## Technical Data for PCS and PCRS Single Valve Pressure Controllers

**Compatible with some aggressive gases, Alicat PCS** and **PCRS-Series** pressure controllers allow the precise control of absolute or gauge pressure. These units can be configured for vacuum pressure or backpressure control.

**PCRS-Series** pressure controllers are best for flows greater than 20 lpm.

## Standard Specifications (Contact Alicat for available options.)

Performance	PCS Controllers	PCRS 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 / °C	
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 <sup>1</sup>	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	PCS Controllers	PCRS Controllers
Gas Compatibility	Compatible with all non-corrosive gases and select aggressive gases <sup>1</sup>	
Operating Temperature	-10 to +60 °C	
Common Mode Pressure (Differential Pressure Units Only)	150 psig	
Mounting Attitude Sensitivity	None	
Valve Type	Normally Closed	
Ingress Protection	IP40	
Wetted Materials	302SS, 303SS, 304SS, 410SS, PTFE, FFKM (Ka needed for some gases. If your application demands a different material, ple	Irez) standard, Viton, EPDM, Buna, Neoprene as

 In addition to all non-corrosive gases, PC & PCR 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.
PCS and PCRS devices may be used with chemically compatible liquids. Please contact Alicat for technical assistance if your application involves fluids

Communication / Power	PCS Controllers	PCRS Controllers
Monochrome LCD or Color TFT Display with integrated touchpad	Displays Pressure	
Digital Communications Options <sup>1</sup>	RS-232 Serial / RS-485 Serial / Modbus RTU / PROFIBUS / EtherNet/IP / DeviceNet / Modbus TCP/IP / EtherCAT	
Analog Signal <sup>2</sup> Options	0-5 Vdc / 1-5 Vdc / 0-10 Vdc / 4-20 mA	
Optional Secondary Analog Input/Output Signal <sup>2</sup>	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**

Pressure Product	Mechanical Dimensions	Process Connections <sup>1</sup>
PCS Controllers	4.1"H x 3.6"W x 1.1"D	1/8" NPT Female
PCRS Controllers	5.5"H x 2.9"W x 3.5"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**

PCS & PCRS 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	cmH2OA cmH2OG cmH2OD	centimeter of water at 4 C (NIST	
CITILIZOA		CITITIZOD	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.			



