

# Additel 151

## Digital Pressure Modules



- Pressure ranges to 15,000 psi (1,000 bar)
- Accuracy of 0.02%FS, 0.01%FS or 0.01%RD
- Fully temperature compensated accuracy
- Two pressure ranges per module



ADT151 Module

### OVERVIEW

Additel's 151 pressure modules have been designed with flexibility and efficiency in mind and can easily be swapped out as needed to meet changing needs and workloads. Higher pressure ADT151 modules cover two separate pressure ranges and come with individual calibrations for each range. This allows for each module to accurately cover a wide range or pressure workloads. Also, each ADT151 is available in (3) different accuracy levels (0.02% FS, 0.01% FS and 0.01% of reading to meet the demanding needs of our customers. Additel's 151 pressure modules provide users with the flexibility and dependability end users have come to expect.

### FEATURES

- Precision sensor measurement accuracy to 0.01% RD
- Gauge pressure measurement accuracy of 0.02% FS
- Pressure ranges to 15,000 psi (1,030 bar)
- Advanced temperature compensation
- ISO 17025 accredited calibration and data included

### PRESSURE RANGE

The following indicators mainly describe the range, accuracy, and precision of the pressure module. For pressure modules of gauge pressure and differential pressure type, the zero drift can be eliminated by regular zeroing; the applicable ambient temperature of the indicators is 15°C–35°C; the recommended calibration cycle 365 days; CDDA module provides single-range and dual-range, users can choose according to needs.

Precision: The error components include linearity, hysteresis, repeatability, resolution and temperature influence;

Accuracy: The error components include linearity, hysteresis, repeatability, resolution, reference standard measurement uncertainty, annual drift, temperature influence, K=2;

### BAROMETRIC MEASUREMENT SPECIFICATIONS

Barometer Type <sup>[1]</sup>	Absolute Pressure Range	Max Allowable Error
ABP	(60~110) kPa	±22 Pa
ABPH	(60~110) kPa	±10 Pa

[1] A barometric pressure module is optional for ADT773/ADT783/ADT793. After inserting the barometric pressure module, the controller can be toggled to and from gauge and absolute pressure units.



CP Pressure Module With Calibration Fixture



BP Pressure Module With Calibration Fixture



Metrology Made Simple

Model Range	Compound Gauge pressure <sup>[1]</sup>		Measurement Type	Media	Accuracy (%FS) <sup>[2] [5]</sup>	Precision <sup>[4]</sup> (%FS)
	1st range	2nd range				
GP15K	(0~15000) psi / (0~10000) bar	(0~6000) psi / (0~400) bar	Sealed gauge	G,L	0.01 (0.02)	0.007 (0.01)
GP10K	(0~10000) psi / (0~700) bar	(0~5000) psi / (0~350) bar	Sealed gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP6K	(-15~6000) psi / (-1~400) bar	(-15~3000) psi / (-1~200) bar	Sealed gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP5K	(-15~1000) psi / (-1~350) bar	(-15~3000) psi / (-1~200) bar	Sealed gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP3.5K	(-15~3500) psi / (-1~250) bar	(-15~1500) psi / (-1~100) bar	Sealed gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP3K	(-15~3000) psi / (-1~200) bar	(-15~1500) psi / (-1~100) bar	Sealed gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP2K	(-15~2000) psi / (-1~160) bar	(-15~1000) psi / (-1~70) bar	Sealed gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP1K	(-15~1000) psi / (-1~70) bar	(-15~500) psi / (-1~35) bar	Gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP500	(-15~500) psi / (-1~35) bar	(-15~300) psi / (-1~20) bar	Gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP300	(-15~300) psi / (-1~20) bar	(-15~150) psi / (-1~10) bar	Gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP150	(-15~150) psi / (-1~10) bar	(-15~60) psi / (-1~4) bar	Gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP100	(-15~100) psi / (-1~7) bar	(-15~50) psi / (-1~3.5) bar	Gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP50	(-15~50) psi / (-1~3.5) bar	(-15~30) psi / (-1~2) bar	Gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP30	(-15~30) psi / (-1~2) bar	(-15~15) psi / (-1~1) bar	Gauge	G,L	0.01 (0.02)	0.007 (0.01)
CP15	(-15~15) psi / (-1~1) bar	(-10~10) psi / (-0.7~0.7) bar <sup>[3]</sup>	Gauge	G,L	0.01 (0.02)	0.007 (0.01)

[1] The overload pressure of all pressure modules is 110%FS, and the burst pressure is 200%FS, the burst pressure of CP15M, CP1.5K, and CP150 is 130%FS.

[2] For the full-scale accuracy, FS refers to the upper limit of the range - the lower limit of the range.

[3] The second range (-10~10)psi accuracy is 0.02%FS.

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

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

## SPECIFICATIONS

Model <sup>[4]</sup>	Differential Pressure		Measurement Type	Pressure Medium	Precision <sup>[4]</sup> (%FS)	Accuracy <sup>[2] [5]</sup> (%FS)
	1st range <sup>[1]</sup>	2nd range <sup>[2]</sup>				
DP1000	(-400~1000) inH2O (-1000~2500) mbar	(-400~400) inH2O (-1000~1000) mbar	DP	G	0.015	0.02
DP800	(-400~800) inH2O (-1000~2000) mbar	(-400~400) inH2O (-1000~1000) mbar	DP	G	0.015	0.02
DP400	(-400~400) inH2O (-1000~1000) mbar	(-200~200) inH2O (-500~500) mbar	DP	G	0.015	0.02
DP300	(-300~300) inH2O (-700~700) mbar	(-150~150) inH2O (-350~350) mbar	DP	G	0.015	0.02
DP200	(-200~200) inH2O (-500~500) mbar	(-100~100) inH2O (-250~250) mbar	DP	G	0.015	0.02
DP150	(-150~150) inH2O (-350~350) mbar	(-100~100) inH2O (-250~250) mbar	DP	G	0.015	0.02
DP100	(-100~100) inH2O (-250~250) mbar	(-50~50) inH2O (-125~125) mbar	DP	G	0.015	0.02
DP50	(-50~50) inH2O (-125~125) mbar	((-30~30) inH2O (-75~75) mbar	DP	G	0.015	0.02
DP30	(-30~30) inH2O (-75~75) mbar	((-20~20) inH2O (-50~50) mbar	DP	G	0.015	0.02
DP20 <sup>[3]</sup>	(-20~20) inH2O (-50~50) mbar	(-10~10) inH2O (-25~25) mbar	DP	G	0.015	0.02
DP10 <sup>[3]</sup>	(-10~10) inH2O (-25~25) mbar	((-5~5) inH2O (-10~10) mbar	DP	G	0.015	0.02
DP5 <sup>[3]</sup>	(-5~5) inH2O (-10~10) mbar	(-2~2) inH2O (-5~5) mbar	DP	G	0.025	0.05
DP2 <sup>[3]</sup>	(-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: DP2/DP5/DP10/DP20:100mbar, DP30/DP50/DP100 :1000 mbar, DP200/DP300/DP150 :4000 mbar, DP800/DP1000 :10000 mbar

[2] FS means upper range - lower range.

[3] Recommended calibration cycle 180 days

[4] DP300 to DP1000 provides positive range, accuracy and uncertainty specifications continue to apply;

DP10 to DP150 provides a positive range with accuracy and uncertainty specifications of 0.05 and 0.02, respectively;

DP2 to DP5 provides a positive range, with accuracy and uncertainty specifications of 0.1 and 0.05, respectively.

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

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

<b>High-precision Gauge Pressure Module Specification</b>						
Model	Gauge pressure range <sup>[1]</sup>	Absolute Pressure Range <sup>[2]</sup>	Measurement Type	Media	Precision <sup>[4][5]</sup>	Accuracy <sup>[3][6]</sup>
GP15KM	(0~15000) psi	(15~15015) psi	Sealed gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
GP10KM	(0~10000) psi	(15~10015) psi	Sealed gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
GP6KM	(-15~6000) psi	(0~6015) psi	Sealed gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
GP5KM	(-15~5000) psi	(0~5015) psi	Sealed gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP3.5KM	(-15~3500) psi	(0~3015) psi	Sealed gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP3KM	(-15~3000) psi	(0~3015) psi	Sealed gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP2KM	(-15~2000) psi	(0~2015) psi	Sealed gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP1.5KM	(-15~1500) psi	(0~1515) psi	Gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP1KM	(-15~1000) psi	(0~1015) psi	Gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP500M	(-15~500) psi	(0~515) psi	Gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP300M	(-15~300) psi	(0~315) psi	Gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP150M	(-15~150) psi	(0~165) psi	Gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP100M	(-15~100) psi	(0~115) psi	Gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP50M	(-15~50) psi	(0~65) psi	Gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater
CP30M	(-15~30) psi	(0~45) psi	Gauge	G,L	0.008% rdg or 0.004% FS whichever is greater	0.01% rdg or 0.005% FS whichever is greater

[1] The overload pressure of all pressure modules is 110%FS, and the burst pressure is 200%FS, the burst pressure of CP15KM, CP1.5KM, and CP150M is 130%FS;

[2] Absolute pressure is achieved through the synthesis of the basic gauge pressure module and the optional atmospheric pressure module;

[3] The accuracy of 0.01%IS-50 is 0.01%RD when the accuracy is above 50% of the range. The accuracy of the negative pressure part is equal to the accuracy of the positive pressure part, such as the maximum error of -15 psi is equal to the maximum allowable error of 15 psi;

[4] FS refers to the positive range, and the accuracy of the negative pressure part is equal to that of the positive pressure part.

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

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

## ORDERING INFORMATION

### Model Number

ADT151 — 01 — GP15K


#### Accuracy:

01 - 0.02% of full span  
02 - 0.02% of full span  
05 - 0.05% of full span

Pressure range P/N:  
See pressure range table

- Accessories included  
ISO 17025 accredited Calibration Certificate

### Optional Accessories

Model number	Description	Picture
9054	Calibration fixture for ADT151 (Including adapter base w/ 1/4BSP male fitting, RS232/power supply cable, 9V adapter, calibration software)	



Additel 783 with ADT151 Pressure Module

## SPECIFICATIONS

	Standard Accuracy			Precision Accuracy
	CPXX	DPXX	GPXX	CPXM
Operating temperature	-10°C to 50°C (14°F to 122°F)			10°C to 30°C (50°F to 86°F)
Storage temperature	-30°C to 70°C (-22°F to 158°F)			-30°C to 70°C (-22°F to 158°F)
Relative humidity	95% RH			90% RH
Enclosure (for external use only)	SS enclosure			
Dimensions (Dia x H)	33 mm x 123 mm (1.3" x 4.84")			
Weight	0.4 kg (0.99 lb)			
Warranty	1 Year			