

Additel 773

Pressure Controller/Generator



- 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 contaminants 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 contaminants into the system.



Pressure Specifications

| Model | ADT773 |
|---|--|
| Specification | |
| Max Pressure Range ^[1] | 400 inH2O (14.5 psi, 1 bar) |
| Min Pressure Range | -380 inH2O (-13.5 psi, -0.95 bar) |
| Precision ^[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 | 6 mm Festo |
| Port Filter ^[6] | Support |

[1] The minimum negative pressure limit is given based on the atmospheric pressure value of 1 bar.

[2] Precision: the error components includes linearity, hysteresis, repeatability, resolution, and temperature compensation.

[3] Accuracy: the error components include 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 ADT773 | | | | | | |
|---|---------------------------------------|-------------------------------------|------------------|-----------------|-----------------------------------|--------------------------------|
| Model | Differential Pressure | | Measurement Type | Pressure Medium | Precision ^{[2][3]} (%FS) | Accuracy ^[4] (% FS) |
| | 1st range ^[1] | 2nd range | | | | |
| 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 ^[5] | (-20~20) inH2O (-50~50) mbar | (-10~10) inH2O (-25~25) mbar | DP | G | 0.015 | 0.02 |
| ADT151-XX-DP10 ^[5] | (-10~10) inH2O (-25~25) mbar | (-5~5) inH2O (-10~10) mbar | DP | G | 0.015 | 0.02 |
| ADT151-XX-DP5 ^[5] | (-5~5) inH2O (-10~10) mbar | (-2~2) inH2O (-5~5) mbar | DP | G | 0.025 | 0.05 |
| ADT151-XX-DP2 ^[5] | (-2~2) inH2O (-5~5) mbar | (-1~1) inH2O (-2.5~2.5) mbar | DP | G | 0.025 | 0.05 |

[1] 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.

[2] FS specification applies to the span of the range.

[3] Precision: the error components include linearity, hysteresis, repeatability, resolution, and temperature compensation.

[4] Accuracy: the error components include linearity, hysteresis, repeatability, resolution, reference standard measurement uncertainty, annual drift, temperature compensation, K=2.

[5] 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°C ~50°C |
| | Storage Temperature: -20°C ~70°C |
| | 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 |
| 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 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 |
| Hose & Filter End of Life | The estimated End of Life (EOL) expectancy for all accessory hoses and filters (pneumatic and hydraulic) is approximately 10 years and should be replaced at the first sign of wear or damage. |

ORDERING INFORMATION



Model Number (Base Unit Only - No Pressure Modules)

ADT773

ADT773 Base unit



ADT151 Barometer Module
ADT151 Low Module
ADT151 High Module

Note of ADT151 Pressure Modules

ADT151 Pressure Modules for High Module Bay

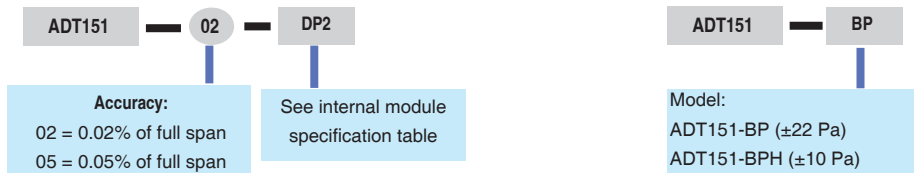
ADT151-XX-DP30 ~ DP400 At least one module within the range of DP30 to DP400 must be installed in the high side module bay.

ADT151 Pressure Modules for Low Module Bay

ADT151-XX-DP2 ~ DP400 The low module bay can be left empty, but when a low-pressure module is installed, the range must be lower than the installed high pressure module.

ADT151 Barometer Modules for Barometer Module Bay

ADT151-BP
ADT151-BPH See ADT151 barometric specifications table for details.








ADT151-02-DP2



ADT151-BP

| Accessories (included) | | | |
|---|----------|---------|--|
| Model number | Quantity | Picture | |
| 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 ADT151) | 10 pcs | | |
| 1/4BSP plug (for output port) | 1 pc | | |
| ADT151 reference port plug | 1pc | | |
| 5 feet flexible hose, 4500 psi, 1/4BSP female to 1/4BSP female ADT100-HTK-4.5K-BSPF4-BSPF4 | 1pc | | |
| Adapter, 1/4NPT male to 1/4BSP female (ADT100-NPTM4-BSPF4) | 1pc | | |
| Adapter, 1/4NPT male to 1/4BSP male (ADT100-NPTM4-BSPM4) | 1pc | | |

| 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 adapter | |
| 9050-EXT | RS232 communication line | |
| 9245 | Rack Flange Assembly | |
| 9055 | Green terminal plug | |
| 9054 | Calibration fixture for ADT151 (Including adapter base w/ 1/4BSP male fitting, RS232/ power supply cable, 9V adapter, calibration software) | |

| <i>Output pressure connections of ADT773 (Optional)</i> | | |
|---|--|---|
| Model number | Description | Picture |
| 9240A | DP gauge holder with a built-in 80 ml chamber |  |
| ADT121-X | External Manifold |  |
| Need this 2 parts on Vent or Exhaust ports to drain the internal liquid to external container | 1650700087 | Quick connector (6 mm)  |
| | 1650800039 | Polyurethane tube (6 mm x 1.5 m)  |
| ADT108-KIT | Contamination Prevention System (Including ERP#:1650800039 polyurethane hose 700 kPA Max 1.5m length, and adaptor, 6mm Festo to 1/4BSP F) |  |