

# EK

## ENCODER KIT

### SERIES EK634

### Rugged, large-bore three-channel magnetic encoders are custom-configured for high performance in harsh environments.

Admotec's Series EK634 magnetic kit encoders provide high performance in applications where optical encoders don't work or don't last. Each kit consists of a custom-configured magnetic encoder wheel and a matched magnetoresistive sensor with line-driver outputs for two incremental channels in quadrature and a once-per-revolution index (marker). Two-channel versions (without marker) are available as Series EK624.

With wheel diameters from 50 to 100mm and an ID sized to fit your application, EK634 encoders are perfect for high-resolution feedback on hollow-shaft motors, high-speed spindles, or any rotating shaft up to 92mm in diameter. These rugged quadrature encoders provide up to 10 times the resolution of comparable gear-tooth sensors in the same applications and are an ideal solution for vector control of AC motors, engine testing, machine tool spindles, etc.

Series EK634 encoders are individually configured for your application and install quickly and easily without the delicate alignment associated with optical encoders. Choose from over 25 combinations of resolution, wheel OD, and operating airgap—just specify the wheel ID required in your application. And if a standard EK634 encoder doesn't meet your needs, completely customized units can be quickly designed to your requirements.

### Admotec—motion and position sensing for original equipment manufacturers.

#### FEATURES & BENEFITS

Large through-hole capability	Economical position sensing of large diameter and hollow shafts.
Rugged construction	Reliable operation in harsh environments: high shock and vibration, dust, oil, moisture, and salt spray.
All-digital electronics	No mechanical adjustments.
Line driver outputs	High noise immunity.
Tangential sensing	Tolerates $\pm 0.4$ mm axial end-play without loss of signal.
Resolution to 2,048 CPR (cycles per revolution)	Performance not previously available with magnetic technology.

#### GENERAL SPECIFICATIONS

Operating Temperature	-40 to +115	°C
Maximum Speed	9,000	RPM
Radial Air Gap	0.11 – 0.53	mm nominal
Wheel OD	50 – 100	mm
Resolution	240 – 2,048	Cycles/Rev.
Channel Frequency	500	kHz max.
Quadrature	90 $\pm$ 30	° electrical
Supply Voltage	5.0 $\pm$ 10%	V dc
Supply Current	50/200	mA typ./max.
Output Load Resistance	100	$\Omega$ min.

#### ORDERING INFORMATION

EK634- □ □ □ □ - □ □ □ □

##### Configuration

Factory-assigned number for each application

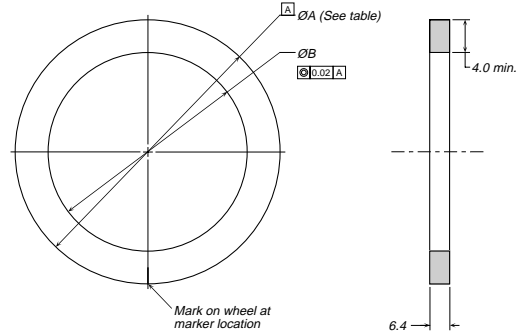
##### Resolution (CPR)

240, 250, 256, 300, 360, 400, 450, 480, 500, 512, 600, 720, 750, 800, 900, 1000, 1024, 1200, 1440, 1500, 1800, 2000, 2048

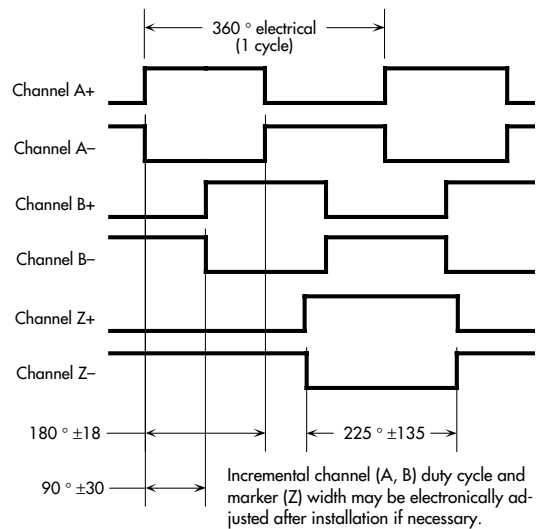
## AVAILABLE RESOLUTIONS, WHEEL DIAMETERS, & AIRGAPS\*

CPR	Airgap	Airgap	Airgap	Airgap	Minimum ØB (% of ØA)
	0.53±0.23 ØA	0.32±0.14 ØA	0.18±0.08 ØA	0.11±0.05 ØA	
240	56.4	—	—	—	0.0
250	58.8	—	—	—	0.0
256	60.2	—	—	—	0.0
300	70.8	—	—	—	0.0
360	85.1	51.6	—	—	0.0
400	94.7	57.4	—	—	9.4
450	—	64.7	—	—	19.4
480	—	69.0	—	—	24.5
500	—	71.9	—	—	27.5
512	—	73.7	—	—	29.2
600	—	86.5	—	—	39.6
720	—	—	57.1	—	49.7
750	—	—	59.5	—	51.7
800	—	—	63.5	—	54.7
900	—	—	71.5	—	59.7
1,000	—	—	79.4	—	63.8
1,024	—	—	81.4	—	64.6
1,200	—	—	95.4	57.8	69.8
1,440	—	—	—	69.5	74.8
1,500	—	—	—	72.4	75.8
1,800	—	—	—	86.9	79.9
2,000	—	—	—	96.6	81.9
2,048	—	—	—	98.9	82.3

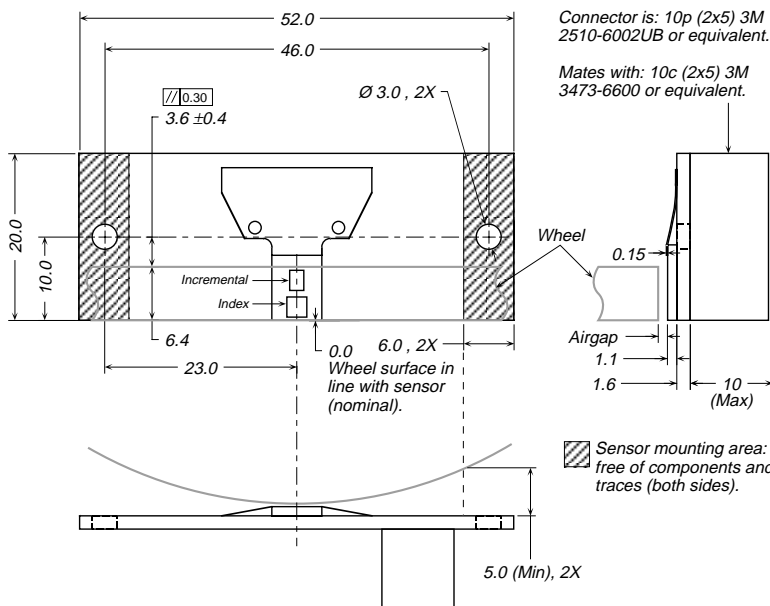
## WHEEL DIMENSIONS\*



## OUTPUT SIGNAL FORMAT



## OUTLINE AND MOUNTING DIMENSIONS\*



## ELECTRICAL PINOUT†

Pin	Signal Description
1	+5V (Power input)
2	+5V (Power input)
3	0V (Common)
4	0V (Common)
5	Channel A-
6	Channel A+
7	Channel B-
8	Channel B+
9	Channel Z-
10	Channel Z+

†Compatible with HP HEDL-xxxx series encoders.