



Smart encoders &amp; actuators

# A80 Series Medium Duty Incremental Encoders

## Features

- Feedback encoder for large motors
- Precise optical sensing
- Very flat design
- Hollow shafts up to 30mm diameter
- Bore reducing sleeves of 5/8", 19mm, 20mm, 7/8", 1", 1 1/8"
- Universal output circuit: 5–30 VDC Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL)
- Quadrature output signals with index (ABZ, /ABZ)
- Diecast housing with IP64 environmental rating (dustproof, splashproof)



A80H with M23 Connector



A80H with Pigtail Cable

| A80 Series Medium Duty Incremental (Quadrature) Encoders |          |                       |                            |                                              |               |               |                     |                                                                                                   |
|----------------------------------------------------------|----------|-----------------------|----------------------------|----------------------------------------------|---------------|---------------|---------------------|---------------------------------------------------------------------------------------------------|
| Part Number                                              | Price    | Pulses per Revolution | Dimensional Drawing        | Shaft Type                                   | Body Diameter | Input Voltage | Cable               | Output                                                                                            |
| <a href="#"><u>A80H-1024-HZC30-M23</u></a>               | \$149.00 | 1024                  | <a href="#"><u>PDF</u></a> | Multiple hollow shafts between 5/8" and 30mm | 80            | 5–30 VDC      | M23 male            | Universal circuit: Push-Pull (Totem Pole), or NPN/ PNP open collector (HTL), or Line Driver (TTL) |
| <a href="#"><u>A80H-1024-HZC30-RL2</u></a>               | \$149.00 |                       | <a href="#"><u>PDF</u></a> |                                              |               |               | 2m (6.5 ft) pigtail |                                                                                                   |

### Configurable Hollow Shaft Sizing

The A80H encoder features a hollow shaft that can be resized using removable bushings. The images below show the installation of a [BR2-25.4](#) bushing to an [A80H-1024-HZC30-M23](#). See "Accessories - A80 Series" on page tECD-12 for all available options.





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## Accessories - A80 Series

| Accessories for A80 Series Encoders    |         |                                                                                                                                                  |
|----------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Part Number                            | Price   | Description                                                                                                                                      |
| <a href="#"><u>BR2-15.875</u></a>      | \$10.00 | Lika Electronic reducer bushing, 30mm to 5/8in, metal. For use with Lika Electronic A80 series encoders. Mounting hardware included.             |
| <a href="#"><u>BR2-19</u></a>          | \$10.00 | Lika Electronic reducer bushing, 30mm to 19mm, metal. For use with Lika Electronic A80 series encoders. Mounting hardware included.              |
| <a href="#"><u>BR2-20</u></a>          | \$10.00 | Lika Electronic reducer bushing, 30mm to 20mm, metal. For use with Lika Electronic A80 series encoders. Mounting hardware included.              |
| <a href="#"><u>BR2-7/8</u></a>         | \$10.00 | Lika Electronic reducer bushing, 30mm to 7/8in, metal. For use with Lika Electronic A80 series encoders. Mounting hardware included.             |
| <a href="#"><u>BR2-25.4</u></a>        | \$10.00 | Lika Electronic reducer bushing, 30mm to 1in, metal. For use with Lika Electronic A80 series encoders. Mounting hardware included.               |
| <a href="#"><u>BR2-1-1/8</u></a>       | \$10.00 | Lika Electronic reducer bushing, 30mm to 1 1/8in, metal. For use with Lika Electronic A80 series encoders. Mounting hardware included.           |
| <a href="#"><u>EC-C12F-LK18-05</u></a> | \$44.00 | Lika Electronic encoder cable, M23 axial female to pigtail, shielded, 16.4ft/5m cable length. For use with Lika Electronic A80 series encoders.  |
| <a href="#"><u>EC-C12F-LK18-10</u></a> | \$62.00 | Lika Electronic encoder cable, M23 axial female to pigtail, shielded, 32.8ft/10m cable length. For use with Lika Electronic A80 series encoders. |
| <a href="#"><u>E-PFL121</u></a>        | \$15.00 | M23 connector, 24 AWG, accepts cable diameter size 5mm. For use with Lika Electronic A80 series encoders.                                        |
| <a href="#"><u>KIT-C80</u></a>         | \$9.00  | Lika Electronic encoder mounting plate, replacement, metal. For use with Lika Electronic A80 series encoders. Mounting hardware included.        |

**[BR2-20](#)****[BR2-25.4](#)****[KIT-C80](#)****[EC-C12F-LK18-05](#)****[E-PFL121](#)**



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# A80 Series Medium Duty Incremental Encoders

## Specifications - A80 Series

| Electrical Specifications            |                                                                                                  |
|--------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Resolution (PPR)</b>              | 1024                                                                                             |
| <b>Output Signals</b>                | Quadrature output signals with index (ABZ, /ABZ)                                                 |
| <b>Counting Frequency</b>            | 300kHz maximum                                                                                   |
| <b>Output Circuits</b>               | Universal circuit: Push-Pull (Totem Pole), or NPN/PNP open collector (HTL), or Line Driver (TTL) |
| <b>Power Supply</b>                  | +5VDC to +30VDC                                                                                  |
| <b>Consumption</b>                   | 70mA (typical)                                                                                   |
| <b>Output Current (each channel)</b> | 40mA maximum                                                                                     |
| <b>Protection</b>                    | Against inversion of polarity and short circuit                                                  |
| <b>EMC</b>                           | Electro-magnetic immunity according to EN61000-4-2 and EN61000-4-4                               |
| Mechanical Specifications            |                                                                                                  |
| <b>Shaft Diameter</b>                | Ø 30 mm                                                                                          |
| <b>Reducing Sleeves</b>              | Ø 5/8" (15.875), 19, 20, 7/8", 1" (25.4), 1 1/8"                                                 |
| <b>Shaft Loading (axial, radial)</b> | 30N maximum                                                                                      |
| <b>Shaft Rotational Speed</b>        | 6000 rpm maximum                                                                                 |
| <b>Starting Torque (@20°C)</b>       | ≤ 1.5 Ncm (typical)                                                                              |
| <b>Bearings Life</b>                 | 400 x 10 <sup>6</sup> rev. min<br>(10 <sup>9</sup> rev. min. with shaft loading limited to 20N)  |
| <b>Electrical Connections</b>        | M23 12-pin plug or cable output 2m (6.5 ft)                                                      |
| <b>Weight</b>                        | 300g (10.6 oz)                                                                                   |
| Materials                            |                                                                                                  |
| <b>Flange</b>                        | Die cast aluminum, UNI EN-AC-46100                                                               |
| <b>Housing</b>                       | Die cast aluminum, UNI EN-AC-46100                                                               |
| <b>Bearings</b>                      | ABEC 5                                                                                           |
| <b>Shaft</b>                         | Stainless steel, non-magnetic, 1.4305 (UNI EN 10088-1)                                           |
| Environmental Specifications         |                                                                                                  |
| <b>Shock</b>                         | 250g, 6ms acc. to CEI EN 60068-2-27                                                              |
| <b>Vibrations</b>                    | 10g, 5-2000 Hz acc. to CEI EN 60068-2-6                                                          |
| <b>Protection</b>                    | IP64                                                                                             |
| <b>Operating Temperature Range</b>   | -25°C to +85°C (-13°F to +185°F)                                                                 |
| <b>Storage Temperature Range</b>     | -40°C to +100°C (-40°F to +212°F)<br>(98% relative humidity without condensation)                |
| <b>Approvals</b>                     | CE, UKCA, cUR <sub>us</sub> , RoHS                                                               |