

Loop powered, integral cable sensors

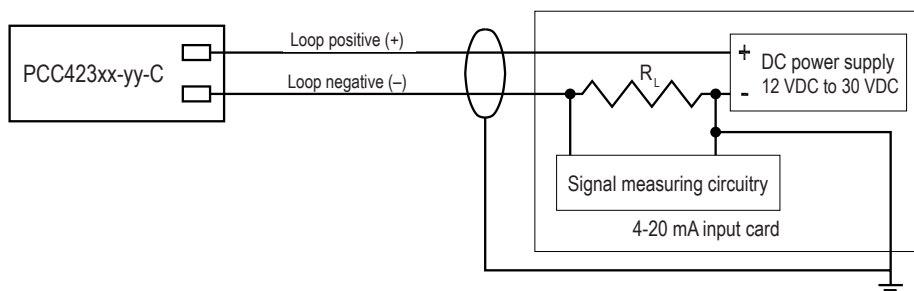
PCC423 series



Table 1: PCC423xx-yy-C model selection guide

xx (4-20 mA output type)	yy (4-20 mA full scale)	C (cable type)
AR = acceleration, RMS AP = acceleration, peak	05 = 5 g (49 m/sec ²) 10 = 10 g (98 m/sec ²) 20 = 20 g (196 m/sec ²)	J9T2A = shielded, twisted pair cable, high temp
VR = velocity, RMS VP = velocity, peak	05 = 0.5 ips (12.8 mm/sec) 10 = 1.0 ips (25.4 mm/sec) 20 = 2.0 ips (50.8 mm/sec) 50 = 5.0 ips (127 mm/sec)	J10 = shielded, twisted pair cable, general purpose

PCC423xx-yy-C wiring



Certifications



Note: Due to continuous process improvement, specifications are subject to change without notice.
This document is cleared for public release.

Key features

- Choice of true RMS or calculated peak output (in acceleration or velocity units)
- Other connector options available (PCC421 models)
- Enables continuous trending of machine vibration
- Manufactured in an approved ISO 9001 facility

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SPECIFICATIONS

Output, 4-20 mA	see Table 1 on page 1
Full scale, 4-20 mA, $\pm 5\%$	selectable (see Table 1)
Frequency response, 4-20 mA	see Table 2, below
Repeatability	$\pm 2\%$
Transverse sensitivity, max	5%
Power requirements (2-wire loop power):	
Voltage at sensor terminals	12 - 30 VDC
Loop resistance ¹ at 24 VDC, max	700 Ω
Turn on time, 4-20 mA loop	<30 seconds
Grounding	case isolated, internally shielded
Temperature range	-40° to +105°C
Vibration limit	250 g peak
Shock limit	2,500 g peak
Sealing	hermetic
Sensing element design	PZT ceramic / shear
Weight	145 grams (excluding cable)
Case material	stainless steel
Mounting ⁴	1/4-28 captive screw
Cabling	J9T2A or J10 (see Table 1)

Accessories supplied: Mounting screw; calibration data (level 2)

Connections	
Function	Cable color
loop positive (+)	white
loop negative (-)	black
ground	shield

Notes: ¹ Maximum loop resistance (R_L) can be calculated by:

$$R_L = \frac{V_{DC \text{ power}} - 10 \text{ V}}{20 \text{ mA}}$$

DC supply voltage	R_L (max resistance) ²	R_L (minimum wattage capability) ³
12 VDC	100 Ω	1/8 watt
20 VDC	500 Ω	1/4 watt
24 VDC	700 Ω	1/2 watt
26 VDC	800 Ω	1/2 watt
30 VDC	1,000 Ω	1/2 watt

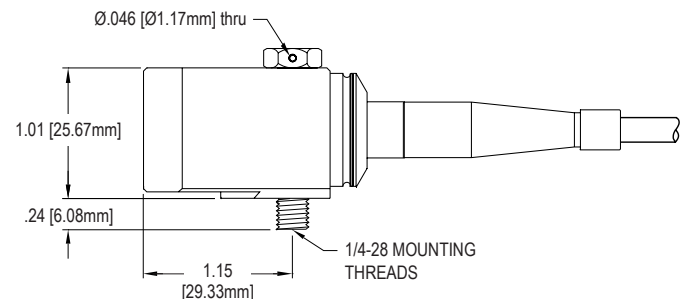
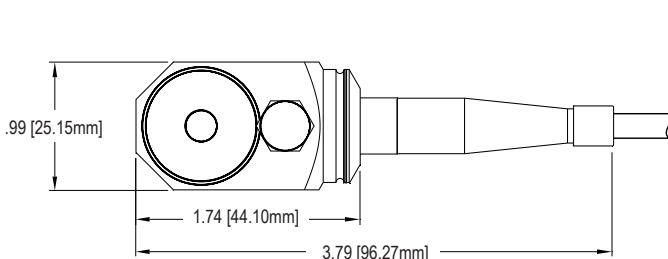
² Lower resistance is allowed, greater than 10 Ω recommended.

³ Minimum R_L wattage determined by: (0.0004 x R_L).

⁴ M6 mounting screw available by request.

Table 2: PCC423 frequency response

Acceleration	$\pm 10\%$	10 Hz - 1 kHz
	$\pm 3 \text{ dB}$	1 Hz - 2 kHz
Velocity	$\pm 10\%$	10 Hz - 1 kHz
	$\pm 3 \text{ dB}$	3.5 Hz - 2 kHz



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