

# GURLEY MODEL LA24 **ABSOLUTE** LINEAR ENCODER

MOTION TYPE:

**LINEAR**

USAGE GRADE:

**INDUSTRIAL**

OUTPUT:

**ABSOLUTE**

MAX RESOLUTION:

**0.1 $\mu$ m & 1.0 $\mu$ m**



## HIGH RESOLUTION - INDUSTRIAL RUGGEDNESS

The Model **LA24** Absolute Linear Encoder offers measuring lengths up to 3240mm, SSI or BiSS serial interfaces and is accurate to  $\pm 3 \mu\text{m/m}$ .

ingenuity<sup>®</sup>@work

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](http://www.gurley.com), e-mail: [info@gurley.com](mailto:info@gurley.com)



# SPECIFICATIONS

| <b>LA24</b>               |   |
|---------------------------|---|
| Cross-section             | 24mm x 59mm   |
| Measuring length ML       | 70mm - 3240mm   |
| Overall length, mm        | ML + 138mm  |
| Weight                    | 0.44kg + 1.3kg/m  |
| Operating temperature     | 0° to 50°C  |
| Sealing                   | IP64 with compressed air<br>IP54 without compressed air |
| Grating Period            | 20µm  |
| Resolution, µm            | 0.1µm or 1.0µm  |
| Accuracy (at 20°C)        | Grade A: ±3 µm/m; Grade B: ±5 µm/m                      |
| Input power               | 5V ± 5% @ 340 mA max with R = 120 Ohm                   |
| Max speed                 | 2 m/s   |
| Max acceleration          | 30 m/s <sup>2</sup>                                     |
| Driving force             | ≤2.5 N  |
| Humidity (non-condensing) | 80% max   |
| Vibration (55 to 2000 Hz) | 10G   |
| Shock (11ms)              | 15G   |

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

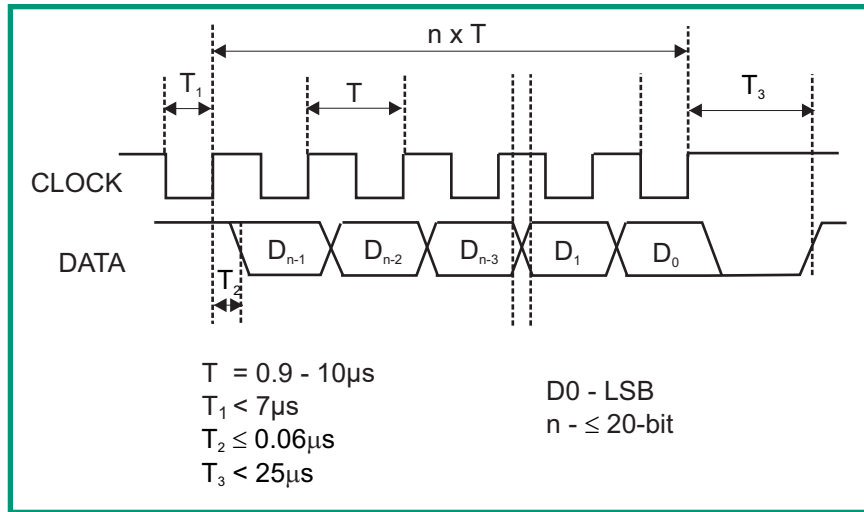
**LA24**

PAGE 2 OF 6  
1 0 2 3

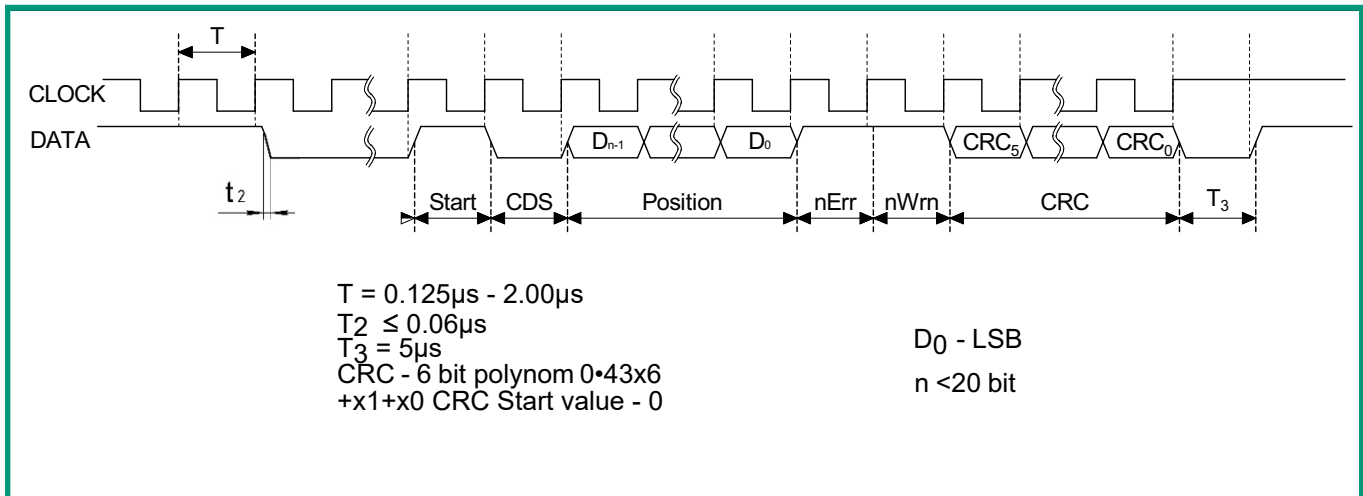
Gurley Precision Instruments  
514 Fulton Street  
Troy, NY 12180 U.S.A.  
(800) 759-1844, (518) 272-6300, fax (518) 274-0336,  
Online at [www.gurley.com](http://www.gurley.com), e-mail: [info@gurley.com](mailto:info@gurley.com)



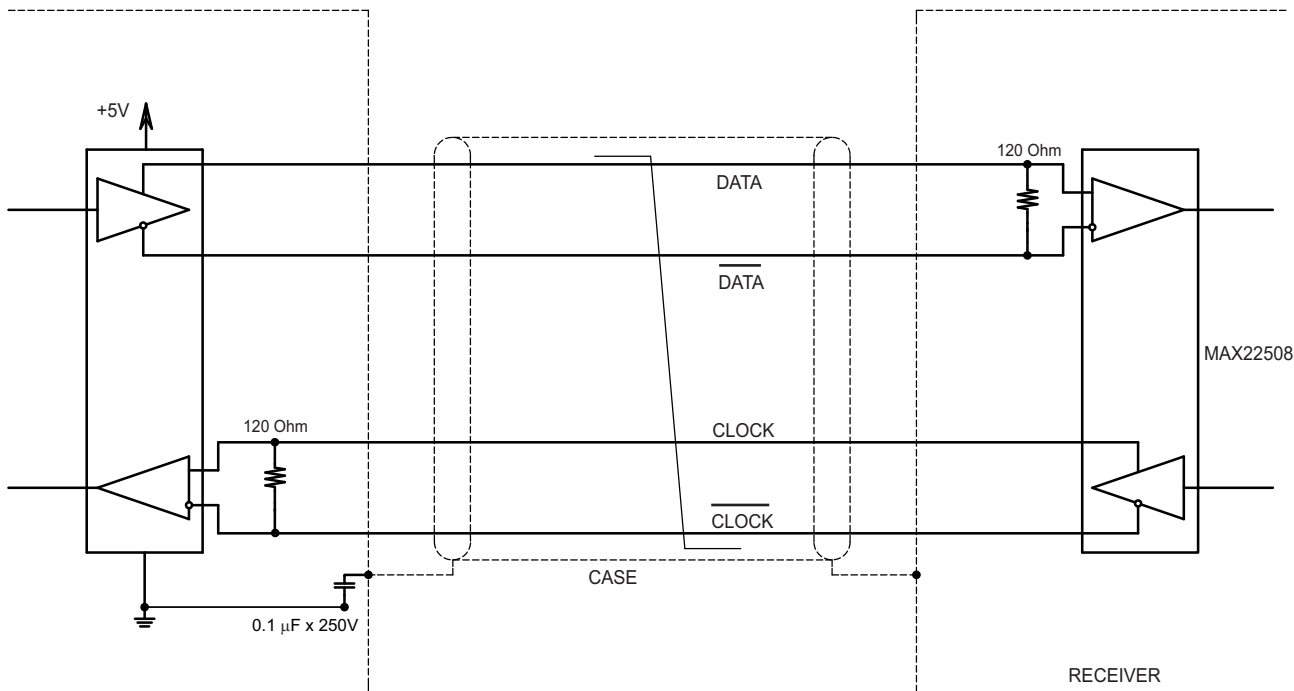
## SSI Output



## BiSS Output



SSI & BiSS CHANNEL



## LA24 - SSI or BiSS Outputs

| Electrical Signal | Pin | Color        |
|-------------------|-----|--------------|
| Case              | 1   | Shield/Drain |
| Clock             | 2   | Green        |
| / Clock           | 3   | Yellow       |
| Data              | 6   | Pink         |
| / Data            | 7   | Grey         |
| 0V                | 9   | White        |
| +5V               | 5   | Brown        |

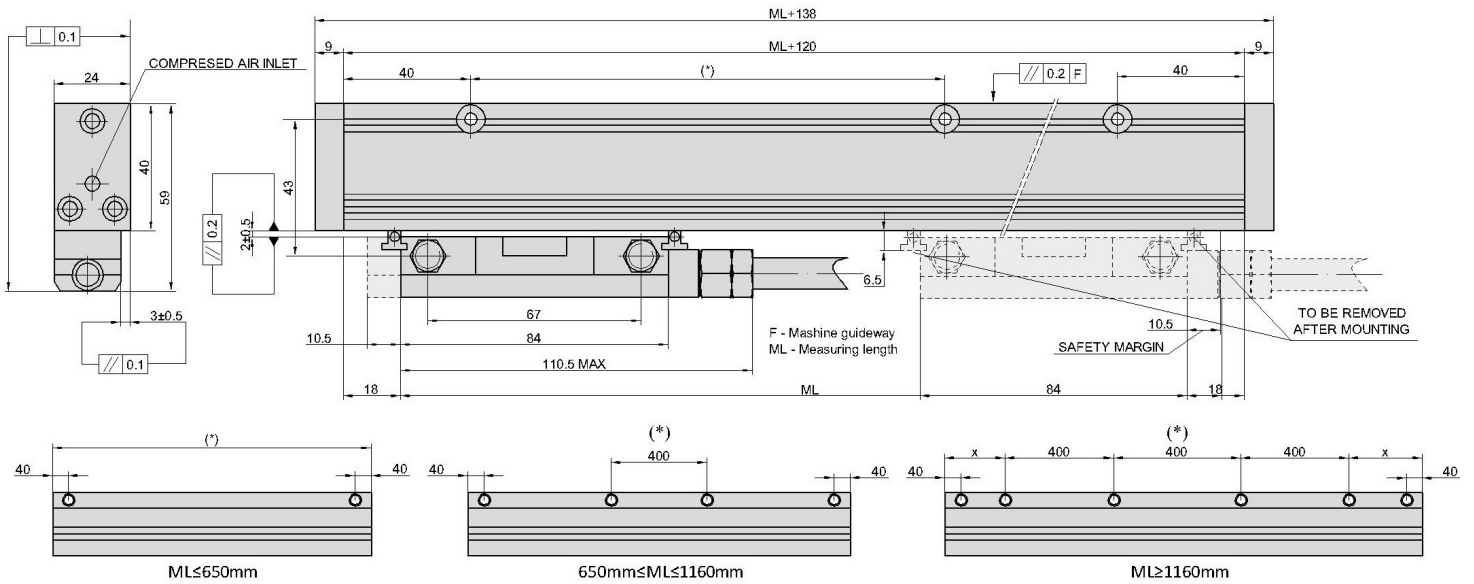
# LA24

PAGE 4 OF 6  
1 0 2 3

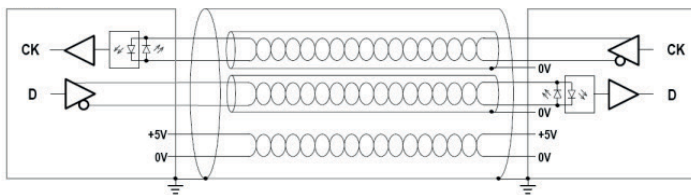
**Gurley Precision Instruments**  
 514 Fulton Street  
 Troy, NY 12180 U.S.A.  
 (800) 759-1844, (518) 272-6300, fax (518) 274-0336,  
 Online at [www.gurley.com](http://www.gurley.com), e-mail: [info@gurley.com](mailto:info@gurley.com)



# OUTLINE DIMENSIONS & CABLE INFORMATION



(\* ) Add holes at 40mm from cut ends, when the first hole at constant step is at a distance X > 175mm.



Encoder is supplied with 6-wire shielded twisted pairs

- 6-wire shielded cable,  $\varnothing=6.2$  mm
- PVC external sheath, with low friction coefficient, oil-resistant, suitable for continuous movements
- Conductors section: power supply  $0.35$  mm<sup>2</sup>, signals  $0.25$  mm<sup>2</sup>
- Cable bend radius should not be less than 35 mm.

**LA24**

PAGE 5 OF 6  
1 0 2 3

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](http://www.gurley.com), e-mail: [info@gurley.com](mailto:info@gurley.com)



# ORDERING INFORMATION

| <u>MODEL</u> | <u>RES</u> | <u>ACC</u> | <u>IN</u> | <u>OUT</u> | <u>ML</u> | <u>EXIT</u> | <u>TYPE</u> | <u>CABLE</u> | <u>CONN</u> | <u>SPEC</u> |
|--------------|------------|------------|-----------|------------|-----------|-------------|-------------|--------------|-------------|-------------|
|              |            |            |           |            |           |             |             |              |             |             |

**MODEL**

**LA24** 24 x 59 mm **cross-section**

**EXIT** -

**A** Cable exits to the right

**RES** - Resolution

**001** 0.1µm (≈ 4 µin)  
**010** 1.0µm (≈ 40 µin)

**TYPE** - Of Cable

**S** Shielded

**ACC** - Accuracy

**A** ±3 µm/m  
**B** ±5 µm/m

**CABLE** - **xxx** Cable length, inches

**040** 1 Meter  
**080** 2 Meters  
**120** 3 Meters

**IN** - Input voltage

**5** +5Vdc

**CONN**

**P** Pigtails (no connector)  
**S** DE-9P

**OUT** - Output format

**S** SSI, Binary, RS 422

**SPEC** - Special Code

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

**ML** - Measuring Length\*

**xxxx** mm

**ACCESSORIES** (order separately)

**M06** Mating connector for DE-9P

\*Available measuring lengths (mm): 70; 120; 170; 220; 270; 320; 370; 420; 470; 520; 570; 620; 720; 770; 820; 920; 1024; 1140; 1240; 1340; 1440; 1540; 1640; 1740; 1840; 2040; 2240; 2440; 2640; 2840; 3040; 3240.

**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.



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](http://www.gurley.com), e-mail: [info@gurley.com](mailto:info@gurley.com)

