PCA-116 SERIES

AC Operated Gage Heads

SPECIFICATIONS

- **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**

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.

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

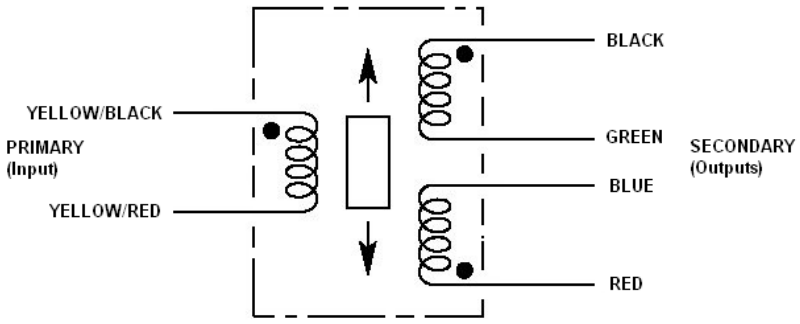
PERFORMANCE SPECIFICATIONS

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	-3º	-5º	-8.5º
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
IEC 60529 rating	IP61

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

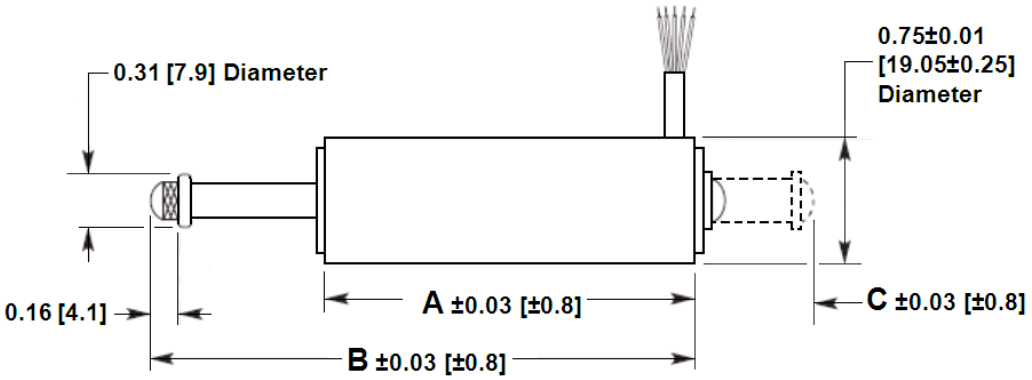
WIRING INFORMATION



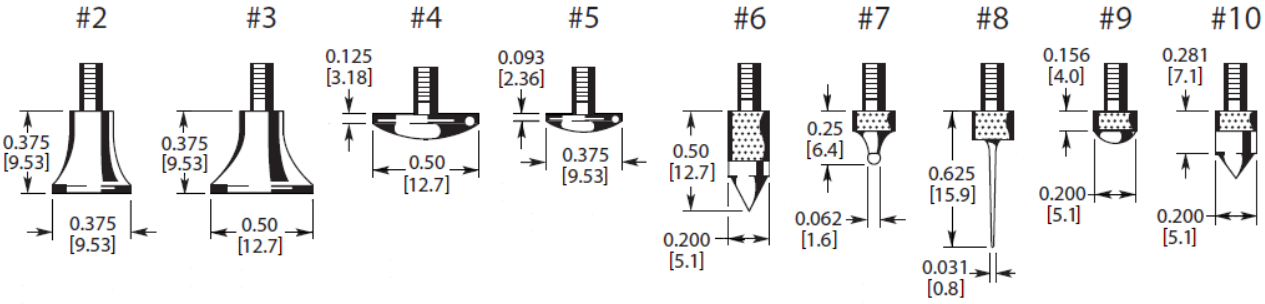
Connect Blue to Green for differential output

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]

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		
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

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