

PCA-375 Schaevitz™ Gage Head

- Measurement ranges from ± 2.54 mm to ± 25.4 mm
- LVDT spring loaded
- Non-linearity 0.5 % FS
- Output 30 ... 110 mV/V per mm
- Supply voltage 3 V_{rms}.



The PCA-375 Series gage heads combine simplicity with the time proven reliability of LVDT (Linear Variable Differential Transformer) technology resulting in a cost effective, long stroke industrial gaging solution. The rugged PCA-375 was specifically designed for operation in harsher industrial environments with minimal available installation space. Measuring just 0.375 inch [9.5 mm] in diameter the PCA-375 affords non-intrusive, slim profile measurements, making it the perfect choice for high density fixtures as well as numerous other industrial applications.

Externally, the PCA-375 is constructed entirely of 300 and 400 Series stainless steel, with a field replaceable chrome plated hardened tool steel contact tip. Electrical termination is via a 2 meter long, shielded, 6 conductor polyurethane jacketed cable. Internally, the simplified one-piece plunger and the precision brass bushing construction increases long term reliability, while the heavy duty return spring insures adequate force to repeatedly extend the plunger.

Designed to service long life cycle applications in the industrial market place, the PCA-375 is ideal for foundries, metal joining operations, process control, or wherever environmentally challenging high reliability gaging is required.

■ Features

- Slim profile
- IEC IP66 rated cable exit
- Stainless steel construction
- Long life cycle
- Heavy duty return spring
- Connector options available
- Calibration certificate supplied with each unit

■ Applications

- High density gaging fixtures
- Factory floor SPC applications
- Process control
- Metal joining equipment
- Pressing Applications
- Steel rolling mills / foundries
- X-Y Stage Position Feedback

■ General Specifications

Performance / Electrical Specifications

Model number	Stroke / gaging range		Sensitivity mV/V per		Output at stroke ends (*) mV/V	Phase shift °	Impedance at 10 kHz	
	inch	mm	0.001 inch	mm			Pri Ohm	Sec Ohm
PCA-375-100	±0.10	±2.54	2.80	110	280	5	400	200
PCA-375-250	±0.25	±6.35	2.07	81	517.5	7	345	420
PCA-375-500	±0.5	±12.7	1.84	72	920	4	264	810
PCA-375-1000	±1.0	±25.4	0.77	30	770	-1	155	450

Supply voltage: 3.0 V_{rms} sine wave

Input frequency range: 2.5 ... 10 kHz

Test input frequency: 10 kHz

Linearity (maximum band) ±0.5 % FS

Repeatability: 1.5 μm (60 μinch)

Null voltage, max.: 0.5 % FSO

Electrical connection: 6 conductor, shielded PU cable, length 2 m

Environmental / Material

Operating temperature range:	-40 ... +70 °C
Shock survival:	1000 g (11 ms, half sine)
Vibration tolerance:	20 g up to 2 kHz
Housing material:	AISI 400 stainless steel
NEMA IEC60529-Rating:	IP66 (at cable exit), IP60 (at plunger)

Notes:

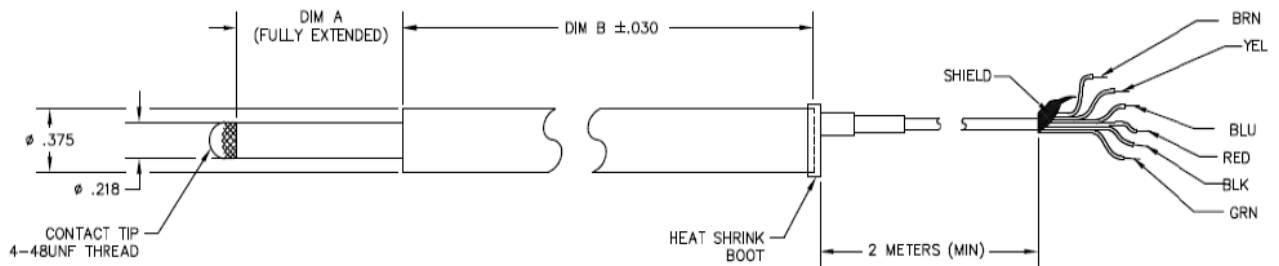
All values are nominal unless otherwise noted

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

FS: Full Scale is 2X for $\pm X$ stroke

FSO: Full Scale Output is the output at X position for $\pm X$ stroke

Mechanical Specifications

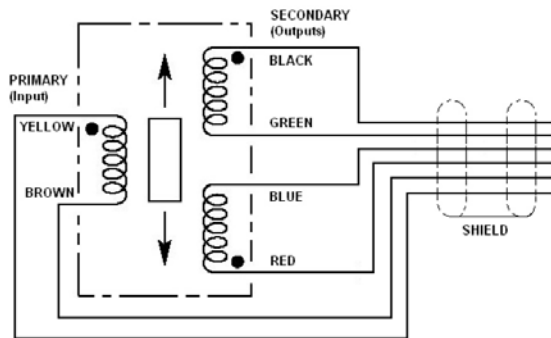


All dimensions in inches, approx. values.

These drawings are for information only and not intended for construction purpose.

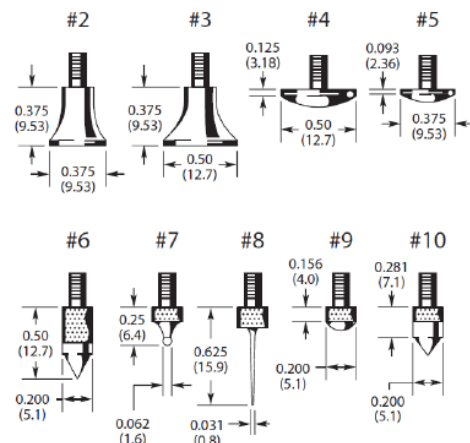
Model number	Dimensions, approx.				Pre-travel, min.		Over-travel, min.		Weight, approx.	
	A		B		inch	mm	inch	mm	oz	g
	inch	mm	inch	mm						
PCA-375-100	0.39	9.9	1.99	50.6	0.05	1.27	0.05	1.27	1.8	50
PCA-375-250	0.75	19.0	3.26	82.8	0.07	1.78	0.07	1.78	2.0	56
PCA-375-500	1.15	29.2	5.25	133.4	0.04	1.02	0.04	1.02	2.5	72
PCA-375-1000	2.29	58.2	8.95	227.3	0.05	1.27	0.05	1.27	3.2	92

Wiring Schematic



Connect Blue and Green wires together for differential output.

Optional Contact Tips



All dimensions in "inches", values in brackets in "mm", approx. values.

Due to continual product development, ALTHEN and partners reserve the right to vary the foregoing details without prior notice.

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