PCA-116 Series Gage Heads



- **Economy gage head**
- **AC operation**
- **0.0001 inch [2.5 micron] repeatability**
- **Stroke ranges up to ±0.30 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-166 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-2 threads.

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, ±0.10, ±0.20 and ±0.30 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 [2.5]	±0.20 [5.1]	±0.30 [7.6]
Sensitivity	2.4 mV/V/.001in	1.57 mV/V/.001in	1.2 mV/V/.001in
Output at stroke ends (*)	240 mV/V	314 mV/V	360 mV/V
Phase Shift	-3^{o}	-5^{o}	1.2^{o}
Primary impedance @2.5kHz	660 Ω	970 Ω	960 Ω
Secondary impedance @ 2.5kHz	960 Ω	1010 Ω	1005 Ω
Input voltage	3Vrms		
Input frequency range	50Hz to 10kHz		
Test input frequency	2.5KHz		
Linearity (maximum band)	±0.50% FS (% of Full Scale)		
Repeatability	0.0001 inch [2.5 microns]		
Null voltage (maximum)	1% FSO (% of Full Scale Output)		

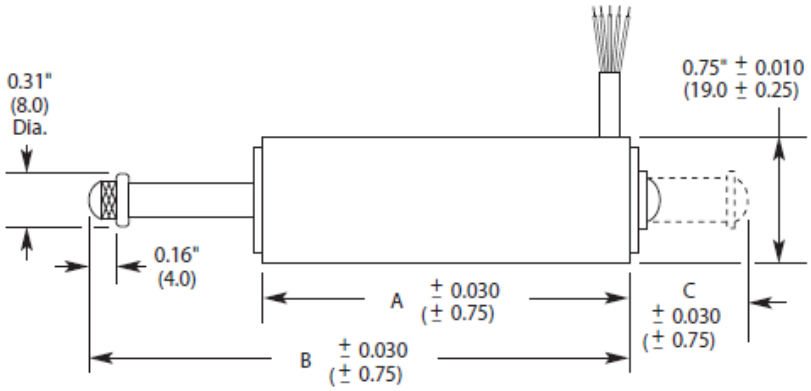
MECHANICAL SPECIFICATIONS			
Parameter	**PCA-116-100**	**PCA-116-200**	**PCA-116-300**
Pre-travel	0.10 [2.5]	0.08 [2.0]	0.02 [0.5]
Over-travel (minimum)	0.03 [0.76]	0.09 [2.3]	0.08 [2.0]
Main body length “A”	1.75 [44.4]	2.25 [57.1]	2.75 [69.8]
Plunger length “B” (fully extended)	2.54 [64.5]	3.30 [83.8]	4.10 [104.1]
Rear plunger length “C” (fully compressed)	0.44 [11.2]	0.69 [17.5]	0.88 [22.4]
Spring force	8 ounces [227 grams]		
Weight	1.5oz (43g)	1.7oz (48g)	2.01 oz (57g)

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature	-65°F to +200°F [-55°C to 95°C]
Housing material	AISI 400 Series stainless steel
Lead type/length	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
FS: Full Scale is 2X for ±X stroke
FSO: Full Scale Output is the output at X position for ±X stroke

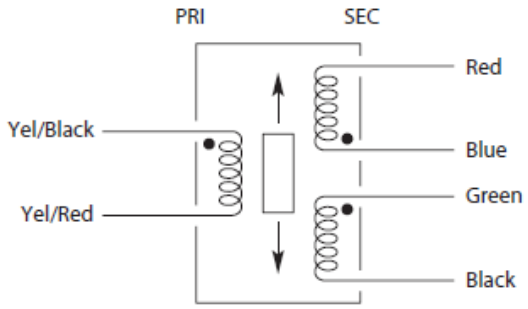
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DIMENSIONS



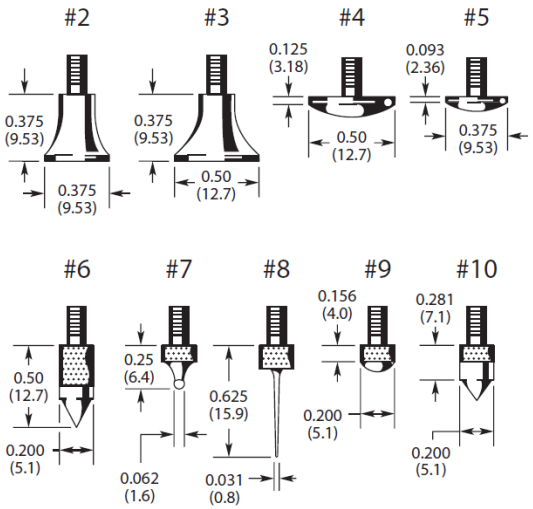
Dimensions are in inches (mm)
(Refer to mechanical specifications for dimensions "A", "B" and "C")

WIRING SCHEMATICS & BLOCK DIAGRAM



Connect Green to Blue for differential output

REPLACEMENT/OPTIONAL CONTACT TIPS



PCA-116 Series Gage Heads

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
Also refer to our "Options and Accessories for Gage Heads" brochure.	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

TECHNICAL CONTACT INFORMATION

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