



# PXL

PROTECTED MAGNETIC ENCODER

PXL SERIES D1 AND D2

## High performance, fully protected rotary magnetic encoders for harsh or difficult environments.

Admotec's PXL Series magnetic encoders provide high performance in measurement and feedback applications where optical encoders don't work or don't last. They provide the "next step up" from low-resolution gear-tooth pulse or Hall-effect sensors. Perfect for industrial automation, medical, aerospace, and automotive applications, these encoders offer original equipment manufacturers' cost-effective solutions.

PXL encoders can operate with a large (over 2mm [0.150"]) airgap between wheel and sensor allowing easy, noncritical "plug and play" assembly to your machine or motor. There is no sensor gapping required—simply install using the 2-screw mount. No couplings are needed—the rotor mounts directly to your machine or motor shaft.

Standard rotor styles (D1) offer resolutions up to 2048 PPR. Custom rotors (D2) permit higher resolutions and larger shaft bore sizes ensuring perfect fit and function in your application.

All PXL encoders are fully potted and sealed against rough environments, including oil, dust, dirt, salt water, and chemicals.

Custom cable lengths, connector options, protective covers, and customized physical shapes are all available for your high-volume OEM application.

## Typical Applications

- Industrial tachometer
- Motor feedback
- Position/speed display
- Machine synchronization
- Test and measurement
- Off-road/mining vehicles
- Machine tools
- Hybrid/electric drive vehicles

## Features & Benefits

Non-contact design	Extremely long lifespan with no wear
Wide-Gap magnetic sensor	Simple, tolerant installation, immune to dust, dirt, oil, water, condensation, etc.
Rugged construction	Tolerates high shock and vibration
Radial sensing	Tolerates large axial shaft movement
Large through-hole capability	Direct mounting on large diameter and hollow shafts
RoHS compliant	Worldwide application

## General Specifications

Resolution	Up to 20,000 PPR
Maximum Speed	Up to 100,000 RPM
Channel Frequency	500 kHz maximum
Differential Line Driver	A, $\bar{A}$ , B, $\bar{B}$ (no marker) Z, $\bar{Z}$ , 6mA Max
Airgap	0.3-2mm [up to 0.150"]
Angular Error	≤ 10 arc minutes
Hysteresis	≤ 1 edge
Operating Temperature	-40 to 115°C cont., 150°C peak
Ingress Protection	IP66 (DIN40050)
Supply Voltage	5.0 ±0.25 Vdc
Supply Current	20 mA typical + output

# PXL

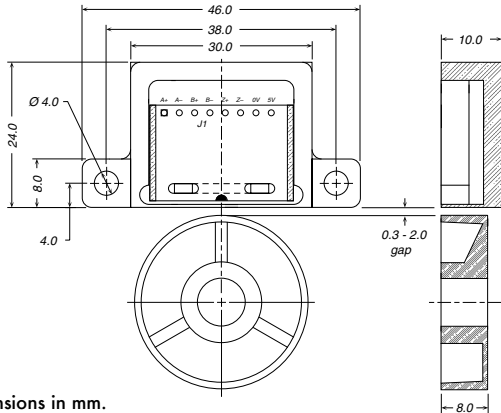
## PROTECTED MAGNETIC ENCODER

PXL SERIES D1 AND D2

### Standard Rotor

The PXL Series D1 is a basic two-channel incremental magnetic encoder optimized for operation at large airgaps. Standard 29mm [1.14"] and 40.5mm [1.59"] wheels with metric and inch bores allow direct mounting to small shafts and motors. Common resolutions from 120 to 2048 pulses per revolution (PPR) and an airgap up to 2mm provide easy installation and economical shaft encoding.

### PXL Outline & Mounting Dimensions



All dimensions in mm.

### PXL Wheel & Sensor Kit Ordering Information

#### D1 Ordering Information

**AD12**        /

<b>Size Class</b>	<b>PPR</b>	<b>Rotor ID</b>	<b>Rotor OD</b>
29 = 29.0mm	see below	006 = 6mm	029
41 = 40.5mm		008 = 8mm	041
		010 = 10mm	
<b>Voltage</b>		025 = 1/4"	
A = 5v in/5v out		031 = 5/16"	
		038 = 3/8"	

**PPR**

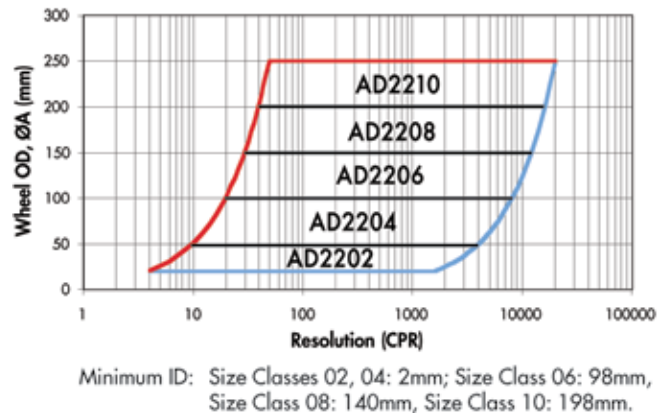
AH = 120	AR = 512	AZ = 1200	A5* = 2500
AK = 200	AS = 600	A2 = 1440	A7* = 3600
AL = 240	AU = 720	AB = 1500	AD* = 4096
AN = 256	AW = 1000	A3 = 2000	A9* = 5000
AE = 360	AY = 1024	A4 = 2048	BA* = 10000

\* Only available on D2.

### Custom Rotor

Series D2 offers all the features of the D1, but offers custom-configured wheels. Type I "ring style" wheels add 3mm [0.118"] to the specified shaft diameter while Type II "cup style" wheels offer a custom ID and OD. Resolutions from 4 to 20,000 PPR and wheel diameters from 20mm to 250mm [0.79"-10"] are available.

### D2 Resolutions & Custom Wheel Diameters



#### D2 Ordering Information

**AD22**        /

<b>Size Class</b>	<b>PPR</b>	<b>Rotor ID</b>	<b>Rotor OD</b>
02 = 20-50mm	see below	Ring Style	user specified
04 = 51-100mm	see left	(Type I) OD	
06 = 101-150mm		minus 3mm	
08 = 151-200mm		Cup Style	
10 = 201-250mm		(Type II)	user specified

**Voltage**

A = 5v in/5v out