

GURLEY MODEL 9717 INCREMENTAL MODULAR LINEAR ENCODER

MOTION TYPE:

LINEAR

USAGE GRADE:

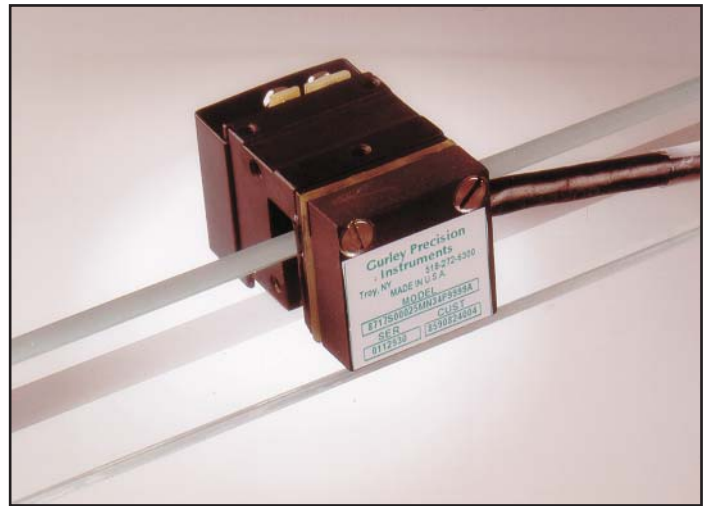
MODULAR

OUTPUT:

INCREMENTAL

MAX RESOLUTION:

0.5µm OR 25µm



HIGH RESOLUTION, FRICTION-FREE OPERATION

The **Model 9717** is a high-resolution incremental encoder that offers direct measurement of linear position or speed without contact between the reading head and the glass scale.

When used with the optional **HR2B** or **HR2C** interpolator, its optical resolution can be electronically increased and the output provided as quadrature square waves plus index from RS422 differential line drivers.

DIGITAL OUTPUTS

The **Model 9717** provides unbuffered phot transistor output sinusoids. For digital output signals or extended resolution, our **Models HR2B and HR2C** electronics packages transmit quadrature square waves, gated index, and built-in "watchdog" self-test data via RS-422 differential line drivers. Output square waves are at 20 times the line count on the scale with the HR2B, or at 1, 2, 3, 4, 5, 8, 10, 12, 16, or 25 times the line count with the HR2C. Please refer to the HR2B/HR2C data sheet for full details.

SCALES

The following scales are available from existing masters. Additional standard scales may be added periodically; special scales can always be made on a custom basis.

Scale pitch	Max. length	Cross-section	Max. res. with HR2B *	Max. res. with HR2C *
40 µm	3.2 m	1.125" x 0.189"	0.5 µm	1.0 µm
0.002 in	125 in	1.125" x 0.189"	0.00025 in	0.0005 in

* After 4X quadrature decode in user's electronics

ingenuity[®]@work

ISO
9001
CERTIFIED

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SPECIFICATIONS

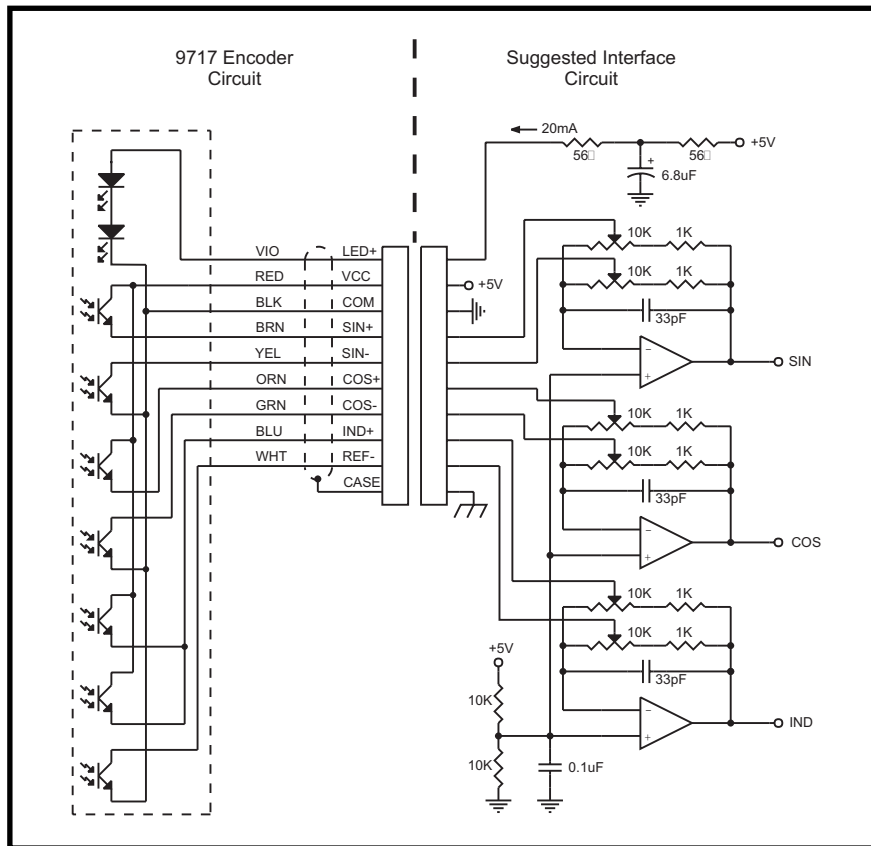
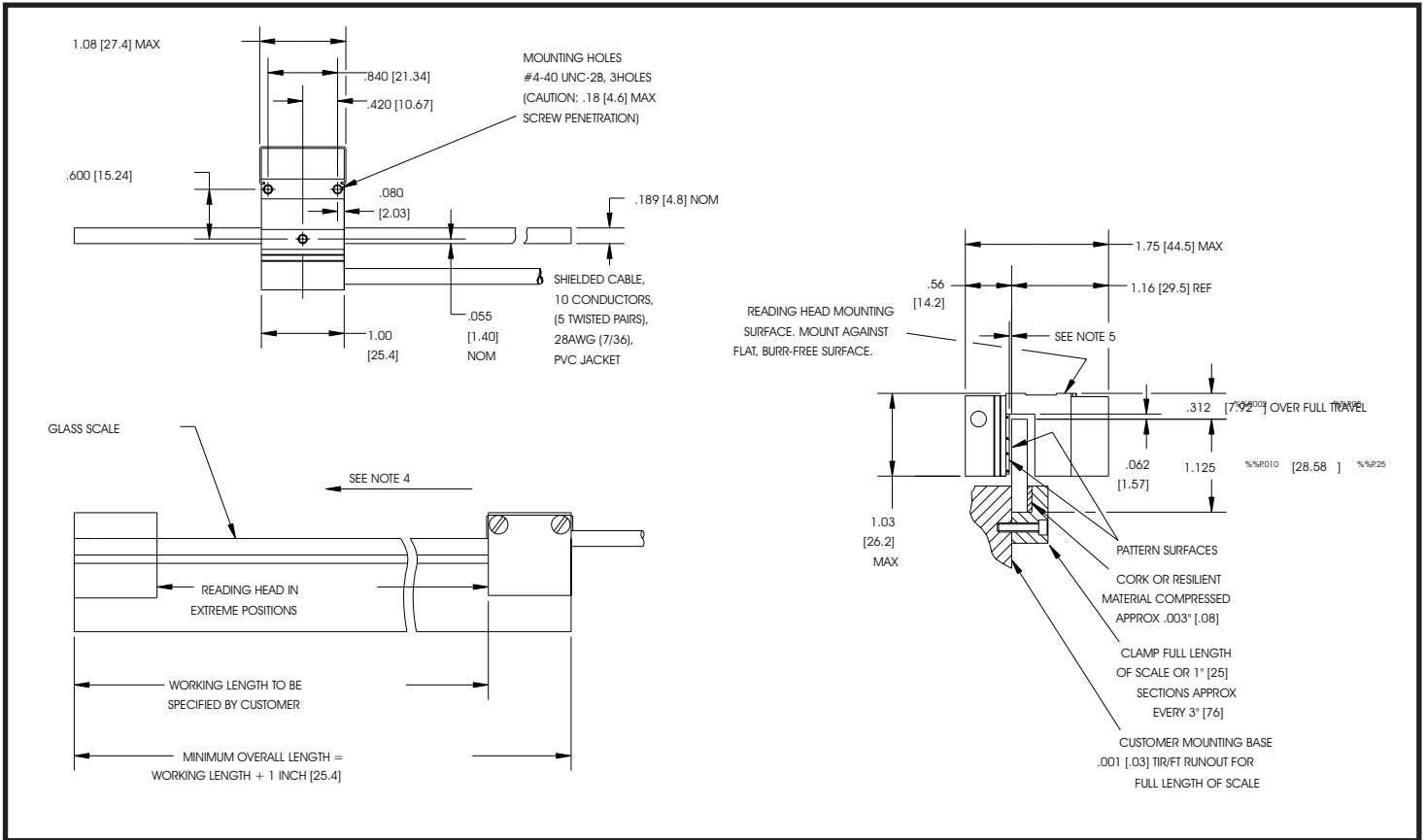
ELECTRICAL	
Input Power	V_{cc} : +5VDC \pm 0.25VDC @ 10 mA I_{LED} : +20 mA regulated DC current source
Light Source	Screened infra-red; rated life>100,000 hours
Output Signals	High Output differential Sine, Cosine and Index photocurrents. Signal levels are designed for proper operation with GPI's HR2B or HR2C electronics packages. Consult factory to establish criteria for waveforms when 9717 is used with other electronics.
MECHANICAL	
Materials Encoder Body Scale	Stainless steel Vacuum-deposited chrome pattern on glass
Weight Read Head Scale	6.2 oz (174 g) + cable @ 0.034 oz/in (0.04 g/mm) 0.31 oz/in (0.34 g/mm) with 1.125" x 0.189" cross-section
PERFORMANCE	
Frequency Responses	50 kHz, all channels (Max. Speed may be limited by subsequent electronics; see data sheet for HR2B and HR2C interpolators.)
Quadrature Error	\pm 30° typical (depends on user's installation)
Scale Accuracy Standard Optional	\pm 0.0001 in/ft (\pm 8 μ m/m) \pm 0.00005 in/ft (\pm 4 μ m/m)
ENVIRONMENTAL	
Operating Temperature Humidity Shock Vibration	-40°F to +185°F (-40°C to +85°C) 98% rh, non-condensing 50g, 11ms 2g, 0-2000 Hz

As part of our continuing product improvement program, these specifications are subject to change without notice.

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V3.1

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ORDERING INFORMATION

ENV
LINES
TYPE
IND
CABLE
CONN
9999
SF

9717

ENV

S Standard environment
V Vacuum-compatible

CABLE

Cable length in inches (04-99)
36 Standard

LINES

00040 40- μ m scale pitch (25 L/mm);
TYPE = M
02000 2000- μ in scale pitch (500 L/in);
TYPE = E

CONN

P Pigtails (no connector)
S DE-9P (use with HR2B or HR2C electronics)
9999 Fixed characters for all 9717

TYPE

E English scale (LINES = μ in/line)
M Metric scale (LINES = μ m/line)

SF

Issued at time of order to cover non-standard requirements
N No special features

Specify scale separately.

OPTIONS AND ACCESSORIES

- M06** Mating connector for DE-9P (not required if **HR2B** or **HR2C** is ordered)
- HR2B** Incremental interpolator (20X). See **HR2B/HR2C** data sheet
- HR2C** Incremental interpolator (1, 2, 3, 4, 5, 8, 10, 12, 16, or 25). See **HR2B/HR2C** data sheet.
- ISC3N** PC Interface card (requires **HR2B** or **HR2C**)

SPECIAL CAPABILITIES

For special situations, we can optimize catalog encoders to provide higher frequency response, greater accuracy, wider temperature range, reduced torque, non-standard line counts, or other modified parameters. In addition, we regularly design and manufacture custom encoders for user-specific requirements. These range from high-volume, low-cost, limited-performance commercial applications to encoders for military, aerospace and similar high-performance, high-reliability conditions. We would welcome the opportunity to help you with your encoder needs.

WARRANTY

Gurley Precision Instruments offers a limited warranty against defects in material and workmanship for a period of one year from the date of shipment.

