

GURLEY MODELS P20 AND P40 MEASURING GAUGES

MOTION TYPE:

LINEAR

USAGE GRADE:

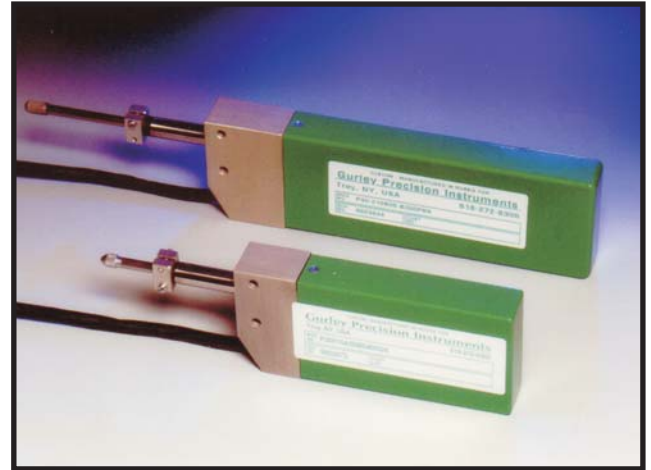
**INSTRUMENT/
LIGHT INDUSTRIAL**

OUTPUT:

INCREMENTAL

MAX RESOLUTION:

0.5 μ m



HIGH RESOLUTION - INDUSTRIAL RUGGEDNESS

The Models P20 and P40 Measuring Gauges are plunger-type linear optical encoders. They are ideal for precise measurement of travel lengths up to 40 mm, and are equally at home in the QC lab or on the factory floor.

The P20 and P40 incorporate ball-bearing plunger guides for smooth operation and greater resistance to side loads, and an internal ASIC for reliable electronic interpolation. The plunger is spring-loaded to return to the fully extended position.

SPECIFICATIONS

Measuring length:	P20: 20 mm (0.79"); P40: 40 mm (1.57")
Resolution:	10, 5, 2, 1 or 0.5 micrometers
* Accuracy at 20°C:	$\pm 1.0 \mu\text{m}$ standard; $\pm 0.5 \mu\text{m}$
Data format:	Quadrature square waves
Index format:	1/4-cycle wide, gated with high states A and B
Index location:	5 ± 1 mm from fully retracted position; others available
Output devices:	EIA/RS-422 balanced differential line driver
Power required:	+ 5 VDC $\pm 5\%$, 120 mA max
Maximum speed:	1 m/s (40 in/s)
Measuring force:	1.2 N max (5 oz)
Allowable side load:	4.4 N (1.0 lb)
Mounting method:	Through clearance holes against a flat surface, or with standard $\phi 8\text{h}6$ clamping shank
Measuring contact:	Corundum with $\phi 10$ mm (0.4") spherical tip
Protection Case:	IP64
Plunger:	IP50
Operating temp.:	0°C to 50°C (32°F to 122°F)
Storage temperature:	-20°C to 70°C (-4°F to 158°F)
Humidity:	10 to 90% rh, non-condensing
Cable length:	1 m (40") standard
Shock acceleration:	max is $\leq 150 \text{ m/s}^2$ @ 11 ms
Vibration:	50 - 2000 Hz $\leq 50 \text{ m/s}^2$
Max acceleration:	30 m/s^2

**ISO
9001
CERTIFIED**

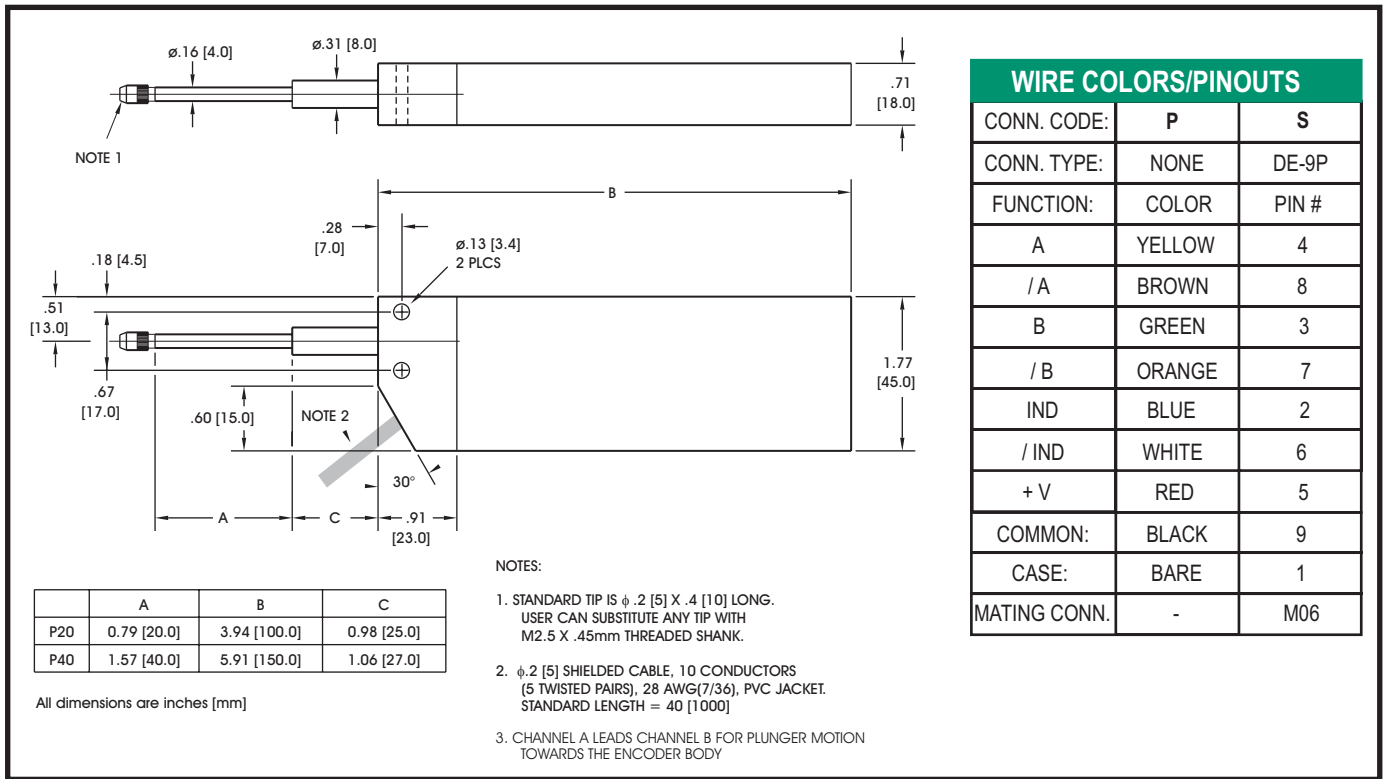
Gurley Precision Instruments
514 Fulton Street
Troy, NY 12180 U.S.A.

(800) 759-1844, (518) 272-6300, fax (518) 274-0336,
Online at www.gurley.com, e-mail: info@encoders.com



ingenuity[®]@work

P20 AND P40 DIMENSIONS



ORDERING INFORMATION

Model No.	Resolution	Accuracy	Index Location	Cable Length	Connector Code	Measuring Tip	Special Code
-----------	------------	----------	----------------	--------------	----------------	---------------	--------------

Model No.

P20 or P40

Resolution

Resolution after 4X quadrature decoding

100 10 μ m (~0.0004")
 050 5 μ m (~0.0002")
 020 2 μ m (~80 μ)
 010 1 μ m (~40 μ)
 005 0.5 μ m (~20 μ)

Accuracy*

A +/-0.5 μ m (optional)
 B +/-1.0 μ m (standard)

Index Location

Index location is in mm, measured from the fully retracted position (05 = standard), or
 NN not required

Cable Length

XXX Inches
 040 Standard

Connector Code

P Pigtails (no connector)
 S DE-9P

Measuring Tip

Standard tip
 None

Special Code

X To define non-standard features
 N No special features

Accessories

M06 Mating connector for DE-9P
 ISC3N Interface for IBM[®]PC

* The stated accuracy is the maximum encoder error at the transitions of the output square waves. It does not include quantization error, which is $\pm 1/2$ quantum. ("Quantum" is the final output resolution after user's quadrature decode.)