



# EK

## ENCODER KIT

### SERIES EK622

### Rugged, compact two-channel magnetic encoders are custom-configured for high performance in harsh environments.

Admotec's Series EK622 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 outputs for two incremental channels in quadrature. Three-channel versions (with marker) are available as Series EK632.

With wheel diameters from 7 to 50mm and an ID sized to fit your application, EK622 encoders are perfect for high-resolution feedback on small motors, actuators, valves, or any rotating shaft up to 46mm in diameter. These rugged quadrature encoders provide up to 10 times the resolution of comparable gear-tooth sensors in the same applications and are ideal for torque angle sensors, engine testing, direct installation in gearboxes, etc.

Series EK622 encoders are individually configured for your application and install quickly and easily without the delicate alignment associated with optical encoders. Choose from 70 combinations of resolution, wheel OD, and operating airgap—just specify the wheel ID required in your application. And if a standard EK622 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

Custom configured for each application	Maximum performance in minimum space.
High pulse count on small diameter wheels	Increased resolution in space-critical applications.
Rugged construction	Reliable operation in harsh environments: high shock and vibration, dust, oil, etc.
All-digital electronics	No mechanical adjustments.
Tangential sensing	Tolerates $\pm 1$ mm axial end-play without loss of signal.
Resolution to 1,024 CPR (cycles per revolution)	Performance not previously available in small encoders.

### GENERAL SPECIFICATIONS

Operating Temperature	-40 to +85	°C
Maximum Speed	20,000	RPM
Radial Air Gap	0.11 – 0.53	mm nominal
Wheel OD	7 – 50	mm
Resolution	32 – 1,024	Cycles/Rev.
Channel Frequency	25	kHz max.
Quadrature	90 $\pm$ 30	° electrical
Supply Voltage	5.0 $\pm$ 10%	V dc
Supply Current	25/40	mA typ./max.
Output Drive Current	$\pm 8$	mA max.

### ORDERING INFORMATION

**EK622-** □ □ □ □ - □ □ □ □

**Configuration**

Factory-assigned number for each application

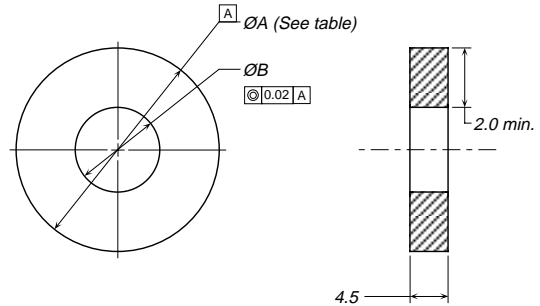
**Resolution (CPR)**

32, 36, 40, 48, 50, 60, 64, 72, 80, 90, 96, 100, 120, 128, 150, 180, 200, 250, 256, 300, 360, 400, 480, 500, 512, 600, 720, 800, 900, 1000, 1024

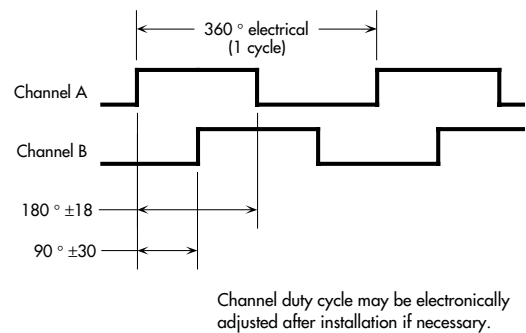
### AVAILABLE RESOLUTIONS, WHEEL DIAMETERS, & AIRGAPS\*

CPR	Airgap 0.53±0.23	Airgap 0.32±0.14	Airgap 0.18±0.08	Airgap 0.11±0.05	Minimum ØB (% of ØA)
	ØA	ØA	ØA	ØA	
32	6.7	—	—	—	—
36	7.7	—	—	—	—
40	8.6	—	—	—	—
48	10.5	6.4	—	—	—
50	11.0	6.7	—	—	—
60	13.4	8.1	—	—	—
64	14.3	8.7	—	—	—
72	16.2	9.8	—	—	—
80	18.2	11.0	6.1	—	—
90	20.5	12.5	6.8	—	—
96	22.0	13.3	7.3	—	—
100	22.9	13.9	7.6	—	—
120	27.7	16.8	9.2	—	—
128	29.6	18.0	9.9	6.0	—
150	34.9	21.2	11.6	7.1	—
180	42.1	25.5	14.0	8.5	—
200	46.8	28.4	15.6	9.5	—
250	—	35.7	19.6	11.9	—
256	—	36.5	20.1	12.2	—
300	—	42.9	23.6	14.3	—
360	—	—	28.4	17.2	—
400	—	—	31.6	19.1	9.4
480	—	—	38.0	23.0	24.5
500	—	—	39.5	24.0	27.5
512	—	—	40.5	24.6	29.2
600	—	—	47.5	28.8	39.6
720	—	—	—	34.6	49.7
800	—	—	—	38.5	54.7
900	—	—	—	43.3	59.7
1,000	—	—	—	48.2	63.8
1,024	—	—	—	49.3	64.6

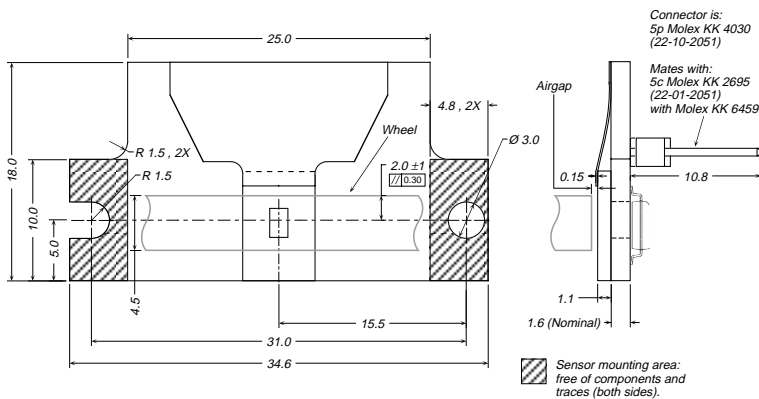
### WHEEL DIMENSIONS\*



### OUTPUT SIGNAL FORMAT



### OUTLINE AND MOUNTING DIMENSIONS\*



### ELECTRICAL PINOUT†

Pin	Signal Description
1	0V (Common)
2	Not Used
3	Channel A
4	+5V (Power input)
5	Channel B

†Compatible with HP HEDS-9xxx series encoders.

\* All dimensions in mm.