

Technical Data for IS-Pro **ISPDC/ISPCDS-Series** Pressure Controllers

1 PSI full scale through 1500 PSI full scale in absolute, gauge, or differential pressure applications.

Standard specifications. Consult Alicat for available options



+1 (888) 290-6060
alicat.com/ispc

CERTIFICATIONS	MARKING	CERTIFICATE
ATEX	Ex II 1G Ex ia IIC T4 Ga T_{amb} -20°C to +70°C	DEKRA 22ATEX0075X
IECEX	Ex ia IIC T4 Ga T_{amb} -20°C to +70°C	IECEX DEK 22.0078X
North America	Class I, Div 1, Groups A-D T4, Ex ia Class I, Zone 0, AEx\Ex ia IIC T4 Ga T_{amb} -20°C to +70°C	DEKRA 23CAUS40-127215

SENSOR AND CONTROL PERFORMANCE	
Pressure accuracy ¹	Standard accuracy: $\pm 0.25\%$ of full scale High-accuracy option: $\pm 0.125\%$ of full scale
Repeatability (2σ) ¹	$\pm 0.08\%$ of full scale
Steady state control range	0.01 – 100% of full scale (10,000:1 turndown ratio)
Temperature sensitivity	Zero shift: $\pm 0.02\%$ full scale per °C from tare temperature Span shift: $\pm 0.02\%$ full scale per °C from 25 °C
Operating temperature range	-20 – 70 °C
Valve function	Normally closed
Sensor response time	< 1 ms
Typical control response time	As fast as 30 ms (T63), valve size dependent and user-adjustable
Typical indication response time	< 10 ms
Typical warm-up time	< 1 s

¹ Stated accuracy is after tare under equilibrium conditions; includes repeatability and linearity.

MECHANICAL	
Fluid compatibility ²	ISPCD-Series: Compatible with all non-corrosive gases; check wetted materials ISPCDS-Series: Compatible with all non-corrosive gases and liquids, and many corrosive gases; check wetted materials
Sensor burst pressure	1 – 100 PSI models: 3× full scale range 500 – 1500 PSI models: 1.5× full scale range
Maximum common mode pressure for differential pressure models	≤ 100 PSID models: 200 PSIG 500 PSID models: 750 PSIG
Relative humidity range	0 – 95%, non-condensing
Ingress protection	IP66 rating Dust-tight and protected against strong jets of water"
Mounting orientation sensitivity	None
Mounting holes	4× 6-32 UNC threaded \downarrow 0.276" [7.01 mm]
Default process connections ³	$\frac{1}{8}$ " NPT female

² For use with water and other liquids, please contact Alicat.

³ Consult Alicat for available connection options, such as: compression, face seal, push-to-connect, BSPP, SAE, or Swagelok®-compatible (VCO® and VCR®).

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POWER AND COMMUNICATION	
Digital input and output options	RS-232 or RS-485 (both options work with the Alicat ASCII command and control language AND the Modbus RTU industrial protocol)
Digital data update rate	40 Hz at 19200 baud
Analog input and output options	4–20 mA
Analog data update rate	1 kHz
Analog signal accuracy	±0.1% of full scale additional uncertainty
Interactive display	Monochrome LCD with integrated touchpad and backlight; simultaneously displays pressure, setpoint, and valve drive %
Display update rate	10 Hz
Electrical connection options	DB-15
Power requirements	See DOC-MANUAL-IS-SAFEINSTALLATION

STANDARD AVAILABLE RANGES ⁴								
Model	1 PSI	5 PSI	15 PSI	30 PSI	100 PSI	500 PSI	1000 PSI	1500 PSI
ISPDC-Series PSIA			√	√	√			
ISPDC-Series PSIG	√	√	√	√	√			
ISPDC-Series PSID	√	√	√	√	√			
ISPCDS-Series PSIA			√	√	√	√	√	√
ISPCDS-Series PSIG		√	√	√	√	√	√	√
ISPCDS-Series PSID		√	√	√	√	√		

⁴ Not all valves are available at all pressure ranges. Consult Alicat for details.

WETTED MATERIALS: MEASUREMENT HEAD									
Model	Pressure range	Stainless steel		Heat-cured epoxy and silicone rubber, alumina, gold, silicon, glass	Polyamide	Glass-reinforced polyphenylene sulfide	FKM	FFKM	EPDM
		300 Series	316L						
ISPDC-Series	1–100 PSI	√		√	√		√	Opt.	Opt.
ISPCDS-Series	5–1500 PSI		√				Opt.	√	Opt.

WETTED MATERIALS: CONTROL VALVE ⁵					
Valve type	Stainless steels		Brass	FKM	FFKM
	300 series	430FR			
P01-P07	√	√	√	√	
S01-S05	√	√			√

⁵ Low temperature FFKM required for operation below -10°C. Please consult alicat for availability.

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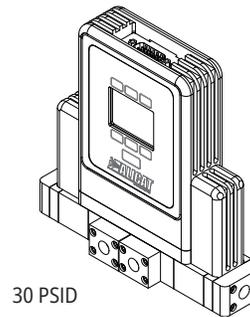
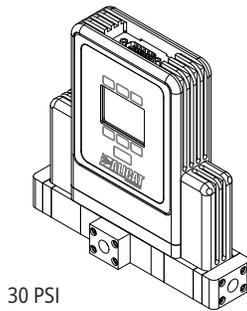
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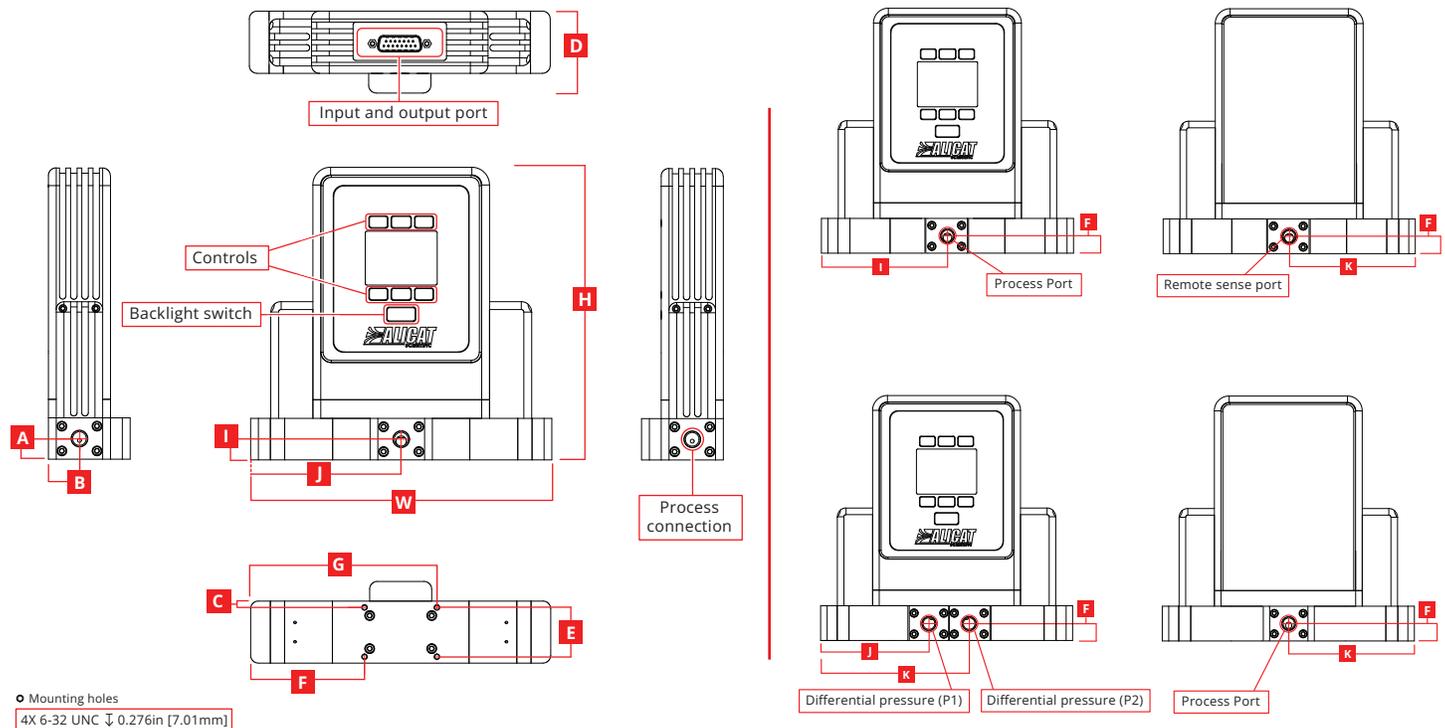
Representative Examples



DIMENSIONS AND THREADED MOUNTING LOCATIONS								WEIGHT
Valve configuration	Width	Depth ⁶	Height ⁷	C	E	F	G	
ISPDC, ISPCDS P01-P06, S01-S05 valve	7.25"	1.98"	7.05"	0.15"	1.35"	2.75"	4.50"	≈ 5.8 lb
	184.2 mm	50.2 mm	179.1 mm	3.9 mm	34.2 mm	69.9 mm	114.3 mm	≈ 2.6 kg
ISPCD P07 valve	7.75"	1.98"	7.65"	0.15"	1.35"	3.00"	4.75"	≈ 7.0 lb
	196.9 mm	50.2 mm	194.3 mm	3.9 mm	34.2 mm	76.2 mm	120.7 mm	≈ 3.2 kg

⁶ Differential pressure models with remote sense port, add 0.475" depth.

⁷ ISPCDS-Series differential pressure models for aggressive gases, add 0.950" height.



ISPCD PORT DIMENSIONS						
Valve type	Port size	Inlet & outlet ports		Remote sensor	Differential port (P1)	Differential port (P2)
		A	B	I	J	K
P01-P06, S01-S05	1/8" NPT	0.50"	0.75"	3.63"	3.05"	4.20"
		12.7 mm	19.1 mm	92.1 mm	77.5 mm	106.7 mm
P07	1/4" NPT	0.80"	0.75"	3.88"	3.30"	4.45"
		20.3 mm	19.1 mm	98.4 mm	83.8 mm	113.0 mm