Large Diameter (56 mm), Housed Two and Three Channel Optical Encoders

HEDS- 65xx , HEDM- 65xx, HEDL- 65xx series

Product Selection


Description

HEDX-65XX series

The HEDX-65XX 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 (emitter), an integrated circuitry, and a codewheel which rotates between the emitter and detector integrated circuit. The outputs of the HEDS-6500 series are two single ended square waves in quadrature. The outputs of the HEDS-6540 series also have a third channel index output in addition to the two quadrature outputs. This index is an active high pulse that occurs once every full rotation of the codewheel. Resolutions up to 1024 counts per revolution are available in the two and three channel versions.

Package Dimensions
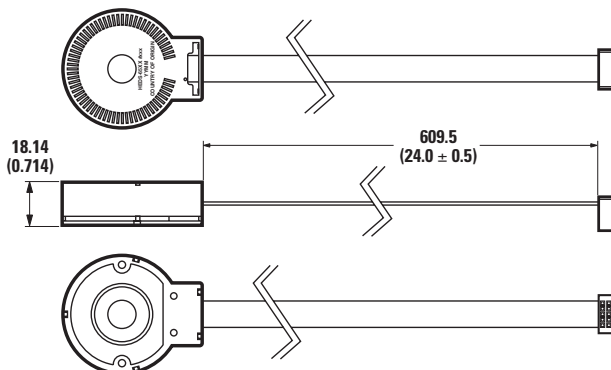
HEDM-65XX series

The HEDM-65XX series are optical incremental encoders with film codewheels. Resolutions available from 1024 CPR to 2048 CPR in two and three channel versions.

HEDL-65XX series

The HEDL-65XX 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.

Features

- Two Channel Quadrature Output with Optional Index Pulse
- TTL Compatible Single Ended Outputs on HEDS Series
- 100°C Operating Temperature
- Industry Standard 26C31 CMOS Line Driver IC on HEDL Series
- Easy Assembly, No Signal Adjustment Necessary
- Resolutions up to 2048 Counts Per Revolution
- Maximum Shaft Diameter of 5/8 Inches
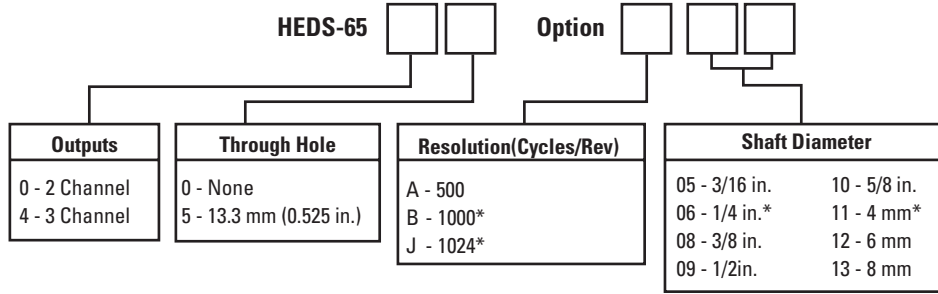- Single +5 V Supply

Applications

The HEDS-65XX/HEDM-65XX/HEDL-65XX series provide motion detection to a very high resolution and accept a variety of shaft sizes up to a maximum of 5/8 inches. Typical applications include factory automation assembly

18.14
(0.714)

609.5
(24.0 ± 0.5)

Ordering Information for 2CH and 3CH Encoder Modules
Encoders Metal Codewheel (up to 100°C)

HEDS-65 ☐☐   Option ☐☐☐

Outputs	Through Hole	Resolution(Cycles/Rev)	Shaft Diameter	
0 - 2 Channel 4 - 3 Channel	0 - None 5 - 13.3 mm (0.525 in.)	A - 500 B - 1000* J - 1024*	05 - 3/16 in. 06 - 1/4 in.* 08 - 3/8 in. 09 - 1/2in.	10 - 5/8 in. 11 - 4 mm* 12 - 6 mm 13 - 8 mm

* This is a popular option with short lead time

Available Options

Part No.		Options							
		05	06	08	09	10	11	12	13
HEDS-6500#	A	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•
	J	•	•	•	•	•	•	•	•
HEDS-6505#	A								
	B				•	•			
	J				•				
HEDS-6540#	A	•	•	•	•	•	•	•	•
	B	•	•	•	•	•	•	•	•
	J	•	•	•	•	•	•	•	•
HEDS-6545#	A			•		•			
	B			•					
	J		•		•				

Ordering Information for 2CH and 3CH Encoder Modules
Encoders Film Codewheel (up to 70°C)

HEDM-65 ☐ ☐ **Option** ☐ ☐ ☐

Outputs	Through Hole	Resolution(Cycles/Rev)	Shaft Diameter	
0 - 2 Channel	0 - None	T - 2000	05 - 3/16 in.	10 - 5/8 in.
4 - 3 Channel	5 - 13.3 mm (0.525 in.)	U - 2048 2 Channel only	06 - 1/4 in.	11 - 4 mm
			08 - 3/8 in.	12 - 6 mm
			09 - 1/2in.	13 - 8 mm
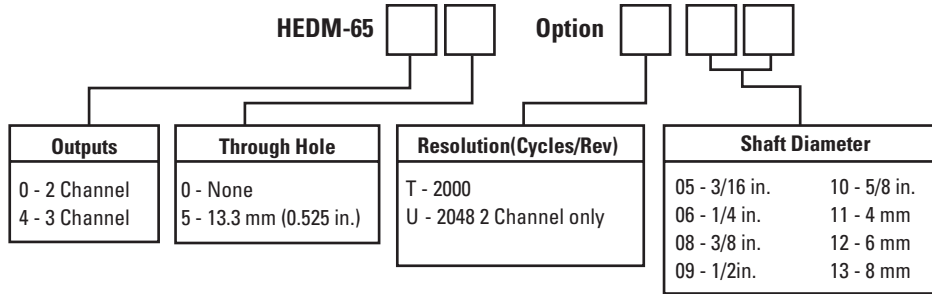
Available Options

Part No.		Options							
		05	06	08	09	10	11	12	13
HEDM-6500#	T		•	•					
	U		•						•
HEDM-6505#	T		•	•					
	U								•
HEDM-6540#	T						•		•
HEDM-6545#	T								

Ordering Information for 2CH and 3CH Encoder Modules with Line Driver
Encoders Metal Codewheel (up to 100°C)

HEDL-65 ☐ ☐ **Option** ☐ ☐ ☐

Outputs	Through Hole	Resolution(Cycles/Rev)	Shaft Diameter	
0 - 2 Channel	0 - None	A - 500	08 - 3/8 in.	11 - 4 mm
4 - 3 Channel	5 - 13.3 mm (0.525 in.)	B - 1000	09 - 1/2in.	12 - 6 mm
		J - 1024	10 - 5/8 in.	13 - 8 mm
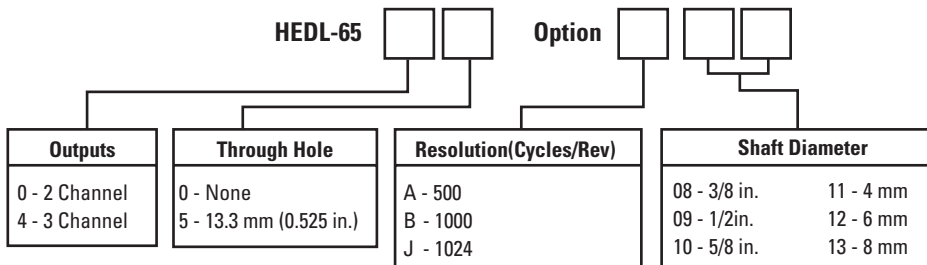
Available Options

Part No.		Options							
		05	06	08	09	10	11	12	13
HEDL-6540#	B						•		•
HEDL-6545#	B				•				
	J		•	•	•				

Ordering Information for HEDS-6510 Centering Tools

HEDS-6510 Option   0

Shaft Diameter	
05 - 3/16 in.	10 - 5/8 in.
06 - 1/4 in.	11 - 4 mm
08 - 3/8 in.	12 - 6 mm
09 - 1/2in.	13 - 8 mm
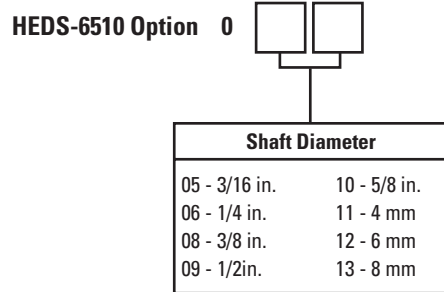
Available Options

Part No.		Options							
		05	06	08	09	10	11	12	13
HEDL-6510	0	•	•	•	•	•	•	•	•

Ordering Information for HEDS-65xx Codewheel

Gapping Tool
HEDS-6511

For product information and a complete list of Agilent
contacts and distributors, please go to our web site.

www.agilent.com/semiconductors
E-mail: SemiconductorSupport@agilent.com
Data subject to change.
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