

## Description

US Digital offers a wide variety of standard rotary encoder disks. They may be ordered as a stand alone disk (see below) or as a codewheel (see the Disks page). These rotary encoder disks are made from mylar polyester film. This material allows for a wide temperature range and is virtually unbreakable. There is no minimum order.

Custom disks featuring special resolutions, diameters (up to 12") and index options are available (contact the Sales department). An alternative to designing a custom disk for a special resolution is to use the EDIVIDE encoder resolution divider. The EDIVIDE allows users to customize resolutions to specific applications (see the EDIVIDE page).

**DISK-1** has an outer diameter (OD) of 1". The optical radius of the disk is .433". The optical radius is defined as the distance from the center of the disk to the middle of the quadrature track. We recommend that the shaft or hub diameter the disk is designed to fit be .001" to .002" larger than the disk hole diameter (ID). This gives an interference fit that ensures disk concentricity. The drawings shown represent our standard disks.

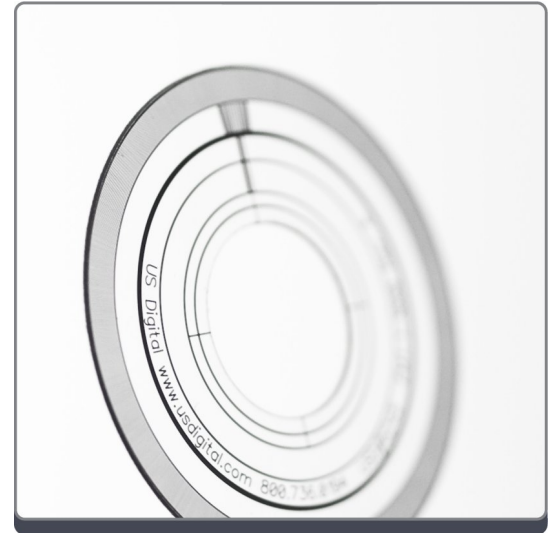
The maximum allowed RPM of the disk is typically limited by the maximum output frequency of the encoder module. The maximum allowed RPM is calculated as follows:

$$\text{Max. RPM} = (60 * F_{\text{max}}) / \text{CPR}$$

Where  $F_{\text{max}}$  = maximum encoder module output frequency and CPR is the Cycles per Revolution of the disk.

The index track option is not available on the following resolutions: 110, 120, 540 and 1016 CPR. The following resolutions are only available with the index option: 32, 720, 900 and 1250 CPR. Other resolutions are available with or without an index track.

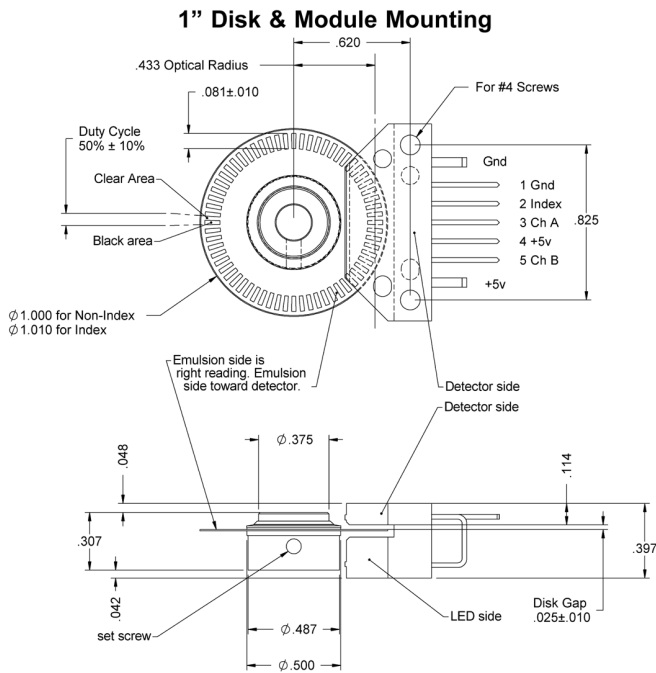
Mechanical alignment drawings for optical encoder rotary disks and optical encoder modules are available (see the EM1 and HEDS pages).



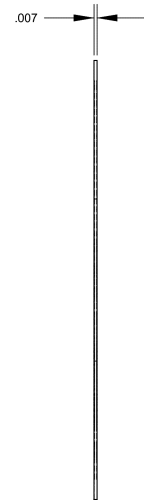
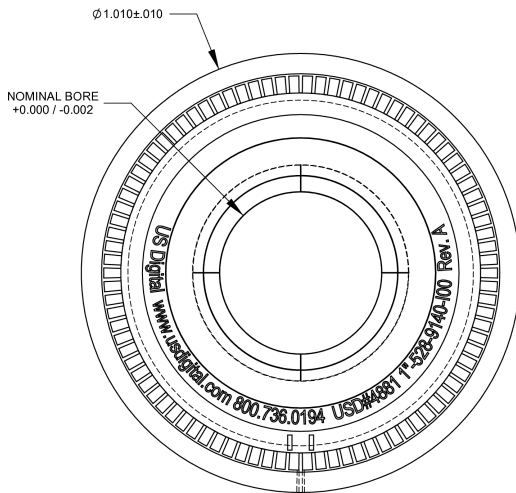
## Features

- ▶ 1" Outside Diameter
- ▶ .433" Optical Radius
- ▶ Up to 1250 CPR
- ▶ Index track option

### Disk & Module Mounting



### 1 inch Disk DWG



### Tolerances

Inside Diameter (ID) tolerance	+0.000" / -0.002"
Outside Diameter (OD)	$1" \pm 0.010"$
Thickness	0.007"

### Ordering Information

DISK-1 -  -  -

CPR	ID	Index
32	093 = .093"	N =No Index, Avago Compatible
50	125 = .125"	I =Index (3rd Channel), Avago Compatible
96	375 = .375"	NE =No Index, EM1 Compatible
100	441 = .441"	IE =Index (3rd Channel), EM1 Compatible
110		
120		
192		
200		
250		
256		
360		
400		
500		
512		
540		
720		
900		
1000		
1024		
1250		

**Rules**  
 ▶ Index must be equal to NE when CPR is 32

**Notes**  
 ▶ US Digital warrants its products against defects in materials and workmanship for two years. See complete warranty for details.

### Base Pricing

Quantity	Price
1	\$8.05
10	\$6.93
50	\$5.49
100	\$4.33

▶ Add 11% per unit for **Index** of Index (3rd Channel), Avago Compatible or Index (3rd Channel), EM1 Compatible