

High-Quality, Rugged Encoders

Where can I use an encoder?

Encoders are used in all types of motion sensing applications, including machine tooling, semiconductor positioning and multi-axis positioning. All Koyo encoders feature a reinforced aluminum diecast casing and come equipped with a two-meter cable. Use the incremental encoders with our PLC high-speed counter modules¹ for accurate position monitoring and control.

Why buy an encoder from us?

There are several distinct advantages to purchasing your encoder from AUTOMATIONDIRECT:

Availability

All common encoders are in stock and available to be shipped immediately. (We also offer non-stock encoders; see Price List or technical sheets for list of part numbers and lead times.)

Price

As with all of our product lines, our prices are often well below the list prices of traditional automation suppliers. Our direct business model allows us to operate more efficiently than other suppliers and pass the savings on to you.

Quality

All encoders carry a 1-year warranty, and all in-stock models have a 30-day money-back guarantee. If for any reason you are not satisfied with your purchase, send it back and we will refund your money.

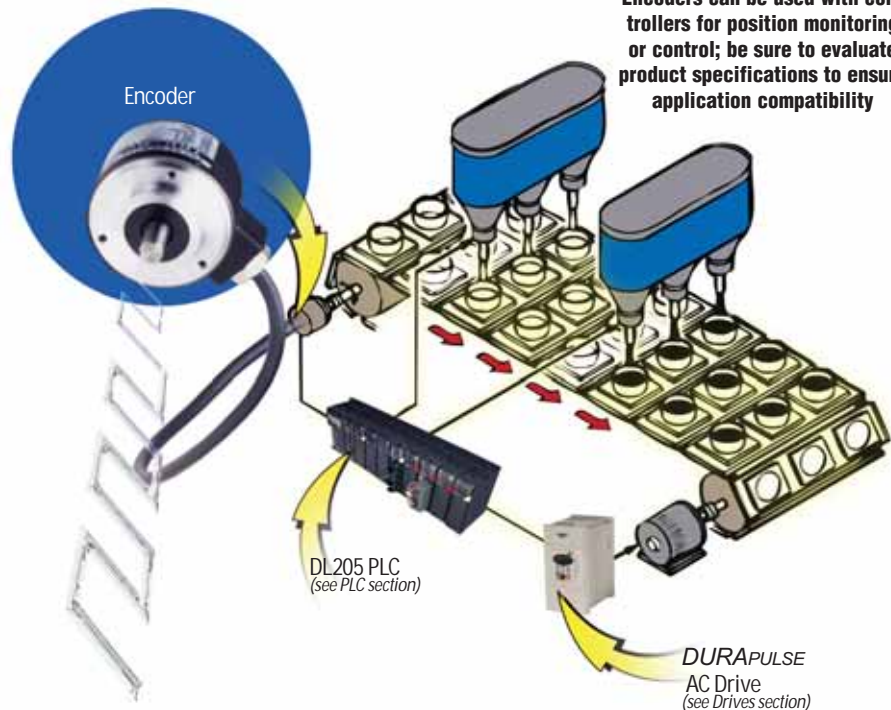
What is a light-duty encoder?

A light-duty encoder is a cost-effective encoder for small applications. It offers the following features:

- Small body with 38 mm diameter and 30 mm depth
- Dustproof (IP40) rating
- 6 mm standard shaft or 8 mm hollow shaft
- Resolution available from 100 pulses/revolution to 2500 pulses/revolution
- Open collector or line driver outputs
- Up to 200 kHz response frequency

¹ Absolute encoders are not compatible with the PLC high-speed counter modules.

Encoders can be used with controllers for position monitoring or control; be sure to evaluate product specifications to ensure application compatibility



What is a medium-duty encoder?

A medium-duty encoder is the most popular encoder we offer. The product line offers the greatest flexibility of choice while maintaining very high quality, all for a very low price. Medium-duty encoders offer:

- Small body with 50 mm diameter and 35 mm depth
- Splash-proof (IP65) rating
- 8 mm standard shaft or 8 mm hollow shaft
- Incremental or absolute (gray code) operation
- Incremental resolution available from 30 pulses/revolution to 2500 pulses/revolution
- Absolute resolution available from 32 pulses/revolution to 1024 pulses/revolution
- Open collector, Totem-pole or line driver output versions
- Up to 100 kHz response frequency

What is a heavy-duty encoder?

A heavy-duty encoder is the most rugged encoder you can buy. Top-of-the-line bearings help maintain a service life of 12 billion revolutions. A heavy-duty encoder offers:

- Rugged body with 78 mm diameter and 60 mm depth
- Splash-proof (IP65) rating
- 10 mm standard shaft
- Incremental operation from 30 pulses/revolution to 5000 pulses/revolution
- Totem-pole output
- Up to 100 kHz response frequency

Great Selection at Great Prices



Encoder Selection Guide

| Type | Incremental | Absolute | Standard Shaft | Hollow Shaft | Output* | Rating |
|-------------|-------------|---------------|----------------|--------------|-------------|--------|
| Light-duty | X | | X | X | OC, LD | IP40 |
| Medium-duty | X | X (gray code) | X | X | P/P, LD, OC | IP65 |
| Heavy-duty | X | | X | | P/P | IP65 |

* OC=open collector, P/P=push/pull, LD=line driver

Accessories

Couplings

Aluminum alloy and glass-fiber reinforced plastic couplings, including:

- 6 mm to 6 mm
- 8 mm to 8 mm
- 10 mm to 10 mm



Aluminum alloy couplings, including:

- 6 mm to 1/4"
- 8 mm to 1/4", 3/8"
- 10 mm to 1/4", 3/8"



Mounting brackets

Simplify your installation with a ready-to-use mounting device for medium and heavy-duty encoders



Encoder Selection Guide



| Encoder Selection | | | | | | |
|------------------------------|--|------------------|--|------------------|--|---------------------|
| Specification | TRD-S Series | | TRD-SH Series | | TRD-N Series | |
| | TRD-Sxxx-BD | TRD-Sxxx-VD | TRD-SHxxx-BD | TRD-SHxxx-VD | TRD-Nxxx-RZWD | TRD-Nxxx-RZVWD |
| Description | Light duty incremental encoder with solid shaft | | Light duty incremental encoder with hollow shaft | | Medium duty incremental encoder with solid shaft | |
| Size | Body: 38 mm diameter and 30 mm depth; Shaft: 6mm diameter | | Body: 38 mm diameter and 30 mm depth; Shaft: 8mm diameter | | Body: 50 mm diameter and 35 mm depth; Shaft: 8mm diameter | |
| Output Configuration | NPN open collector (BD) | Line driver (VD) | NPN open collector (BD) | Line driver (VD) | Totem pole (RZWD) | Line driver (RZVWD) |
| Input Power | 12-24 VDC | 5VDC | 12-24 VDC | 5VDC | 5-30 VDC | 5VDC |
| Resolutions Available | 100 to 2500 pulses per revolution | | 100 to 2500 pulses per revolution | | 3 to 2500 pulses per revolution | |
| Output Type | Cable (two meter, tinned) | | Cable (two meter, tinned) | | Cable (two meter, tinned) | |
| Frequency Response | 200 kHz | | 200 kHz | | 100 kHz max. | |
| Rating | IP40: dust proof | | IP40: dust proof | | IP40: dust proof; IP65: dust and splash proof | |
| Accessories Available | Metric-to-metric and metric-to-S.A.E. couplings | | Metric-to-metric and metric-to-S.A.E. couplings | | Metric-to-metric and metric-to-S.A.E. couplings, mounting brackets | |



| Encoder Selection (continued) | | | | | |
|-------------------------------|---|---------------------|--|--|--|
| Specification | TRD-NH Series | | TRD-NA Series | TRD-GK Series | Couplings and Mounting Brackets |
| | TRD-NHxxx-RZWD | TRD-NHxxx-RZVWD | TRD-NAxxxNWD | TRD-GKxxx-RZD | |
| Description | Medium duty incremental encoder with hollow shaft | | Medium duty absolute encoder with solid shaft | Heavy duty incremental encoder with solid shaft | Couplings for all standard-shaft encoders, and mounting brackets for medium-duty and heavy-duty encoders |
| Size | Body: 50 mm dia. and 35 mm depth; Shaft: 8mm diameter | | Body: 50 mm dia. and 35 mm depth; Shaft: 8mm diameter | Body: 78 mm dia. and 60 mm depth; Shaft: 10 mm diameter | |
| Output Configuration | Totem pole (RZWD) | Line driver (RZVWD) | NPN open collector | Totem pole | |
| Input Power | 5-30 VDC | 5VDC | 10-26 VDC | 10-30 VDC | |
| Resolutions Available | 3 to 2500 pulses per revolution | | 32 to 1024 pulses per revolution | 30 to 5000 pulses per revolution | |
| Output Type | Cable (two meter, tinned) | | Cable (two meter, tinned) | Cable (two meter, tinned) | |
| Frequency Response | 100 kHz max. | | 20 kHz max. | 100 kHz | |
| Rating | IP40: dust proof; IP65: dust and splash proof | | IP65: dust and splash proof | IP65: dust and splash proof | |
| Accessories Available | Metric-to-metric and metric-to-S.A.E. couplings, mounting bracket | | Metric-to-metric and metric-to-S.A.E. couplings, mounting brackets | Metric-to-metric and metric-to-S.A.E. couplings, mounting brackets | |