

Loop powered sensors

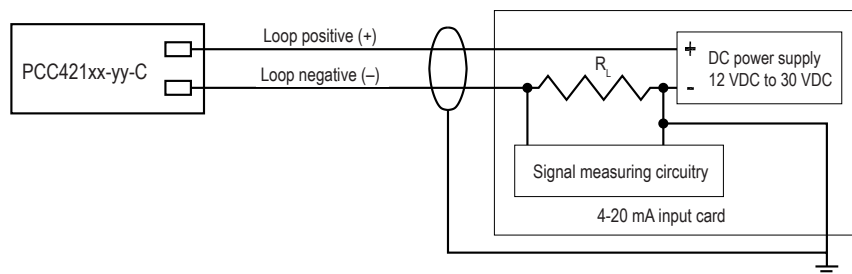
PCC421 series

Table 1: PCC421xx-yy-C model selection guide

xx (4-20 mA output type)	yy (4-20 mA full scale)	C (output connector)
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)	R6 = 2 pin, MIL-C-5015
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)	M12-4 = 4 pin, M12



PCC421xx-yy-C wiring



Key features

- Choice of true RMS or calculated peak output (in acceleration or velocity units)
- Connector options: 2 pin MIL-C-5015 or 4 pin M12
- Integral cable option available (PCC423 models)
- Enables continuous trending of machine vibration
- Manufactured in an approved ISO 9001 facility

Certifications



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

Loop powered sensors

PCC421 series

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, shear
Weight	145 grams
Case material	stainless steel
Mounting	captive screw, 1/4-28 or M6
Output connector	2 pin MIL-C-5015 or 4 pin M12

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

Notes: ¹ Maximum loop resistance (R_L) can be calculated by: $R_L = \frac{V_{DC, power} - 10 V}{20 mA}$

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: $(0.0004 \times R_L)$.

Table 2: PCC421 frequency response

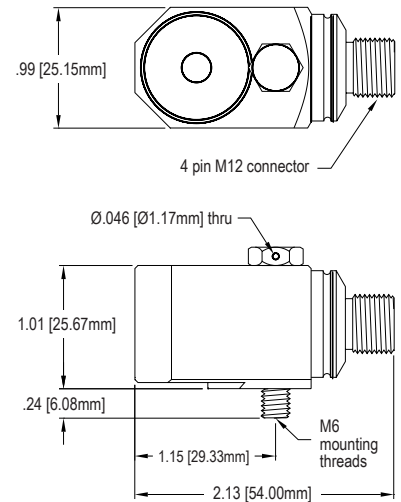
Acceleration	$\pm 10\%$	10 Hz - 1 kHz
	± 3 dB	1 Hz - 2 kHz
Velocity	$\pm 10\%$	10 Hz - 1 kHz
	± 3 dB	3.5 Hz - 2 kHz

MIL-C-5015 pin out (-R6 models)	
Function	Connector pin
loop positive (+)	A
loop negative (-)	B
ground	shell

M12 pin out (-M12-4 models)	
Function	Connector pin
loop positive (+)	1
loop negative (-)	2
N/C	3
N/C	4
ground	shell

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PCC421xx-yy-M12-4



PCC421xx-yy-R6

