Technical Data for Alicat PCDS and PCDRS Dual Valve Pressure Controllers

Compatible with some aggressive gases, Alicat PCDS and **PCDRS** Dual Valve Pressure Controllers accurately and efficiently control pressure within a closed system with a minimum loss of expensive gases through the exhaust process.
PCDRS-Series pressure controllers are best for flows greater than 20 lpm.

Standard Specifications (Contact Alicat for available options.)

Performance	PCDS Controllers	PCDRS Controllers
Full scale pressure Standard Accuracy	± 0.25%	
Full scale pressure High Accuracy Option	± 0.125%	
Repeatability	± 0.08% full scale	
Zero Shift and Span Shift	0.02% full scale / ºC	
Operating Range / Turndown Ratio	0.5% to 100% full scale / 200:1 Turndown	
Maximum Controllable Pressure	100% full scale	
Burst Pressure	3x full scale (1.5x full scale for ranges ≥500 psi)	
Typical Response Time[1]	100 ms (Adjustable)	
Warm-up Time	< 1 Second	
1. Volumes, feed pressures, exhaust pressures and line sizing will determine the limits of response times.		

Operating Conditions	PCDS Controllers	PCDRS Controllers
Gas Compatibility	Compatible with all non-corrosive gases and select aggressive gases[1]	
Operating Temperature	-10 to +60 ºC	
Common Mode Pressure (Differential Pressure Units Only)	150 psig	
Mounting Attitude Sensitivity	None	Mount with valve cylinders vertical & upright
Valve Type	Normally Closed	
Ingress Protection	IP40	
Wetted Materials	302SS, 303SS, 304SS, 410SS, PTFE, FFKM (Kalrez) standard, Viton, EPDM, Buna, Neoprene as needed for some gases. If your application demands a different material, please contact Alicat.	
1. In addition to all non-corrosive gases, PCD & PCRD controllers are configured to operate with the following aggressive gases: Ammonia, Hydrogen Sulfide, Nitric Oxide, Nitrogen Dioxide, Nitrogen Triflouride, Propylene The following gases are available upon request: Refrigerant gases to 100% (Refrigerant gases my require custom seals, consult Alicat.) Other gases to 1000 ppm in an inert carrier. If your application requires another gas or gas mixture, please contact Alicat.		

Communication / Power	PCDS Controllers	PCDRS Controllers
Monochrome LCD or Color TFT Display with integrated touchpad	Displays Pressure	
Digital Communications Options[1]	RS-232 Serial / RS-485 Serial / Modbus RTU / PROFIBUS / EtherNet/IP / DeviceNet / Modbus TCP/IP / EtherCAT	
Analog Signal[2] Options	0-5 Vdc / 1-5 Vdc / 0-10 Vdc / 4-20 mA	
Optional Secondary Output Signal[2]	0-5 Vdc / 1-5 Vdc / 0-10 Vdc / 4-20 mA	
Electrical Connection Options	8-Pin Mini-DIN / 9-pin D-sub (DB9) / 15-pin D-sub (DB15) / 6-pin locking / 8-pin M12	
Supply Voltage	12-30 Vdc (15-30 Vdc for 4-20 mA outputs)	24-30 Vdc
Supply Current	0.250 Amp	0.750 Amp
1. The **Digital Output Signal** communicates Pressure 2. The **Analog Output Signal** and **Optional Secondary Analog Output Signal** communicate Pressure		

Mechanical Specifications

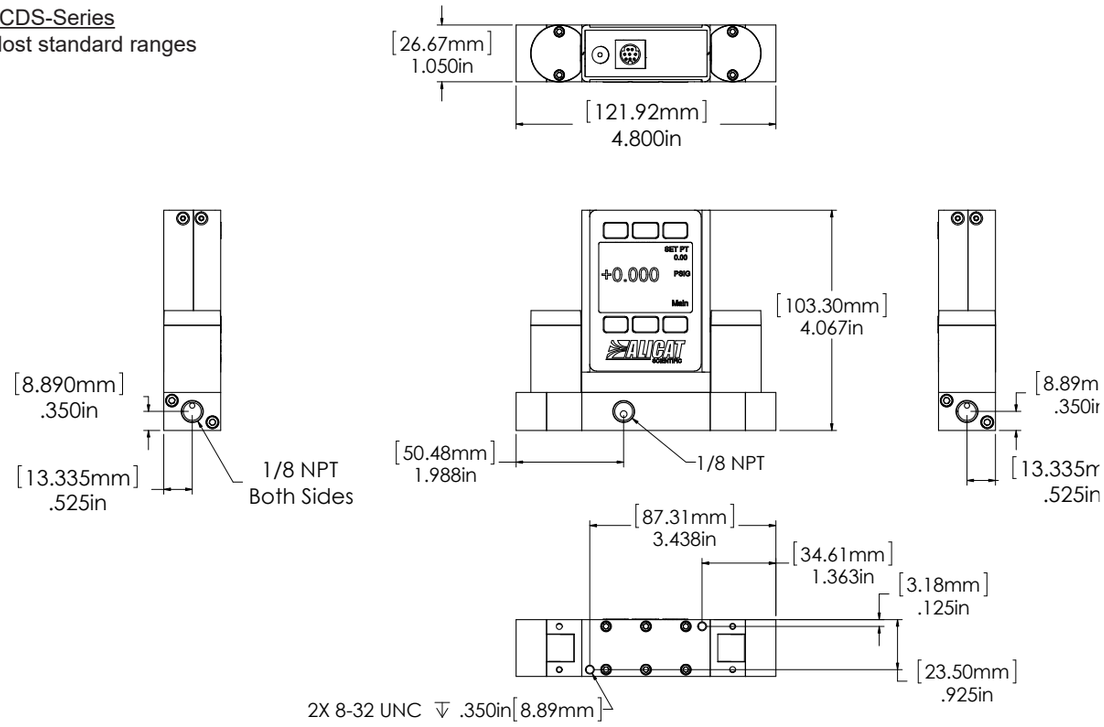
Dual Valve Controllers	Mechanical Dimensions	Process Connections[1]
PCDS All Standard Ranges	4.1"H x 4.8"W x 1.1"D	1/8" NPT Female
PCRDS All Standard Ranges	5.5"H x 10.6"W x 2.3"D	3/4" NPT Female
1. Compatible with Swagelok® tube, Parker®, face seal, push connect and compression adapter fittings. VCR and SAE connections upon request.		

Standard Available Ranges

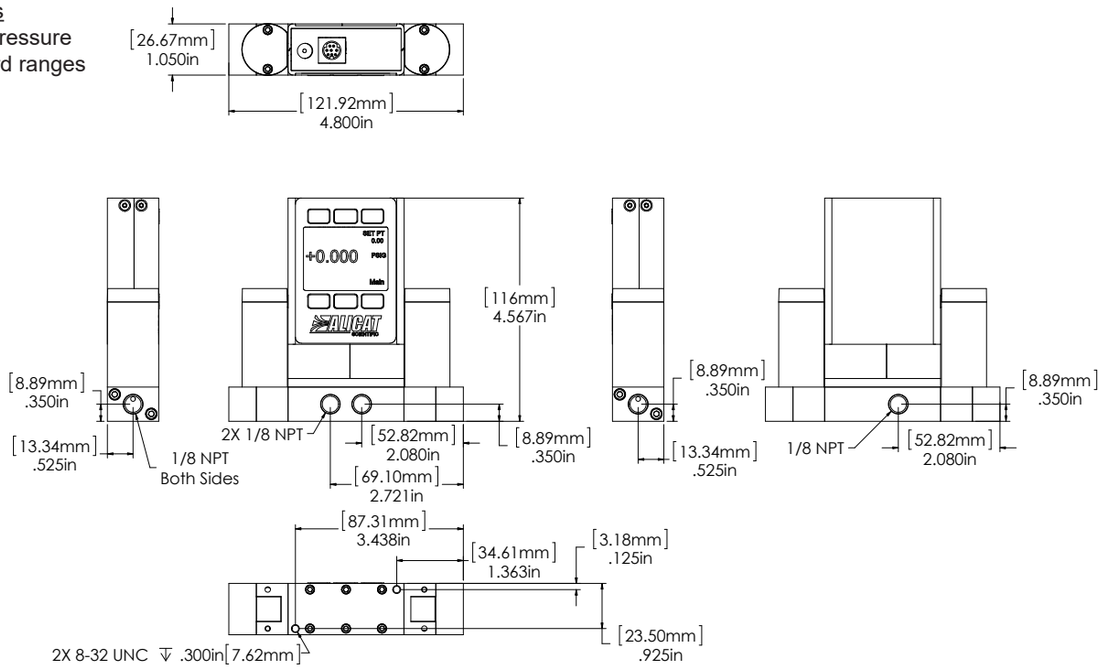
PCDS & PCDRS Presure Controllers		
Absolute	**Gauge**	**Differential**
	-15 psig	
1 psid	1 psig	
5 psid	5 psig	
	15 psig	15 psia
30 psid	30 psig	30 psia
100 psid	100 psig	100 psia
	500 psig	500 psia
	1000 psig	1000 psia
	1500 psig	1500 psia
	2000 psig	2000 psia
	3000 psig	3000 psia
Other ranges available. Please contact Alicat.		

Available Units*			
Absolute	**Gauge**	**Differential**	**Notes**
PaA	PaG	PaD	pascal
hPaA	hPaG	hPaD	hectopascal
kPaA	kPaG	kPaD	kilopascal
MPaA	MPaG	MPaD	megapascal
mbarA	mbarG	mbarD	millibar
barA	barG	barD	bar
g/cm2A	g/cm2G	g/cm2D	gram force per square centimeter
kg/cmA	kg/cmG	kg/cmD	kilogram force per square centimeter
PSIA	PSIG	PSID	pound force per square inch
PSFA	PSFG	PSFD	pound force per square foot
mTorrA	mTorrG	mTorrD	millitorr
torrA	torrG	torrD	torr
mmHgA	mmHgG	mmHgD	millimeter of mercury at 0 C
inHgA	inHgG	inHgD	inch of mercury at 0 C
mmH2OA	mmH2OG	mmH2OD	millimeter of water at 4 C (NIST conventional)
mmH2OA	mmH2OG	mmH2OD	millimeter of water at 60 C
cmH2OA	cmH2OG	cmH2OD	centimeter of water at 4 C (NIST conventional)
cmH2OA	cmH2OG	cmH2OD	centimeter of water at 60 C
inH2OA	inH2OG	inH2OD	inch of water at 4 C (NIST conventional)
inH2OA	inH2OG	inH2OD	inch of water at 60 C
atm			atmosphere
m asl			meter above sea level (only in /ALT builds)
ft asl			foot above sea level (only in /ALT builds)
* Note that only units appropriate to your device will be available for selection.			

PCDS-Series
Most standard ranges



PCDS-Series
Differential Pressure
Most standard ranges



PCRDS-Series
Most standard ranges