

GURLEY MODEL A08 ROTARY ABSOLUTE MICRO-ENCODER

MOTION TYPE:

ROTARY

USAGE GRADE:

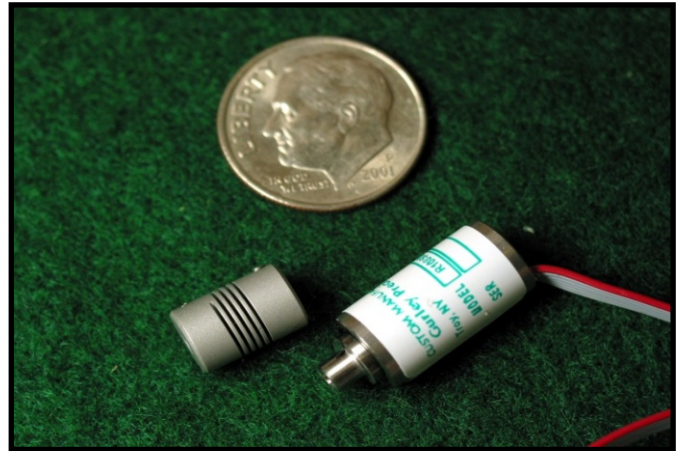
INSTRUMENT

OUTPUT:

ABSOLUTE

MAX RESOLUTION:

12-BITS



MINIATURE HIGH-RESOLUTION ENCODER

The A08 magnetic absolute rotary encoder is designed for light industrial applications that require up to 12-bits of resolution in a very small package.

Major features and advantages:

- Power Supply: +5VDC
- Current consumption: not more than 50mA
- Maximum mechanical speed: 6,000 RPM; operational speed: 1,000 RPM
- Accuracy: ± 60 arcmin
- Operating temperature range: -40C to +85C (-40F to +185F)
- Vibration: 50 m/sec² (55 to 2,000Hz)
- Shock: 100 m/sec² [10G]
- Moment of inertia: 1.1×10^{-8} kG x m² [1.56×10^{-6} in-oz-s²]
- Starting torque @ 20C: 2×10^{-3} Nm
- Protection class: IP50
- Max shaft load: axial & radial 3N (0.7 lb)

ISO
9001
CERTIFIED

Gurley Precision Instruments
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Troy, NY 12180 U.S.A.
(800) 759-1844, (518) 272-6300, fax (518) 274-0336,
Online at www.gurley.com, e-mail: info@gurley.com



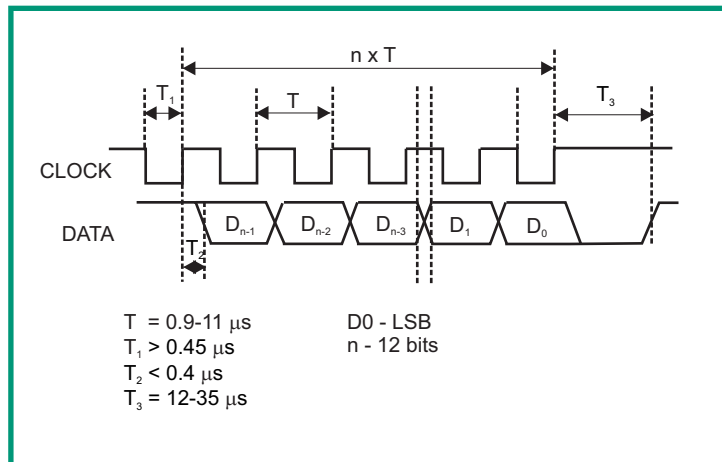
ingenuity[®]@work

SPECIFICATIONS

	Units	Limiting Values	See Note
Mechanical Specifications			
Moment of Inertia	in-oz-s ² (kg-m ²)	1.56 x 10 ⁻⁶ (1.1 x 10 ⁻⁶)	
Starting Torque	in-oz (Nm)	0.283 (0.002)	
Radial Shaft Load	lb (N)	0.7 (3)	
Axial Shaft Load	lb (N)	0.7 (3)	
Bearing Arrangement		2 pre-loaded bearings	
Bearings		Grease lubricated and sealed	
Measuring Rotational Element		actuation magnet	
Shock 11 (ms)	g (m/s ²)	30 (300)	
Vibration (55-2000Hz)	g (m/s ²)	5 (50)	
Protection Class		IP50	
Max. Rotational Speed, RPM		6000	
Recommended Coupling	N/A	SCD	
Environmental Specifications			
Operating Temperature	°F (°C)	S: 32 to 158 (0 to 70) T: -40 to 185 (-40 to 85)	
Storage Temperature	°F (°C)	-40 to 185 (-40 to 85)	
Relative Humidity, non-condensing	%	95	
Electrical Specifications			
Supply Voltage	VDC	5.00 +/-5%	
Current Consumption	mA	≤ 50	
Accuracy		+/-60 arc minutes	

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

TIMING DIAGRAM



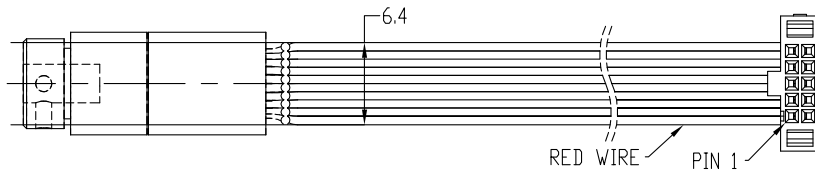
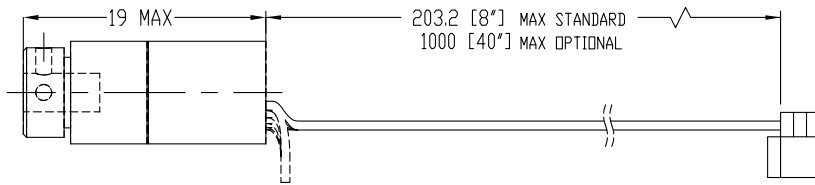
A08

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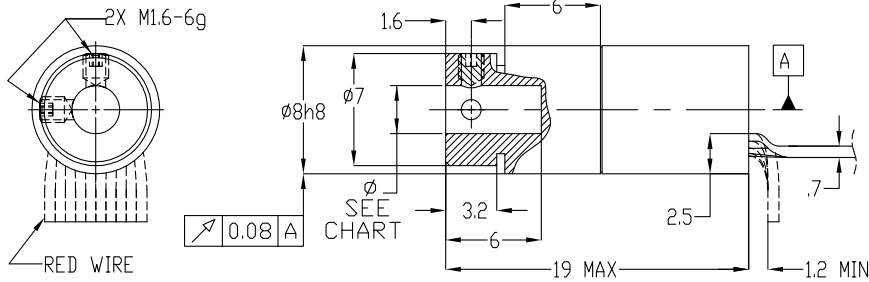


BLIND HOLLOW ENCODERS - TOP ENTRY INTERNAL ELECTRONICS

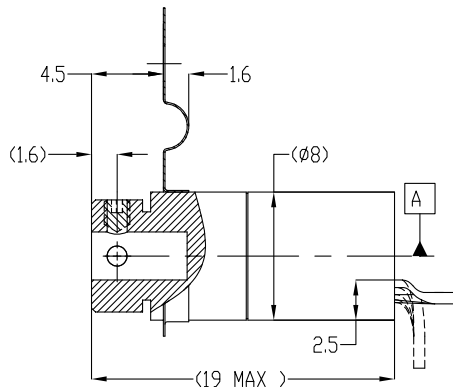
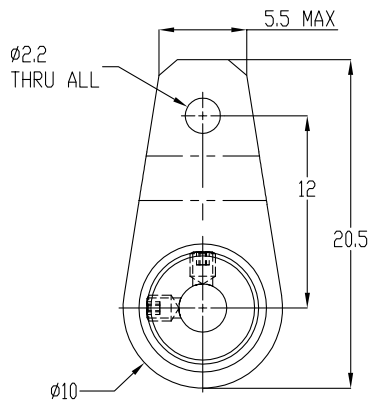


PINOUT TABLE	
PIN #	FUNCTION
	A08
1(RED)	N/C
2	N/C
3	DATA
4	/DATA
5	GND
6	+5V
7	/CLOCK
8	CLOCK
9	N/C
10	N/C

BLIND HOLE ϕ		
CODE	ϕ	TOL
02M	2.0mm	H7
25M	2.5mm	H7
03M	3.0mm	F8
02E	1/8" [3.175mm]	H7



CODE A
STANDARD



CODE B
TETHER MOUNT

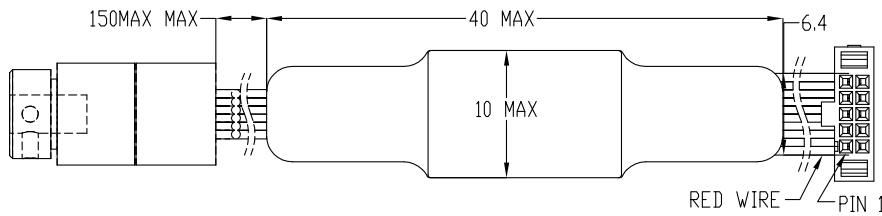
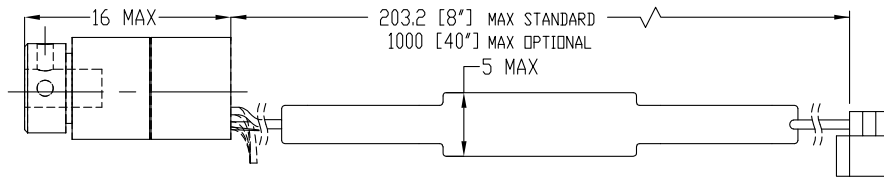
GPI0311-REV D

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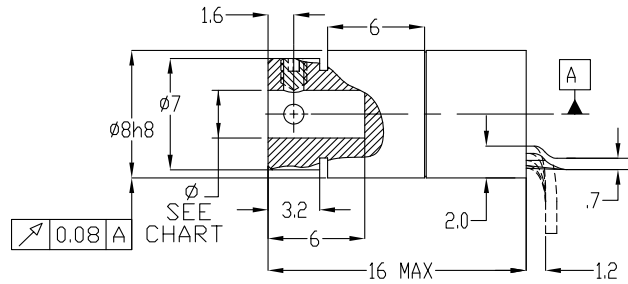
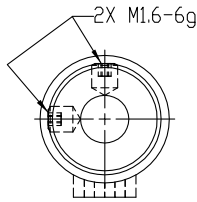


BLIND HOLLOW ENCODERS - TOP ENTRY EXTERNAL ELECTRONICS

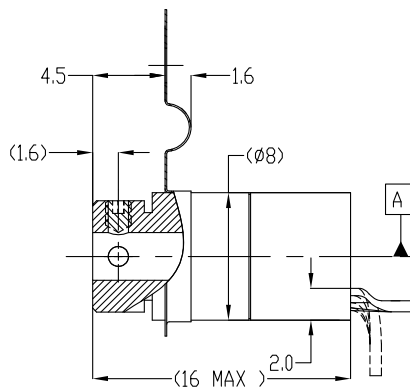
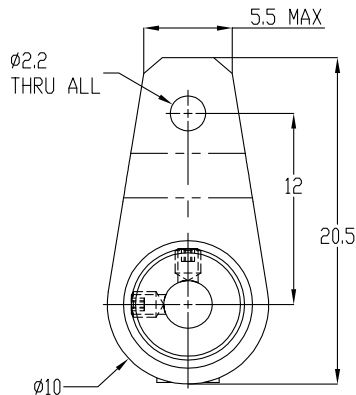


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	A08
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2	N/C
3	DATA
4	/DATA
5	GND
6	+5V
7	/CLOCK
8	CLOCK
9	N/C
10	N/C

BLIND HOLE ϕ		
CODE	ϕ	TOL
02M	2.0mm	H7
25M	2.5mm	H7
03M	3.0mm	F8
02E	1/8" [3.175mm]	H7



CODE D
STANDARD



CODE E
TETHER MOUNT

GPI0311-REV D

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1 2 1 5

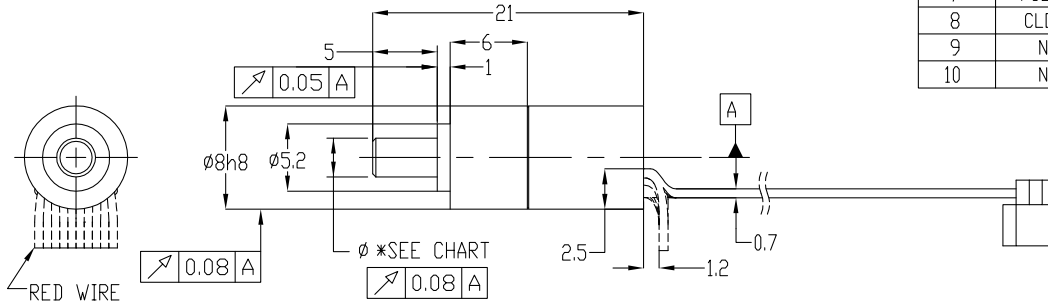
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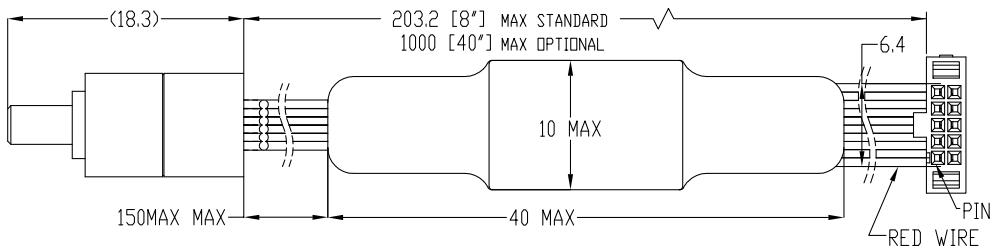
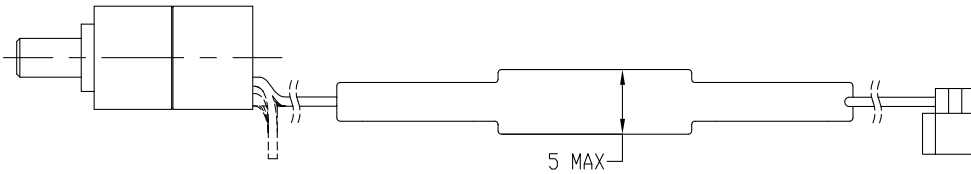
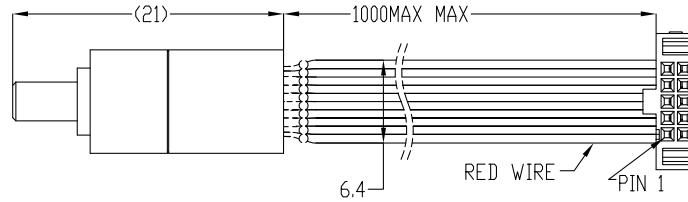
SHAFT ϕ		
CODE	ϕ	TOL
02M	2.0mm	h6
25M	2.5mm	h6
03M	3.0mm	h6
02E	1/8" [3.175mm]	h6

SHAFT ENCODERS - TOP ENTRY INTERNAL OR EXTERNAL ELECTRONICS

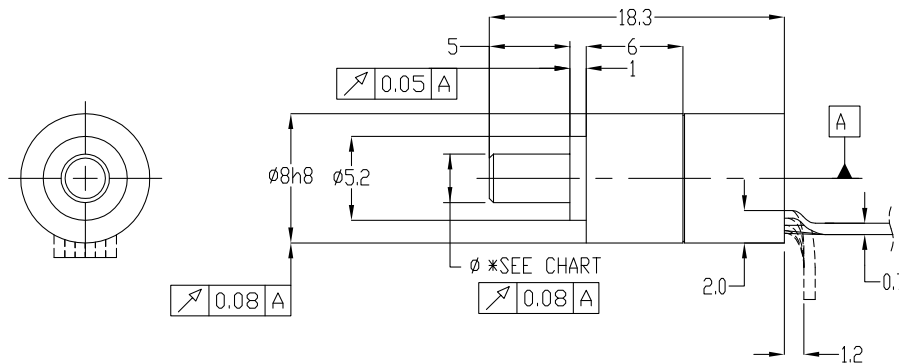
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PIN #	FUNCTION
	A08
1(RED)	N/C
2	N/C
3	DATA
4	/DATA
5	GND
6	+5V
7	/CLOCK
8	CLOCK
9	N/C
10	N/C



CODE G
SHAFT
INTERNAL
ELECTRONICS



CODE H
SHAFT
EXTERNAL
ELECTRONICS



GPI0311-REV D



ORDERING INFORMATION

<u>MODEL</u>	<u>SHAFT</u>	<u>RES</u>	<u>OF</u>	<u>OC</u>	<u>OD</u>	<u>V</u>	<u>TEMP</u>	<u>BASE</u>	<u>EXIT</u>	<u>CAB</u>	<u>CONN</u>	<u>DIA</u>	<u>SF</u>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

MODEL

A08 8mm body

SHAFT

S Solid shaft
B Blind hollow shaft

RES - Resolution

04 4-bit resolution
08 8-bit resolution
10 10-bit resolution
12 12-bit resolution
Consult factory for other resolutions

OF - Output Format

S SSI

OC - Output Code

B Binary (for RES = 4 - 12-bit)
G Gray code (for RES = 4 - 10-bit)

OD - Output Device

RS RS Differential (MAX490)

V - Input voltage

5 +5 Vdc

TEMP - Temperature

N 0 to 70 Celsius
T -40 to 85 Celsius
 (limited to **BASE** codes D,E,H)

BASE

A 4 - 10-bits, Gray code
B 4 - 10-bits, Gray code
D 4 - 12-bits, Binary code
E 4 - 12-bits, Binary code
G 4 - 10-bits, Gray code
H 4 - 12-bits, Binary code

EXIT

T Top-exit cable

CAB - Cable length, inches

08 Standard

CONN - Connector

Z Samtec Connector

DIA - Shaft diameter

02M 2.0mm
25M 2.5mm
03M 3.0 mm
02E 1/8in

SF- Special features

N No special features
Issued at time of order to cover special customer requirements

ACCESSORIES (order separately)

SCD-xxx-xxx Shaft coupling
 (see separate data sheet)

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 characteristics. 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.



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