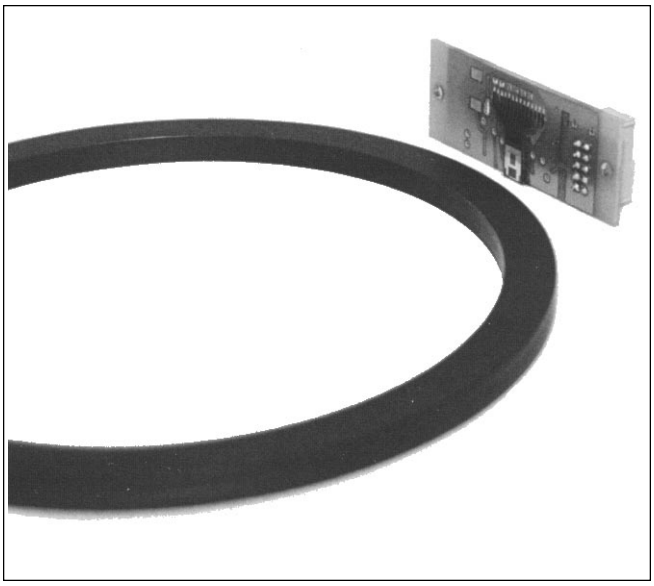


# EK

## ENCODER KIT

### SERIES EK636

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

Admotec's Series EK636 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 EK626.

With wheel diameters from 100 to 150mm and an ID sized to fit your application, EK636 encoders are perfect for high-resolution feedback on hollow-shaft motors, high-speed spindles, or any rotating shaft up to 140mm 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 EK636 encoders are individually configured for your application and install quickly and easily without the delicate alignment associated with optical encoders. Choose from over 15 combinations of resolution, wheel OD, and operating airgap—just specify the wheel ID required in your application. And if a standard EK636 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.**

admotec
Advanced Motion Technology

## 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 ±0.4mm axial end-play without loss of signal. |
| Resolution to 3,000 CPR (cycles per revolution) | Performance not previously available with magnetic technology. |

## GENERAL SPECIFICATIONS

| | | |
|---|---|---|
| Operating Temperature | –40 to +115 | °C |
| Maximum Speed | 4,000 | RPM |
| Radial Air Gap | 0.11 – 0.53 | mm nominal |
| Wheel OD | 100 – 150 | mm |
| Resolution | 450 – 3,000 | Cycles/Rev. |
| Channel Frequency | 500 | kHz max. |
| Quadrature | 90 ±30 | ° electrical |
| Supply Voltage | 5.0 ±10% | V dc |
| Supply Current | 50/200 | mA typ./max. |
| Output Load Resistance | 100 | Ω min. |

## ORDERING INFORMATION

**EK636-** □ □ □ □ **-** □ □ □ □

**Configuration**
Factory-assigned number for each application

**Resolution (CPR)**
450, 480, 500, 512, 600, 720, 750, 800, 900, 1000, 1024, 1440, 1500, 1800, 2250, 2400, 3000

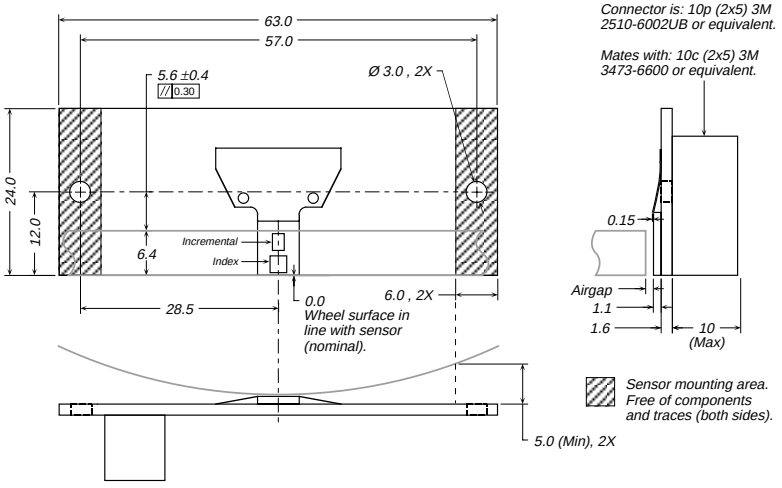
**ENCODER KIT**

**SERIES EK636**

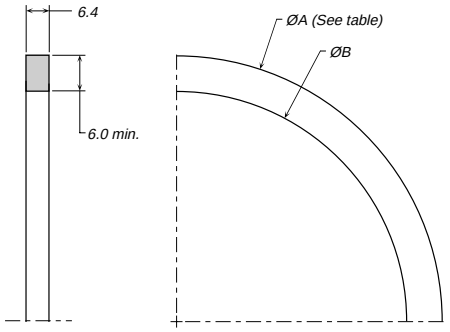
## Available Resolutions, Wheel Diameters, & Airgaps*

| CPR | Airgap 0.53±0.23 ØA | Airgap 0.32±0.14 ØA | Airgap 0.18±0.08 ØA | Airgap 0.11±0.05 ØA | Minimum ØB (% of ØA) |
|---|---|---|---|---|---|
| 450 | 106.7 | — | — | — | 41.8 |
| 480 | 113.9 | — | — | — | 45.5 |
| 500 | 118.6 | — | — | — | 47.6 |
| 512 | 121.5 | — | — | — | 48.9 |
| 600 | 142.6 | — | — | — | 56.4 |
| 720 | — | 103.9 | — | — | 63.6 |
| 750 | — | 108.2 | — | — | 65.1 |
| 800 | — | 115.5 | — | — | 67.3 |
| 900 | — | 130.0 | — | — | 70.9 |
| 1,000 | — | 144.5 | — | — | 73.8 |
| 1,024 | — | 148.0 | — | — | 74.4 |
| 1,440 | — | — | 114.5 | — | 81.8 |
| 1,500 | — | — | 119.3 | — | 82.5 |
| 1,800 | — | — | 143.3 | — | 85.5 |
| 2,250 | — | — | — | 108.6 | 88.4 |
| 2,400 | — | — | — | 115.9 | 89.1 |
| 3,000 | — | — | — | 144.9 | 91.3 |

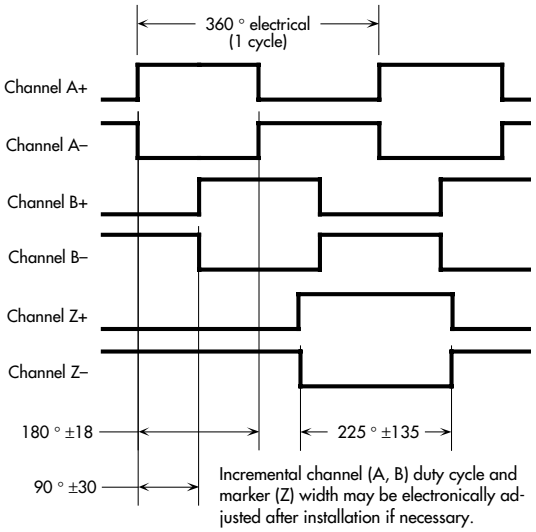
## Outline and Mounting Dimensions*




## Wheel Dimensions*




## Output Signal Format




## 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.

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* All dimensions in mm.