

PCA-116 Series – AC Operated Gage Heads



- Economy gage head
- AC operation
- 0.0001 inch [2.5 µm] repeatability
- Stroke ranges up to ±0.3 inch [7.6mm]
- Replaceable hardened tool steel contact tip
- Compatible with all our signal conditioners

DESCRIPTION

The **PCA-116 Series** gage heads were developed to serve less demanding applications, where the balance between price and performance is paramount. Incorporating a standard LVDT (Linear Variable Differential Transformer), low friction nylon sleeve bearings and an externally spring loaded shaft, the PCA-116 affords the most cost effective gaging solution available. Other features include industry standard outer diameter for easy installation, and a replaceable hardened tool steel contact tip using the 4-48 UNF-2A threads.

Like in most of our LVDTs, the PCA-116 windings are vacuum impregnated with a specially formulated, high temperature, flexible resin, and the coil assembly is potted inside its housing with a two-component epoxy. This provides excellent protection against hostile environments such as high humidity, vibration and shock.

Measurement Specialties, Inc. (NASDAQ MEAS) offers many other types of sensors and signal conditioners. Data sheets can be downloaded from our web site at: <http://www.meas-spec.com/datasheets.aspx>

MEAS acquired Schaevitz Sensors and the **Schaevitz™** trademark in 2000.

FEATURES

- Stainless steel housing
- Three ranges, ±0.1, ±0.2 and ±0.3 inch
- Very good reliability
- Low friction Nylon sleeve bearings
- Replacement and other special tips available

APPLICATIONS

- Less demanding applications where cost effective performance is paramount
- Honing machines
- Factory automation in mild environments
- Elevator ride controls

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PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS			
Parameter	PCA-116 100	PCA-116 200	PCA-116 300
Stroke/gaging range	±0.10 [2.54]	±0.20 [5.08]	±0.30 [7.62]
Sensitivity, V/V/inch	2.40	1.57	1.20
Sensitivity, mV/V/mm	94.5	61.8	47.2
Output at stroke ends (*)	240 mV/V	314 mV/V	360 mV/V
Phase Shift	-3°	-5°	-8.5°
Input impedance (Primary)	660 Ω	970 Ω	960 Ω
Output impedance (Secondary)	960 Ω	1010 Ω	1005 Ω
Input voltage	3 VRMS		
Input frequency range	50Hz to 10kHz		
Test input frequency	2.5kHz		
Non-linearity, maximum	±0.50% of FR		
Repeatability	0.0001 inch [2.5 microns]		
Null voltage, maximum	0.5% of FRO		

ENVIRONMENTAL SPECIFICATIONS & MATERIALS	
Operating temperature	-65 °F to +200 °F [-55 °C to 95 °C]
Housing material	AISI 400 Series stainless steel
Electrical connection	Six lead-wires, AWG 28, PTFE insulated, 1 foot [0.3m] long

Notes:

All values are nominal unless otherwise noted

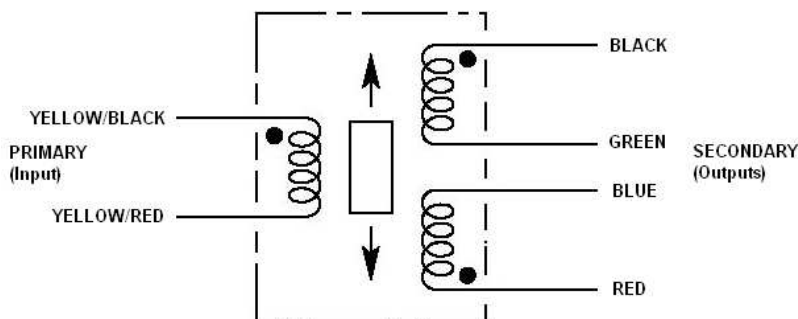
Dimensions are in inch [mm] unless otherwise noted

(*): Unit for output at stroke ends is millivolt per volt of excitation (Input voltage)

FR: Full Range is the stroke range, end to end; FR=2xS for ±S stroke range

FRO (Full Range Output): Algebraic difference in outputs measured at the ends of the range

WIRING INFORMATION

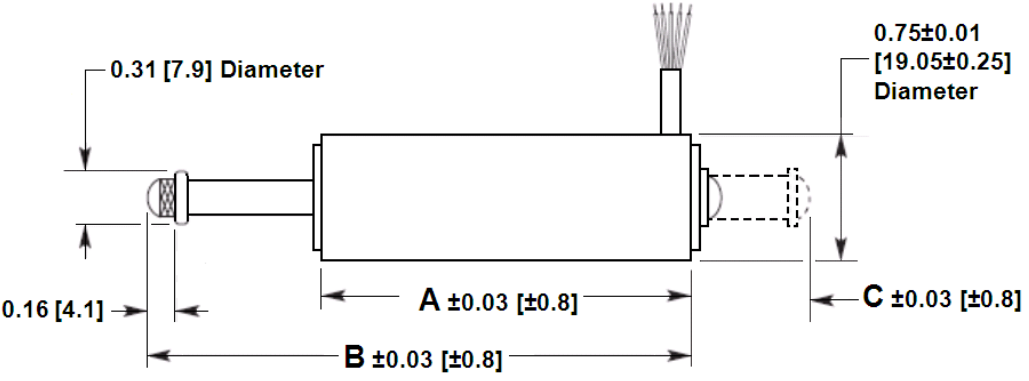


Connect Blue to Green for differential output

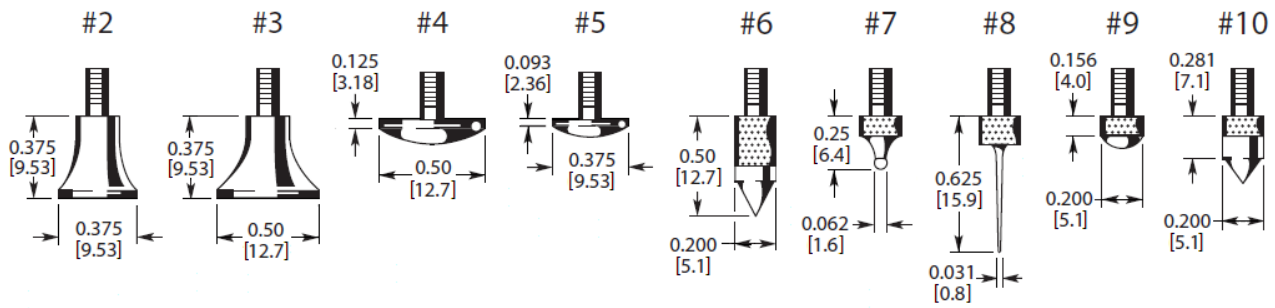
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MECHANICAL SPECIFICATIONS

Parameter	PCA-116 100	PCA-116 200	PCA-116 300
Pre-travel	0.10 [2.5]	0.08 [2.0]	0.02 [0.5]
Over-travel (minimum)	0.03 [0.76]	0.09 [2.3]	0.08 [2.0]
Main body length "A"	1.75 [44.4]	2.25 [57.1]	2.75 [69.8]
Plunger length "B" (fully extended)	2.54 [64.5]	3.30 [83.8]	4.10 [104.1]
Rear plunger length "C" (fully compressed)	0.44 [11.2]	0.69 [17.5]	0.88 [22.4]
Weight, Ounce [Gram]	1.5 [43]	1.7 [48]	2.0 [57]
Spring force	8 ounces [227 Grams]		



REPLACEMENT/OPTIONAL CONTACT TIPS



Dimensions are in inch [mm]

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ORDERING INFORMATION

Description	Model	Part Number
±0.10 inch gage head	PCA-116 100	02350531-000
±0.20 inch gage head	PCA-116 200	02350532-000
±0.30 inch gage head	PCA-116 300	02350533-000

ACCESSORIES		
Description	Model	Part Number
Replacement contact tips	Contact Tip 2	67010005-000
	Contact Tip 3	67010006-000
	Contact Tip 4	67010002-000
	Contact Tip 5	67010007-000
	Contact Tip 6	67010008-000
	Contact Tip 7	67010009-000
	Contact Tip 8	67010010-000
	Contact Tip 9	67010001-000
	Contact Tip 10	67010011-000

Also refer to our "[Options and Accessories for Gage Heads](#)" brochure

TECHNICAL CONTACT INFORMATION

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