



## PCA-375-PR 020

### Compact AC Gage Head

#### SPECIFICATIONS

- ◆ Ultra compact design for limited spaces
- ◆ Slim 0.375 inch [9.5mm] diameter
- ◆ Radial cable exit
- ◆ Rugged polyurethane cable
- ◆  $\pm 0.02$  inch ( $\pm 0.51$ mm) stroke
- ◆ 40  $\mu$ -inch [1  $\mu$ m] repeatability
- ◆ 4-48 AGD interchangeable contact tips

The **PCA-375 PR-020** gage head is an ultra-compact device that provides accurate measurement in areas with limited space. Utilizing a radial cable exit, the slim, low profile of the PCA-375 PR-020 easily fits within miniature fixtures and small inside diameters. With the time proven reliability of its LVDT (Linear Variable Differential Transformer) and measuring just 0.375 inch [9.5mm] in diameter the PCA-375 PR-020 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 PR-020 is constructed of 300 Series stainless steel, with a field replaceable chrome plated hardened tool steel contact tip. Internally, the LVDT, along with a permanently lubricated bronze bearing and plunger assembly, provide long term repeatability and reliability. Electrical termination is via a 2 meter long, 6 conductor, shielded polyurethane jacketed cable.

Like in most of our LVDTs, the PCA-375 PR-020 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.

Designed to service applications with limited space availability, the PCA-375 PR-020 is ideal for bore gages, or in practically any location where space is at a premium. Available with optional pre-wired connectors, and a variety of replaceable contact tips, it can be installed directly into standard AGD dial indicator mounting hardware without modification, affording maximum versatility.

#### FEATURES

- ◆ Compact, slim profile
- ◆ 90° cable exit
- ◆ 2.6oz [73 Grams] spring force
- ◆ Stainless Steel construction
- ◆ Excellent stroke to length ratio
- ◆ Connector Options Available  
(Consult Factory)
- ◆ Calibration certificate supplied with each unit

#### APPLICATIONS

- ◆ High density gaging fixtures
- ◆ Bore gages
- ◆ Gaging of intricate parts
- ◆ Space restricted areas
- ◆ Short stroke measurements
- ◆ Pressing Applications

## PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS	
Parameter	PCA-375-PR 020
Stroke/gaging range	±0.020 [0.51]
Sensitivity, V/V/inch [mV/V/mm]	5.0 [197]
Output at stroke ends (*)	100 mV/V
Non-linearity, maximum	±0.50% of FR
Phase shift	+60°
Input impedance (Primary)	94.5 Ω
Output impedance (Secondary)	214 Ω
Input voltage, maximum	3.5 VRMS sine wave
Input frequency range	2.5kHz to 10kHz
Test input frequency	5kHz
Repeatability	40 micro-inches [1 micron]
Null voltage, maximum	0.75% of FRO

ENVIRONMENTAL SPECIFICATIONS & MATERIALS	
Operating temperature	0°F to 250°F (-18°C to 121°C)
Housing material	AISI 300 Series stainless steel
Electrical connection	Six AWG 32 conductor, shielded polyurethane jacket cable, 6.5 foot [2 meter] long
IEC 60529 rating	IP-66 (at cable exit), IP-60 (at the plunger)

### Notes:

All values are nominal unless otherwise noted

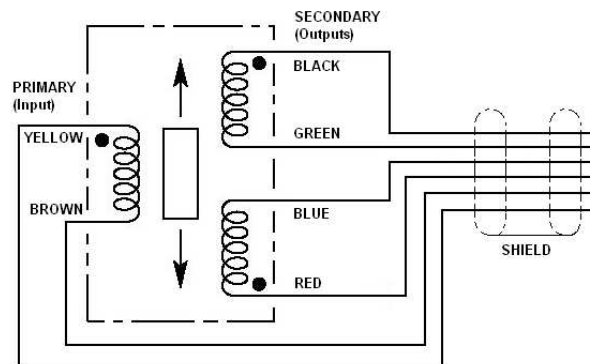
Dimensions are in inch [mm] unless otherwise noted

(\*): 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

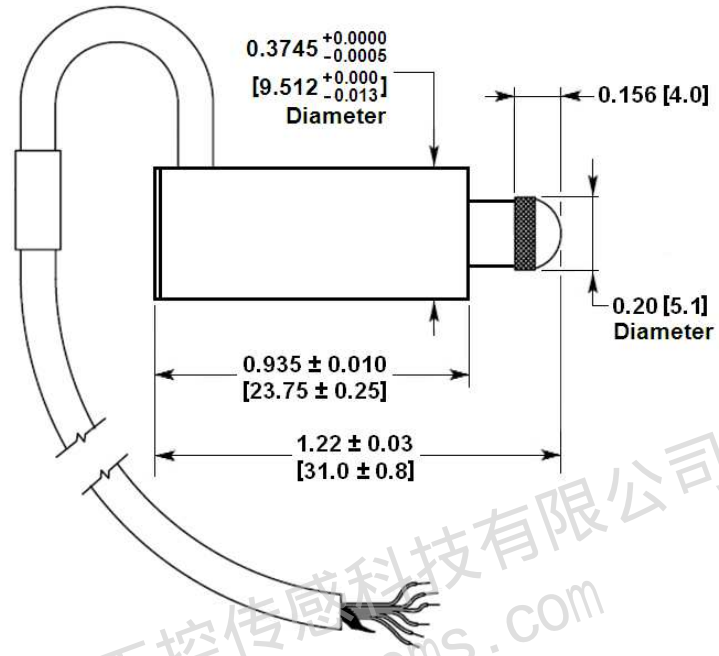
## WIRING INFORMATION



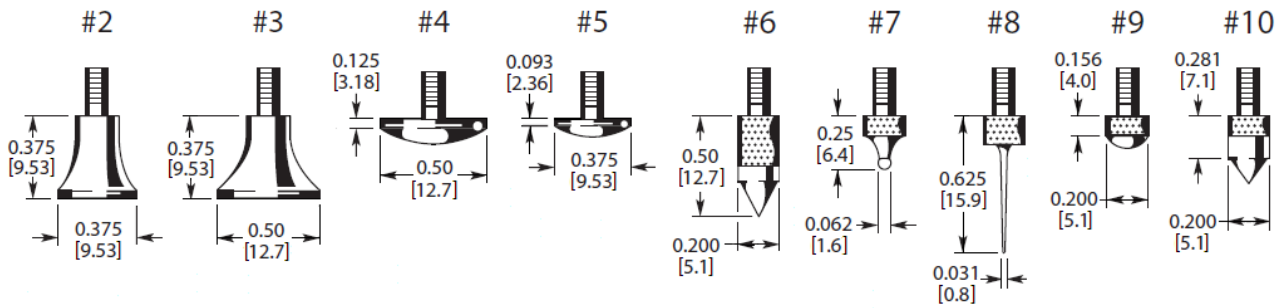
Connect Blue and Green wires together for differential output

**MECHANICAL SPECIFICATIONS**

Parameter	PCA-375-PR 020
Pre-travel, minimum	0.002 [0.05]
Total stroke	0.060 [1.52]
Spring force	2.6 oz [73 Grams] @ null position



**REPLACEMENT/OPTIONAL CONTACT TIPS**



*Dimensions are in inch [mm]*

## ORDERING INFORMATION

Description	Model	Part Number
±0.020 inch gage head	PCA-375 PR-020	02350729-000
<b>ACCESSORIES</b>		
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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