

GURLEY MODEL A19 ABSOLUTE ENCODER

MOTION TYPE:

ROTARY

USAGE GRADE:

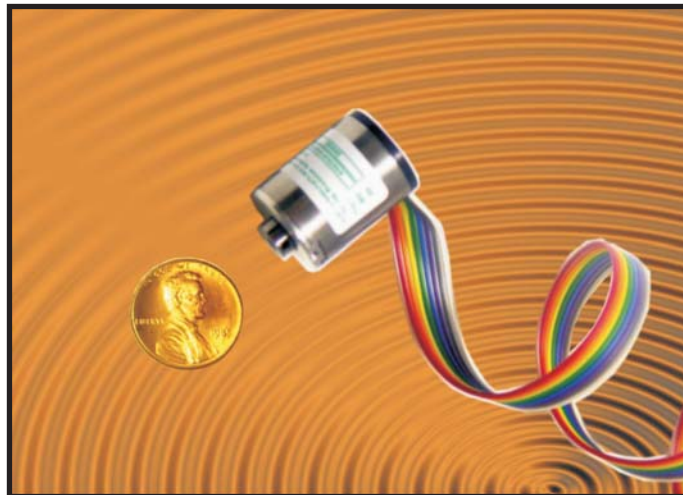
INDUSTRIAL

OUTPUT:

ABSOLUTE

MAX RESOLUTION:

15 BITS



MINIATURE HIGH-RESOLUTION ENCODER

The model **A19** encoder is a miniature single-turn absolute rotary encoder with opto/magnetic electronic technology. This encoder is used in a wide variety of position-sensing applications for the measuring of angles and distances in very small envelopes. Mechanical features include a 19-mm aluminum housing, a 3-4 mm (0.125") dia stainless steel solid or blind hollow shaft, and precision ball bearings.

ingenuity[®]@work

ISO
9001
CERTIFIED

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SPECIFICATIONS

	Units	Limiting Values	See Note
Mechanical Specifications			
Moment of Inertia	in-oz-s ² (g-cm ²)	5.7 x 10 ⁻⁶ (0.4)	
Starting Torque	in-oz (N x m)	0.07 (5 x 10 ⁻⁴)	
Radial Shaft Load	lb (N)	0.6 (3)	
Axial Shaft Load	lb (N)	0.6 (3)	
Bearing Arrangement		2 pre-loaded bearings	
Bearings		Grease lubricated and sealed	
Measuring Rotational Element		Etched chrome on glass disc, axially combined with actuation magnet	
Non-Operating Slew	RPM	10,000	
Shock 11 (ms)	g (m/s ²)	30 (300)	
Vibration (55-2000Hz)	g (m/s ²)	10 (100)	
Sealing		IP50	2
Acceleration	rad/s ²	3 x 10 ⁶	
Max. Rotational Speed, RPM		2400	
Recommended Coupling	SCD		
Environmental Specifications			
Operating Temperature	°F (°C)	32 to 158 (0 to 70)	
Storage Temperature	°F (°C)	0 to 160 (-18 to 71)	
Relative Humidity	%	98	1
Electrical Specifications			
Supply Voltage	VDC	4.75 to 5.25, 5.00 nominal	
Current Consumption	mA	≤ 150	
LED Life	hours	≥ 100,000	
Output Code		Gray code or natural binary	
Output Format		13, 14, or 15 bit SSI	
Output Device		RS	
Accuracy		+/-150 arc seconds	

Notes

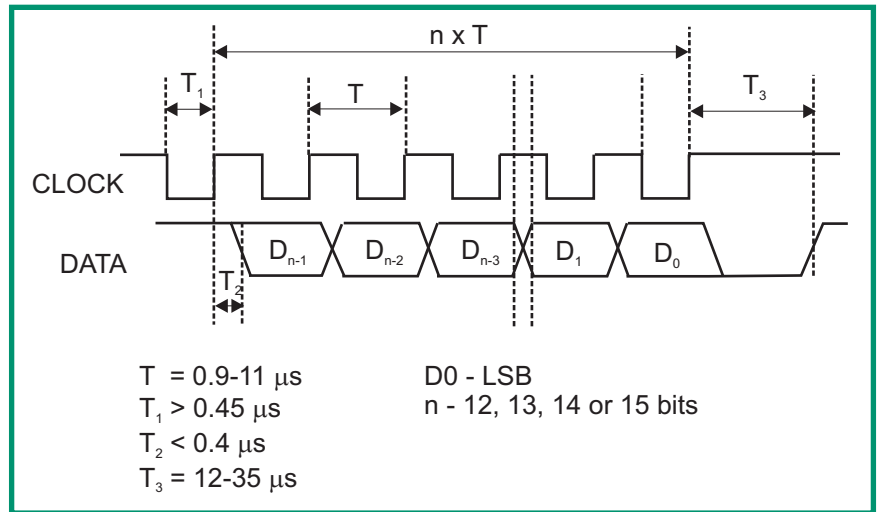
1. Non-condensing
2. Per CEI / IEC 529 - Degrees of protection provided by enclosures (IP Code)

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

OUTPUT OPTIONS

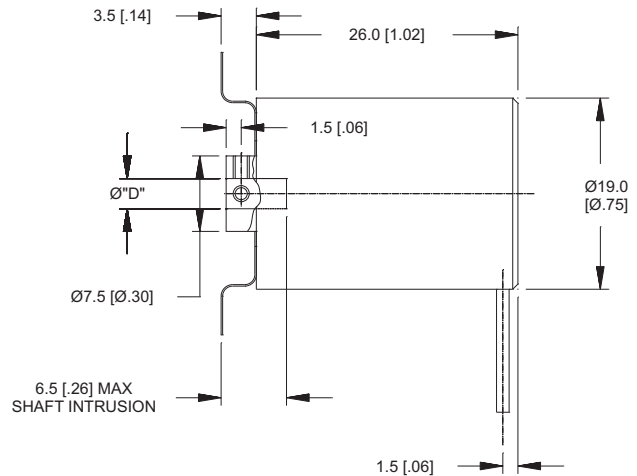
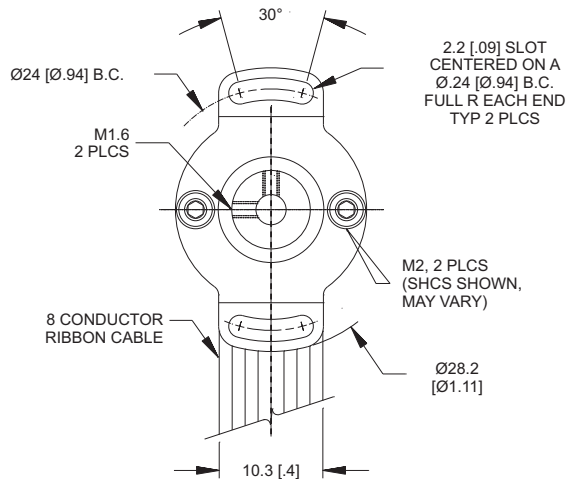
Serial Output - Gray code or Binary

Electrical Signal	Pin	Color
CASE	7	Gray
Clock	2	Orange
/ Clock	3	Yellow
Data	4	Green
/ Data	5	Blue
0V	8	White
+5V	1	Red
n/a	6	Violet



OUTLINE DIMENSIONS

A19B (BASE CODE A)



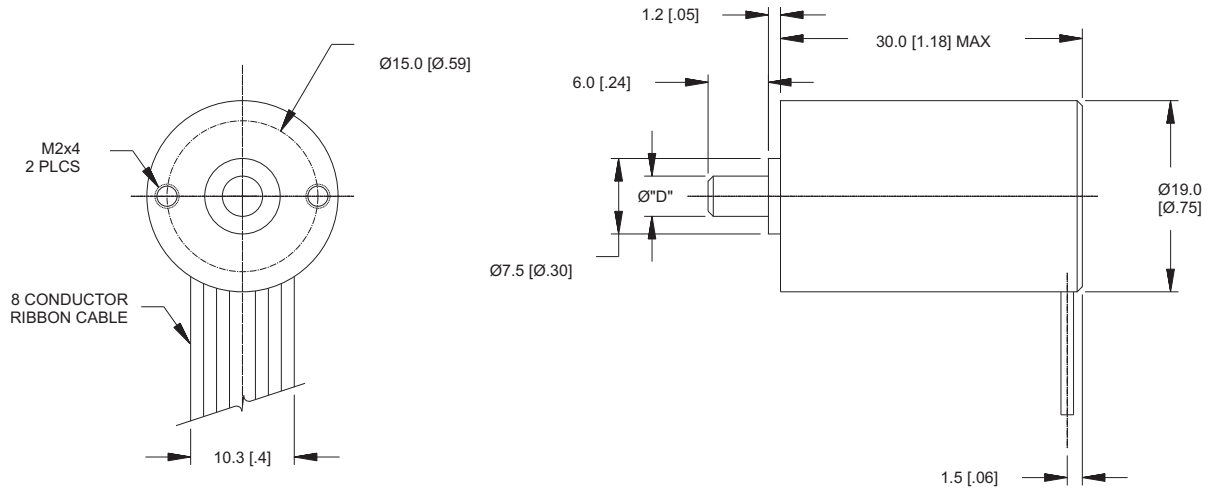
A19S (BASE CODE A)

Ø"D" TABLE		
"DIA" CODE	A19S	A19B
03M	Ø3mm h6	Ø3mm H7
04M	Ø4mm h6	N/A
02E	Ø0.125" $^{+0.0000}_{-0.0003}$	Ø0.125" $^{+0.0005}_{-0.0000}$

ALL DIMENSIONS IN MM [INCHES]

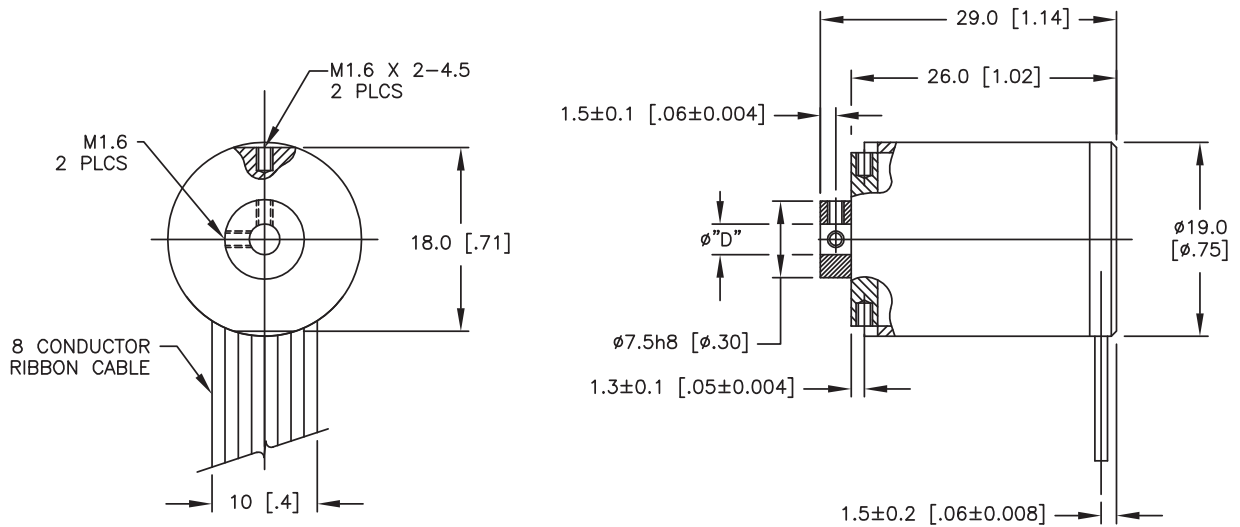
OUTLINE DIMENSIONS

A19S (BASE CODE B)



A19B (BASE CODE B)

A19B (BASE CODE D)



$\varnothing "D"$ TABLE		
"DIA" CODE	A19S	A19B
03M	$\varnothing 3\text{mm } h6$	$\varnothing 3\text{mm } H7$
04M	$\varnothing 4\text{mm } h6$	N/A
02E	$\varnothing 0.125^{+0.000}_{-0.0003}$	$\varnothing 0.125^{+0.0005}_{-0.0000}$

ALL DIMENSIONS IN MM [INCHES]

ORDERING INFORMATION

MODEL	SHAFT	RES	OF	OC	OD	VOLT	TEMP	BASE	EXIT	CAB	CONN	SHAFT	SPEC
<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

A19

SHAFT - Shaft type

S Solid shaft
B Blind Hollow Shaft

RES – Resolution

12 12 bit resolution
13 13 bit resolution
14 14 bit resolution
15 15 bit resolution

OF – Output Format

S SSI

OC – Output Code

B Binary
G Gray code

OD – Output Device

RS RS Differential (SP 490)

VOLT – Voltage

05 5VDC Power Supply

TEMP – Temperature Range

S Standard (0 - 70°C)

BASE

A Blind-hollow shaft with external face mount
B Face mount base
D Blind hollow shaft with external tether side mount

EXIT– Cable Exit

S Side exit cable

CAB – Cable length, inches

18 Standard 18" (0.5m)
XX 02" – 99"

CONN – Conector

P Pigtail
Y 8-pos ribbon cable
Socket connector
(Berg 71602-308 or equal)

SHAFT

03M 3 mm
04M 4 mm ("S" – shaft only)
02E 1/8 inch

SPEC – Special features

N No Special Features

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.

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