

ADT 161, 161Ex Intelligent Digital Pressure Modules



Gauge pressure

Differential pressure

- Pressure ranges to 4,200 bar (60,000 psi)
- Precision accuracy to 0.01% RD
- Intrinsically Safe (Ex) models available
- Fully temperature compensated accuracy

Overview

With advanced microprocessor technology and state-of-the-art silicon pressure sensors, Additel's 161 and 161Ex series Digital Pressure Modules provide an accurate, reliable, and economic solution for wide range of pressure applications. Our intrinsically safe (Ex) models are up to the task of providing the best possible results, even in hazardous environments. In order to reach the best performance, every silicon pressure sensor in the module has been specially aged, tested and screened before assembly. Designed as external pressure modules for Additel's 760 automatic handheld pressure calibrator, the ADT761 automated pressure calibrator, ADT226 series handheld process calibrator and Additel's flagship 780 pressure controller, the Additel 161 is unmatched in performance and reliability. If intrinsic safety is a critical requirement for your workload, we have you covered when you combine our model ADT226Ex process calibrator with any of our ADT161Ex pressure modules.

Features

- Precision sensor measurement accuracy to 0.01% RD
- Gauge pressure measurement accuracy of 0.02% FS
- Pressure ranges to 4,200 bar (60,000 psi)
- Intrinsically Safe (Ex) models available
- Advanced temperature compensation
- ISO 17025 accredited calibration and data included

Pressure Range

Differential Pressure						
P/N	Pressure Range ^[1]		Medium	Accuracy (% FS)	Burst Pressure	Static Pressure Range
	(inH2O)	(mbar)				
DP1	±1	±2.5	Gas	0.05 ^[2]	100x	±10 psi
DP2	±2	±5.0	Gas	0.05 ^[2]	100x	±10 psi
DP5	±5	±10	Gas	0.05 ^[2]	50x	±10 psi
DP10	±10	±25	Gas	0.05 ^[2]	20x	±10 psi
DP20	±20	±50	Gas	0.05	20x	±10 psi
DP30	±30	±75	Gas	0.05	20x	±10 psi
DP50	±50	±160	Gas	0.05	3x	±10 psi
DP100	±100	±250	Gas	0.02	3x	±15 psi
DP150	±150	±350	Gas	0.02	3x	50 psi
DP300	±300	±700	Gas	0.02	3x	50 psi

[1] FS specification applies to the span of the range. Accuracy includes one year stability.

[2] 0.05%FS accuracy (incl. 6 months stability). One year accuracy is 0.05%FS calibration accuracy combined with 0.05%FS one year stability.

Pressure Range

Gauge Pressure ^[1]					
P/N	Pressure Range		Media ^[2]	Accuracy (% FS)	Burst Pressure
	(psi)	(bar)			
V15	-15	-1.0	G, L	0.02	3x
GP2	2	0.16	G, L	0.05	3x
GP5	5	0.35	G, L	0.05	3x
GP10	10	0.7	G, L	0.02	3x
GP15	15	1.0	G, L	0.02	3x
GP30	30	2.0	G, L	0.01 (0.02)	3x ^[3]
GP50	50	3.5	G, L	0.01 (0.02)	3x ^[3]
GP100	100	7.0	G, L	0.01 (0.02)	3x ^[3]
GP150	150	10	G, L	0.01 (0.02)	3x ^[3]
GP300	300	20	G, L	0.01 (0.02)	3x ^[3]
GP500	500	35	G, L	0.01 (0.02)	3x ^[3]
GP600	600	40	G, L	0.01 (0.02)	3x ^[3]
GP1K	1,000	70	G, L	0.01 (0.02)	3x ^[3]
GP1.5K	1,500	100	G, L	0.01 (0.02)	3x ^[3]
GP2K	2,000	140	G, L	0.01 (0.02)	3x ^[3]
GP3K	3,000	200	G, L	0.01 (0.02)	3x ^[3]
GP5K	5,000	350	G, L	0.01 (0.02)	3x ^[3]
GP10K	10,000	700	G, L	0.01 (0.02)	2x ^[4]
GP15K	15,000	1,000	G, L	0.05	2x
GP20K	20,000	1,400	G, L	0.05	1.5x
GP25K	25,000	1,600	G, L	0.05	1.5x
GP30K	30,000	2,000	G, L	0.05	1.5x
GP36K	36,000	2,500	G, L	0.05	1.5x
GP40K	40,000	2,800	G, L	0.05	1.35x
GP50K	50,000	3,500	G, L	0.1	1.2x
GP60K	60,000	4,200	G, L	0.1	1.1x

[1]. Sealed gauge pressure for above 1000 psi

[2]. G=Gas, L=Liquid

[3] 2x for 0.01% FS

[4] 1.2x for 0.01% FS

Note: 0.01%FS accuracy sensors cannot be configured as Ex models and cannot be read by Ex devices



Specifications

Compound Pressure						
P/N	Pressure Range		Media	Accuracy (%FS)	Pressure Rating	
	(psig)	(bar.g)			Burst	Over Pressure
CP2	±2	±0.16	G	0.05% FS	3x	1.2x
CP10	±10	±0.7	G	0.02% FS	3x	1.2x
CP15	±15	±1.0	G	0.02% FS	3x	1.2x
CP30	-15 to 30	-1 to 2.0	G	0.01 (0.02)	3x	1.2x
CP100	-15 to 100	-1 to 7.0	G,L	0.01 (0.02)	3x	1.2x
CP150	-15 to 150	-1 to 10	G,L	0.01 (0.02)	3x	1.2x
CP300	-15 to 300	-1 to 20	G,L	0.01 (0.02)	3x	1.2x
CP500	-15 to 500	-1 to 35	G,L	0.01 (0.02)	3x	1.2x
CP600	-15 to 600	-1 to 40	G,L	0.01 (0.02)	3x	1.2x
CP1K	-15 to 1,000	-1 to 70	G,L	0.01 (0.02)	3x	1.2x
CP2K	-15 to 2,000	-1 to 140	G, L	0.01 (0.02)	3x	1.2x
CP3K	-15 to 3,000	-1 to 200	G, L	0.01 (0.02)	3x	1.2x
CP5K	-15 to 5,000	-1 to 350	G, L	0.01 (0.02)	3x	1.2x
CP10K	-15 to 10,000	-1 to 700	G, L	0.01 (0.02)	2x	1.2x

Note: 0.01%FS accuracy sensors cannot be configured as Ex models and cannot be read by Ex devices.

Precision Sensors ^[1]						
P/N	Pressure Range		Media	Accuracy (% FS)	Burst Pressure	Over pressure
	(psi)	(bar)				
AP15R	0 to 5	0 to 1	G	0.1%FS		
CP30M				0.005% rdg + 0.005% FS		
CP50M				0.005% rdg + 0.005% FS		
CP100M				0.005% rdg + 0.005% FS		
CP300M				0.005% rdg + 0.005% FS		
CP500M				0.005% rdg + 0.005% FS		
CP1KM				0.01% rdg or 0.003% FS whichever is greater		
CP2KM				0.01% rdg or 0.003% FS whichever is greater		
CP3KM				0.01% rdg or 0.003% FS whichever is greater		
CP5KM				0.01% rdg or 0.003% FS whichever is greater		
CP10KM				0.01% rdg or 0.003% FS whichever is greater		

[1] Contact Additel for other range options.

[2] Accuracy includes calibration uncertainty, linearity and long-term stability.

Note: Precision Sensors (CPXM) cannot be configured as Ex models and cannot be read by Ex devices.



Barometric Pressure					
P/N	Pressure Range		Medium	Accuracy	Burst Pressure
	low	high			
BP	60kPa	110kPa	G	55 Pa	3x

Ordering Information

Ordering Information				
Model ADT161	02	GP300	PSI	N

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Model:
ADT161
ADT161EX

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Accuracy:
01 - 0.01% FS
(non Ex-Models only)
02 - 0.02% of full scale
05 - 0.05% of full scale
10 - 0.1% of full scale
01RD – See precision sensor
table (non Ex-models only)

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**Pressure range
P/N:**
See pressure range
table

↓



Range type:
PSI – range by psi
BAR – range by bar

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Pressure port type:
N - 1/4NPT male
N2 - 1/2NPT male
B - 1/4BSP male
B2 - 1/2BSP male
M - M20 X 1.5 male

Ordering Information

- **Optional Accessories**

Model number	Description	Picture
9060	Pressure module connection cable	
9064	Pressure module connection to USB for high-speed connection of ADT161 to PC	



Additel 226Ex with ADT161Ex Pressure Module

	Standard Accuracy			Precision Accuracy
	CPXXX	DPDPXXX	GPXXX	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 (-22F to 158°F)			-30°C to 70°C (-22F to 158°F)
Relative humidity	95% RH			90% RH
Pressure connections (for external use only)	1/4NPT, 1/2NPT, 1/4BSP, 1/2BPS, M20x15			
Enclosure (for external use only)	SS enclosure			
Intrinsic Safety (ADT161Ex nodels only)	ATEX certified intrinsically safe ⚠ pII 1G EX ia IIC T4 Ga (ADT161Ex modules only work together with ADT226Ex or ADT227Ex to conform to the ATEX certificate)			
Dimensions (Dia xH)	33 mm x 123 mm (1.3" x 4.84")			
Weight	0.4 kg (0.99 lb)			
Warranty	1 Year			