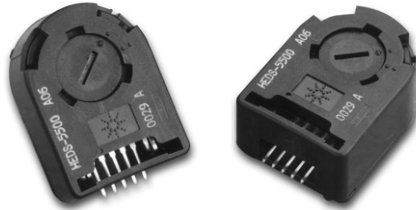


# Quick Assembly Two and Three Channel Optical Encoders

HEDL-5xxx, HEDS-550x/554x, HEDS-560x/564x, HEDM-550x/560x series  
Product Selection



## Description

The HEDS-550X/HEDM-550X/HEDS-560 housed series and the HEDS-554X/HEDS-564X series are high performance, two and three channel optical incremental encoders. These encoders emphasize high reliability, high resolution and easy assembly. Each encoder contains a lensed LED source, an integrated circuit with detectors and output circuitry, and a codewheel which rotates between the emitter and detector IC. The outputs of the HEDS-550X/HEDM-550X/HEDS-560X are two square waves in quadrature. The HEDS-554X/HEDS-564X also have a third channel index output in addition to the two channel quadrature. The index output is a 90 degree electrical degree, high true index pulse which is generated once for each full rotation of the codewheel. These encoders may be quickly and

easily mounted to a motor. HEDM-55XX/56XX series are optical incremental encoders with film code-wheels. HEDS-56XX and HEDM-56XX series will feature mounting ears.

The HEDL-55XX series are optical incremental encoders with differential outputs. They utilize an industry standard line driver IC, 26C31, which provides complementary outputs for each encoder channel and thus, offers enhanced performance when the encoders are used in noisy environments, or when required to drive long distances. Suggested line receivers are 26C32 and 26C33. The quadrature signals are accessed through a cable and 10-pin female connector. 10 pin connector is manufactured by FCI. The part number is 66900-310. The mating connectors are also made by FCI; for straight type is 71912-010 and the right angle is 71913-010.

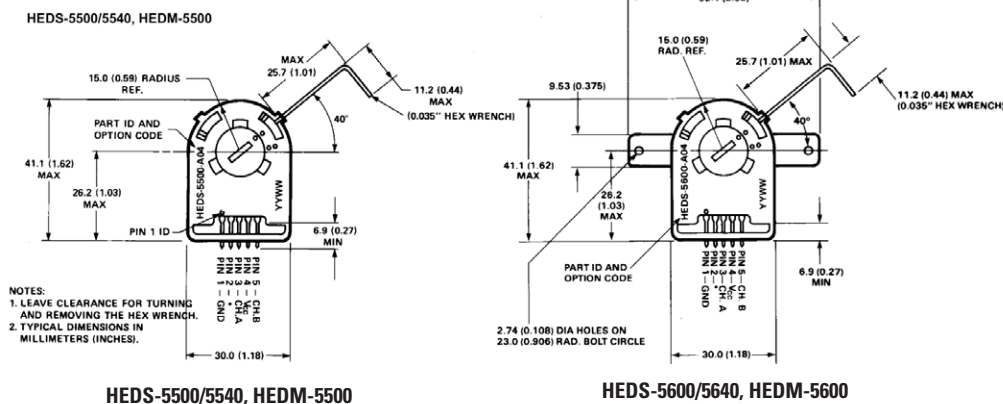
## Applications

These encoders provide motion detection at a low cost, making them ideal for high volume applications. Typical applications include printers, plotters, tape drives, positioning tables, and automatic handlers.

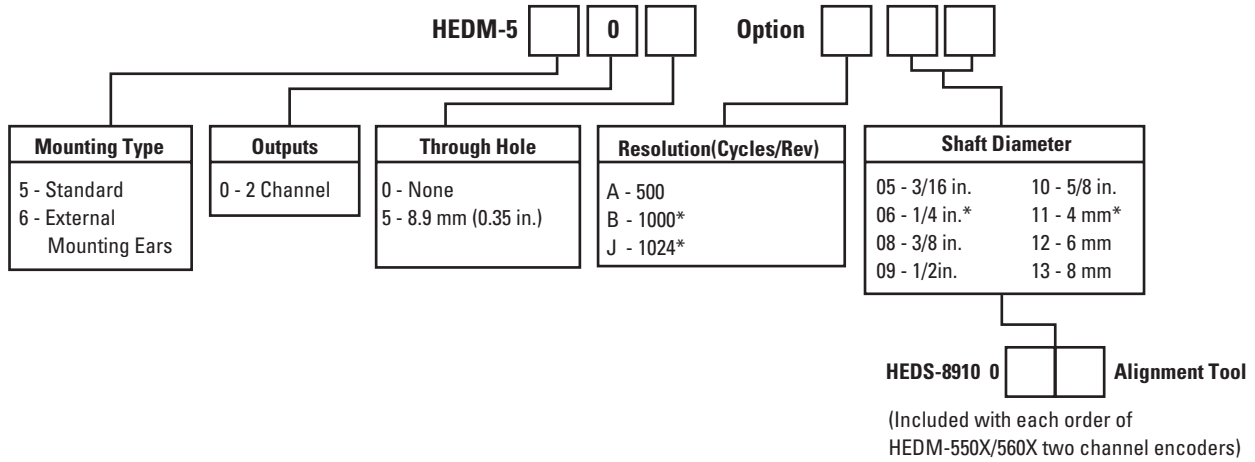
## Features

- Two Channel Quadrature Output with Optional Index Pulse
- Quick and Easy Assembly
- No Signal Adjustment Required
- External Mounting Ears Available
- Low Cost
- Resolutions Up to 1024 Counts Per Revolution
- Small Size
- -40°C to 100°C Operating Temperature
- TTL Compatible
- Single 5 V Supply

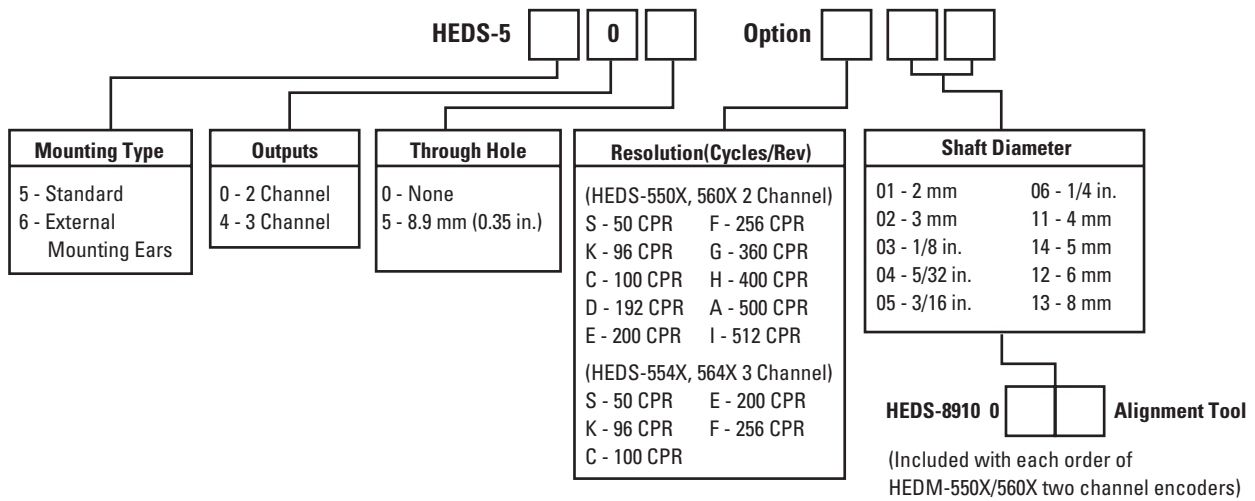
## Package Dimensions



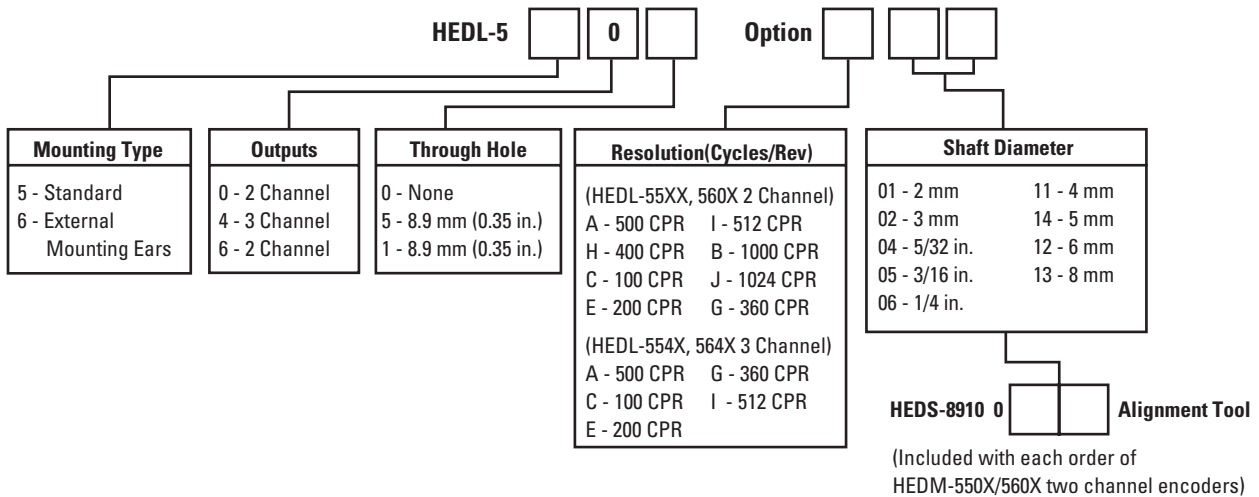
**Encoders with Film Codewheels**  
**HEDM-550x/560x series**



**Encoders with Metal Codewheels**  
**HEDS-550x/554x/564x series**



**Encoders with Line Drivers**  
**HEDL-5xxx series**



**Available Options**

Part No.	Options										
		01	02	03	04	05	06	11	12	13	14
<b>HEDL-5540</b>	A	•	•			•	•	•	•	•	•
	C		•			•			•		
	E						•	•			
	G							•			
	I	•						•	•		•
<b>HEDL-5640</b>	A						•			•	•
<b>HEDL-5645</b>	A						•			•	
	G						•				
<b>HEDL-5500</b>	A		•				•				
	E						•				
	G					•			•		
	H						•				
	I		•								
<b>HEDL-5505</b>	A						•				
	I									•	
<b>HEDL-5560</b>	B	•						•		•	
<b>HEDL-5561</b>	J						•				
<b>HEDL-5600</b>	A						•				
	H						•				
<b>HEDL-5605</b>	A						•				
	C										•
<b>HEDM-5500</b>	B	•	•				•	•	•	•	•
	J		•				•		•	•	•
<b>HEDM-5505</b>	B				•						
	J			•			•			•	
<b>HEDM-5600</b>	B						•			•	
	J						•				
<b>HEDM-5605</b>	B						•			•	
	J						•				
<b>HEDS-5500</b>	A	•	•	•	•	•	•	•	•	•	•
	C	•	•	•	•	•	•	•	•	•	•
	E		•		•	•	•	•	•		•
	F	•	•		•	•	•	•	•		•
	G		•			•	•	•	•		•
	H					•	•		•		•
	I	•	•	•	•	•	•	•	•	•	•
	K				•	•	•	•			
	S									•	

Available Options

Part No.	Options										
		01	02	03	04	05	06	11	12	13	14
<b>HEDS-5505</b>	A				•		•			•	•
	C				•		•		•		•
	E				•		•				•
	F				•		•				•
	G				•		•				
	H						•				•
	I				•		•			•	
	K				•						
<b>HEDS-5540</b>	A	•	•	•	•	•	•	•	•	•	•
	C	•	•				•	•	•	•	•
	E						•	•			
	F	•						•			•
	G						•	•			
	H						•				•
	I	•	•				•	•	•	•	•
<b>HEDS-5545</b>	A								•		•
	C								•		
	H						•				•
	I						•				
<b>HEDS-5600</b>	A						•		•	•	•
	C						•		•		•
	E						•				
	G						•			•	
	H						•		•		
	I	•						•			
<b>HEDS-5605</b>	A						•			•	
	C						•				
	E						•				
	F									•	
	G						•				
	H						•				•
	I						•		•	•	
<b>HEDS-5640</b>	A						•				
	E						•				
	F						•				
	H						•				
<b>HEDS-5645</b>	A						•		•	•	
	C									•	
	E									•	
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	G									•	
	H						•		•		•
I									•		

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