
Min Pressure Control Range of Internal Module	(-1~1) inH2O / (-2.5~2.5) mbar
Range Switching Mode	Fixed or Auto
Supply Source	Built-in air pump
Control Mode	Fast, standard or custom
Maximum Overshoot	< 1%FS
Maximum Load Volume	500 mL
Contamination Prevention System (CPS)	Optional
Pressure Port	1/8 BSP F
Port Filter[6]	Support

[1] The minimum negative pressure limit is given based on the atmospheric pressure value of 1 bar.
[2] Precison: the error components includes linearity, hysteresis, repeatability, resolution, and temperature effects.
[3] Accuracy: the error components includ linearity, hysteresis, repeatability, resolution, reference standard measurement uncertainty, annual drift, temperature compensation, K=2.
[4] The control stability is 0.003%FS or 0.05Pa, which is greater.
[5] The air pressure is tested under the condition of external load volume 50 mL, 20% step, and the time to reach 0.005% FS stability.
[6] All pressure ports are installed with 40~100μm filters.

Internal Module Specification

The following tables provide information regarding our ADT151 modular pressure sensors that are designed to easily mount in the front bays of the ADT773 Pressure controller. Our differential pressure (DP) module accuracy specifications include linearity, hysteresis, repeatability, temperature compensation resolution, reference standard measurement uncertainty, annual drift and K=2, precision specifications include linearity, hysteresis, repeatability, resolution, and temperature compensation. The DP style gauges can be zeroed by the controller from time to time to mitigate the effect of zero drift. The specifications are valid from 15°C~35°C. We recommend that these pressure models be calibration annually.

Differential Pressure Module for ADT783-D

Model[1]	Differential Pressure 1st range[2]	2nd range	Measurement Type	Pressure Medium	Precision[3] [4] (%FS)	Accuracy[5] (% FS)
ADT151-XX-DP400	(-400~400) inH2O (-1000~1000) mbar	(-200~200) inH2O (-500~500) mbar	DP	G	0.015	0.02
ADT151-XX-DP300	(-300~300) inH2O (-700~700) mbar	(-150~150) inH2O (-350~350) mbar	DP	G	0.015	0.02
ADT151-XX-DP200	(-200~200) inH2O (-500~500) mbar	(-100~100) inH2O (-250~250) mbar	DP	G	0.015	0.02
ADT151-XX-DP150	(-150~150) inH2O (-350~350) mbar	(-100~100) inH2O (-250~250) mbar	DP	G	0.015	0.02
ADT151-XX-DP100	(-100~100) inH2O (-250~250) mbar	(-50~50) inH2O (-125~125) mbar	DP	G	0.015	0.02
ADT151-XX-DP50	(-50~50) inH2O (-125~125) mbar	(-30~30) inH2O (-75~75) mbar	DP	G	0.015	0.02
ADT151-XX-DP30	(-30~30) inH2O (-75~75) mbar	(-20~20) inH2O (-50~50) mbar	DP	G	0.015	0.02
ADT151-XX-DP20[6]	(-20~20)inH2O (-50~50)mbar	(-10~10) inH2O (-25~25)mbar	DP	G	0.015	0.02
ADT151-XX-DP10[6]	(-10~10) inH2O (-25~25) mbar	(-5~5) inH2O (-10~10) mbar	DP	G	0.015	0.02
ADT151-XX-DP5[6]	(-5~5) inH2O (-10~10) mbar	(-2~2) inH2O (-5~5) mbar	DP	G	0.025	0.05
ADT151-XX-DP2[6]	(-2~2) inH2O (-5~5) mbar	(-1~1) inH2O (-2.5~2.5) mbar	DP	G	0.025	0.05

[1] DP300 to DP400 provides positive range, accuracy and precision specifications continue to apply;
  P10 to DP150 provides a positive range with accuracy and precison specifications of 0.02%FS and 0.015%FS, respectively;
  DP2 to DP5 provides a positive range, with accuracy and precison specifications of 0.05%FS and 0.025%FS, respectively.
[2] The overload pressure of all pressure modules is 150%FS, and the burst pressure of modules: DP20 / DP 10 / DP5 / DP2: 100mbar, DP100 / DP50 /
  DP30:1000mbar, DP400/DP300 / DP200 / DP150: 4000 mbar.
[3] FS means upper range - lower range.
[4] Precison: the error components includes linearity, hysteresis, repeatability, resolution, and temperature compensation.
[5] Accuracy: the error components includ linearity, hysteresis, repeatability, resolution, reference standard measurement uncertainty, annual drift, temperature compensation, K=2.
[6] Recommended calibration period 180 days.

Barometric Specifications

Model[1]	Absolute Pressure Range	Accuracy
ADT151-BP	(60~110) kPa	±22 Pa
ADT151-BPH	(60~110) kPa	±10 Pa

[1] Additel 773 controller can be equipped with an barometric pressure module. After inserting the barometric pressure module, the controller can be toggled to and from gauge and absolute pressure units.
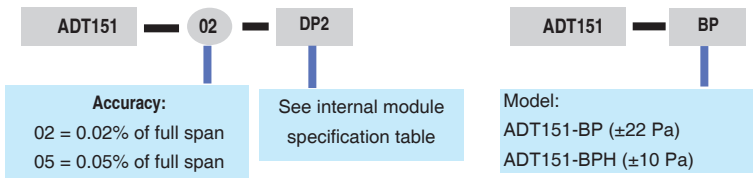
General Specifications

Specification	Description
Power Requirements	Power supply: AC100~240 V, 50/60 Hz
	Fuse: T3.15A 250V AC
	Maximum Power consumption: 150W
Size /Weight	Chassis Size: 17.32 × 5.23 × 14.96 in (440(W) × 133(H) × 380(D) mm)
	Rack Mount Dimensions: 3U-19" rack, Horizontal Direction
	Chassis weight: 17.6 kg
	Pressure module weight: 0.5 kg
Environment	Operating Ambient: 10℃ ~50℃
	Storage Temperature: -20℃ ~70℃
	Operating humidity: 5%RH~95%RH, non-condensing
	Altitude (Operation): <2000 m
	Ingress Protection: IP20, Indoor use only
	Vibration level: 2 G
	Impact intensity: 4 G
	Warmup Time: 15 minutes
	Machine drop height: 250 mm
Conformity	CE, UKCA
Communications	RS232, USB-A*2, LAN
	WIFI, Bluetooth, GPIB, mouse, keyboard and other peripheral components can be expanded based on the USB port.
	SCPI Command set is compatible with ADT780, PACE5000/6000, DRUCK DPI520, user customizable
External drive valve port	3-channel external drive valves, green terminal connector with lock
	Maximum driving ability 24 V / 12 W, 30 V max
	One channel fixed to the CPS pollution prevention device, the remaining 2 channels, users can be used to Control the external vacuum Pump and external isolation valve
I/O Alarm port	3-channel, green terminal connector with a lock
	Volt-Free No/Nc relay, the maximum current-carrying capacity: 24 V / 0.5 A, 30 V max
Pressure switch test port	One channel, green terminal connector with lock
	Maximum load 24 V / 0.1 A 30 V max
	Support mechanical switch, electronic switch testing
Display	7-inch capacitive touch screen, 1280 * 800 resolution, reflective panels, black, white background can be user selectable.
	Communication update speed: 10 times per second
	Display refresh rate: 5 times per second
	Pressure value maximum displays: + 9999999, display digits is adjustable
External pressure module	Measurement only
Internal pressure control module port	Opening the cabin door will automatically release the pressure for safe removal of modules
	Inside of cabin, 3 pressure module bays, from left to right including a high pressure module bay, a low pressure module bay, and a barometric pressure module bay
Warranty	1 year

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ORDERING INFORMATION

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■ Model Number (Base Unit Only - No Pressure Modules)

ADT773

ADT773 Base unit

Barometer Module
Low Module
High Module

ADT151 — 02 — DP2

Accuracy:
02 = 0.02% of full span
05 = 0.05% of full span

See internal module specification table

ADT151 — BP

Model:
ADT151-BP (±22 Pa)
ADT151-BPH (±10 Pa)

ADT151-02-DP2

ADT151-BP

Accessories (included)

Model number	Quantity	Picture
1311000014 AC power cord (10A 250V)	1 pc	
ISO17025 accredited calibration certificate	1 pc	
Green terminal plug (For switch detection)	2 pcs	
O-ring 3.5*1.5 (For sealing pressure control module)	10 pcs	
Festo plug 6 mm (For sealing)	2 pcs	
Festo connector 1/8 BSP M to 6mm (Base pressure port)	2 pcs	

General Optional Accessories

Model number	Description	Picture
9050	**USB to 232 cable**	
9055-1	**USB to Bluetooth module**	
9055-2	**USB to WIFI module**	
9053	**USB to GPIB cable**	
9050-EXT	**RS232 communication line**	
9054	**Calibration fixture for ADT151 (Including adapter base w/ 1/4BSP male fitting, RS232/power supply cable, 9V adapter, calibration software)**	
9245	**Rack Flange Assembly**	
Waiting	**Green terminal plug**	

Optional Accessories of ADT773

Model number	Description	Picture	Note
1650800039	Polyurethane tube 6 mm ×1.5 m		one set: 8 mm silicone tube outlet, which can be connected to a single-head instrument frame or DUTs with barb hose connector interface.
1220700199	Adapter assembly 6 mm to Bar hose adapter		
1710400040	Silicone tube 8 mm × 0.5 m		
1650800039	Polyurethane tube 6 mm × 1.5 m		one set: 1/4BSP outlet, can be connected to CPS gas-liquid separator or 121 manifold.
Waiting	Adapter 6 mm to 1/4 BSP F		
9240A	Single head instrument rack Bar hose connector with air chamber		Alternative
ADT121	Manifold 4 ports, 25 MPa		
1650700087	Quick connetcor (6 mm)		one set: for drainage of vent port
1650800039	Polyurethane tube (6 mm× 1.5 m)		
1650700087	Qucik connector (6 mm)		6 mm outlet, ADT773 connect with positive pressure and vacuum air source
ADT108-X-KIT	Contamination Prevention System		If the DUT is dirty or with liquid, please choose CPS