

# SERIES M602 & M832

# Dynapar™ brand

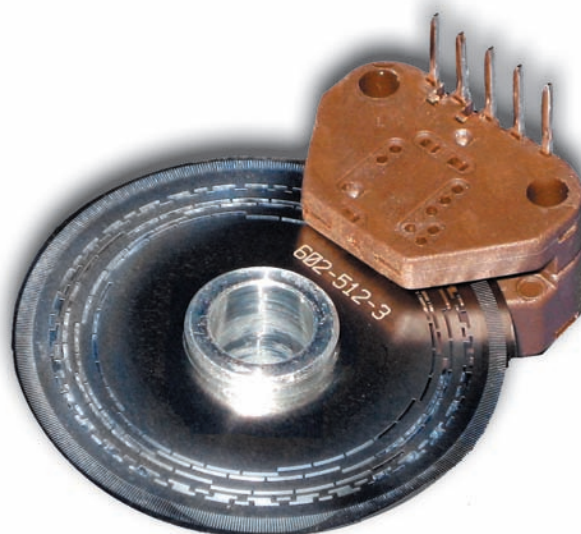
## Kit Encoder

### Key Features

- Compact Size for Easy Integration
- Advanced Phased-Array Sensor Technology with Digital or Analog Output
- Available with Unbreakable Plastic or Stainless Code Discs
- Commutation Tracks Available for Brushless Motor Commutation
- Line Driver Output Board Available



## NEW!



## SPECIFICATIONS

### ELECTRICAL

**Code:** Incremental

**Resolution:** See ordering information for standard resolutions

**Supply Voltage:** 5Vdc + 10% at 60mA maximum

**Output Format:** Dual channel quadrature

**Output Format Options:** Index and commutation.

*ComTracks available on Digital version only*

**Output Type – Digital:** Square wave, TTL and CMOS compatible, 10mA sink

**Output Type – Analog:** Current Source

**Frequency Response:** 125 kHz (data and index)

### MECHANICAL

**Dimensions:** See module outline dimensions

**Weight:** <0.25 ounces

**Termination:** .025 sq. discrete pins

### Materials

**Module:** Molded PPS 40% glass (R-4)

**Pins:** gold plated

**Disc:** mylar or etched metal

**Hub:** aluminum

### Disc Interface

**Runout:** 0.005 inches TIR

**Endplay:** + 0.010 inches

**Optical Radius (data):** 0.602 or 0.832 inches

### Motor Interface

**Mounting Holes:** See recommended mounting

### Connector Interface

**Molex Connector:** P/N 50-57-9005

**Molex Socket:** P/N 16-02-0069

**AMP Connector:** P/N 87499-9

**AMP Socket:** P/N 87667-3

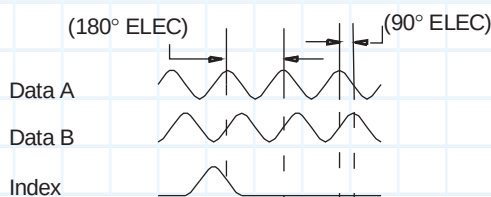
### ENVIRONMENTAL CONDITIONS

**Operating Temperature:** -40° to 100°C (non-condensing)

**Storage Temperature:** -40° to 100°C

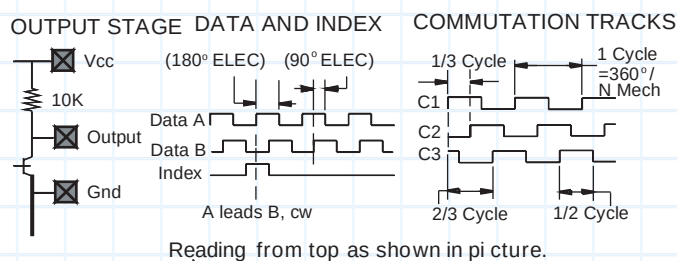
**Enclosure:** Unsealed housing

### Analog Output Wave Forms



Output signal shown after analog signal processing

### Digital Output Format



Reading from top as shown in picture.

## ORDERING INFORMATION

To order, complete the model number with code numbers from the table below:

| Encoder Module (Rotary)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                           | Code Disc and Hub                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Digital<br>M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <div><div>602</div><div>1.</div></div> - <div><div>1000</div><div>2.</div></div> - <div><div>3T</div><div>3.</div></div> - <div><div>See Note</div></div> | DH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <div><div>602</div><div>1.</div></div> - <div><div>1000</div><div>2.</div></div> - <div><div>0</div><div>3.</div></div> - <div><div>25</div><div>4.</div></div> |
| Analog<br>AM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <div><div>602</div><div>1.</div></div> - <div><div>2000</div><div>2.</div></div> - <div><div>6T</div><div>3.</div></div>                                  | Code Disc Only (no Hub)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | D <div><div>602</div><div>1.</div></div> - <div><div>1000</div><div>2.</div></div> - <div><div>0</div><div>3.</div></div>                                       |
| <div><div>1. Optical Radius</div><div>0.602 inches ..... 602</div><div>0.832 inches ..... 832</div><div>2. Standard Resolutions</div><div>Digital 602 Module</div><div>Resolutions from 35 to 3600.</div><div>See "Current Resolutions" list.</div><div>Digital 832 Module</div><div>Resolutions from 360 to 5000</div><div>See "Current Resolutions" list.</div><div>Analog 602 Module</div><div>Available Resolutions: 1000 &amp; 1024</div><div>Analog 832 Module</div><div>Available Resolutions: 2000 &amp; 2048</div><div>3. Lead Positions</div><div>Digital</div><div>Side Exit</div><div>Top Exit</div><div>A ..... 1S</div><div>A ..... 1T</div><div>AB ..... 2S</div><div>AB ..... 2T</div><div>ABZ ..... 3S</div><div>ABZ ..... 3T</div><div>ABZ + COMS ..... 6T</div><div>Analog</div><div>Top Exit</div><div>ABZ ..... 6T</div></div> |                                                                                                                                                           | <div><div>1. Disc Outside Diameter</div><div>1.30 inches ..... 602</div><div>1.75 ..... 832</div><div>2. Standard Resolutions</div><div>See "Current Resolutions" list.</div><div>3. Commutation Tracks (Option)</div><div>(Available on 6T digital module only)</div><div>Not required ..... 0</div><div>Specify 2, 3, 4, 6 or 8 motor pole pairs</div><div>4. Hub Bore Size*</div><div>1/4 inch ..... 25</div><div>6mm ..... 6M</div><div>3/8 inch ..... 38</div><div>8mm ..... 8M</div><div>10mm ..... 10M</div><div>*Consult factory for other sizes</div></div> <div><div>NOTE: When ordering Modules with Index add a "G" to the end of the part number for GATED INDEX or "U" for UNGATED INDEX.</div><div>When ordering Modules in 1000 or 1024PPR to specify DOUBLER CIRCUIT add a "D" to the last digit. Example: M602-1000-3T-UD</div></div> |                                                                                                                                                                 |

## RESOLUTIONS

### M602 Digital Modules

1, 24, 25, 35, 40, 60, 100, 120, 192, 200, 240, 250, 256, 300, 360, 500, 512, 600, 625, 720, 1000\*, 1024\*

\* Available as direct read or doubler

**Doubler:** 1000, 1024, 1200, 1250, 1440, 2000, 2048, 2500, 2540, 2600 3600

With Commutation for Brushless Motors:

| CPR | Pole Pairs |
|-----|------------|
| 500 | 5 or 6     |
| 512 | 3 or 6     |

### M832 Digital Modules

**Direct Read:** 360, 1000, 1024

**Doubler:** 2000, 2048, 3600, 4096, 5000

With Commutation for Brushless Motors:

| CPR  | Pole Pairs      |
|------|-----------------|
| 1000 | 2, 3, 4, 6 or 8 |
| 1024 | 6               |

### AM602/AM832 Analog Modules

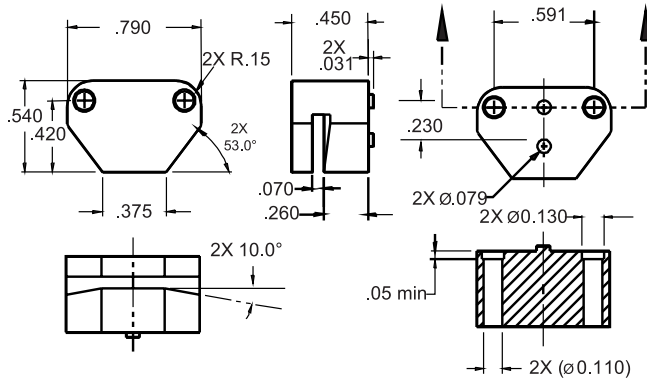
| AM602 | AM832           |
|-------|-----------------|
| 1000, | 1024 2000, 2048 |

Analog Modules available in -6T configuration only  
For new Disc resolutions or radii please consult factory for availability and NRE. We are constantly adding new resolutions so if the one you require is not listed please call the factory for availability

# SERIES M602 & M832



## Module Outline Dimensions



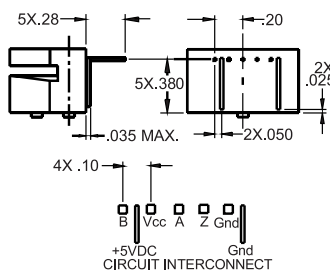
## Pin Layouts

The Optical Encoder Modules come standard in either top mount or side mount with A,B, and Index Channels. Commutation Channels are optionally available for Digital modules in top-mounted configurations only.

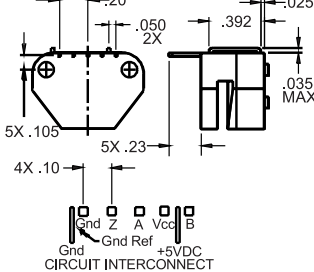
### ABZ CONFIGURATION

5X .025 square pins

#### SIDE MOUNT (-1S, -2S, -3S)

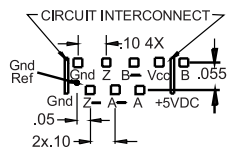
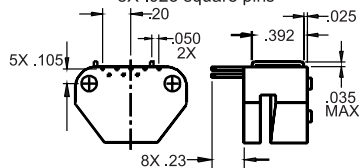


#### TOP MOUNT (-1T, -2T, -3T)

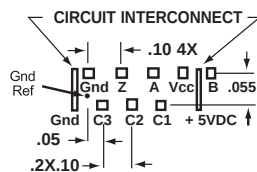


### ANALOG CONFIGURATIONS (-6T)

8X .025 square pins



Analog Pinouts



Digital Pinouts

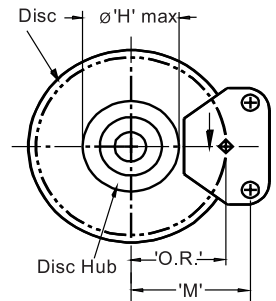
## Module Interface

### Module 602

'O.R.' – Optical Radius ..... 0.602 in.  
'M' – Mounting dimension .. 0.756 in.  
Ø 'H' – Hub Maximum O.D. .. 0.061 in.

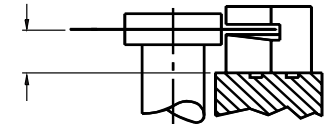
### Module 832

'O.R.' – Optical Radius ..... 0.832 in.  
'M' – Mounting dimension... 0.986 in.  
Ø 'H' – Hub maximum O.D... 1.07 in.



### DISC MOUNTING

.30 same for rotary disc or linear scale



## Disc and Hub Dimensions

### Module 602 Disc and Hub

Ø'D' – Disc O.D. .... 1.30 in.  
Ø 'H' – Hub O.D. .... 0.61 in.

### Module 832 Disc and Hub

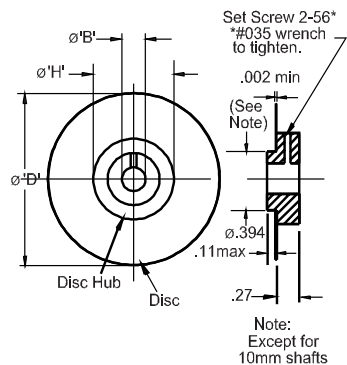
Ø'D' – Disc O.D. .... 1.75 in.  
Ø 'H' – Hub O.D. .... 1.00 in.

### Shaft Size Hub Bore Sizes

|         | Ø'B' in. | Ø'B' mm |
|---------|----------|---------|
|         | +0.005   | +0.13   |
|         | +0.000   | -0.00   |
| 1/4 in. | .2500    | 6.350   |
| 3/8 in. | .3750    | 9.525   |
| 6 mm    | .2362    | 6.000   |
| 8 mm    | .3150    | 8.000   |
| 10 mm   | .3937    | 10.000  |

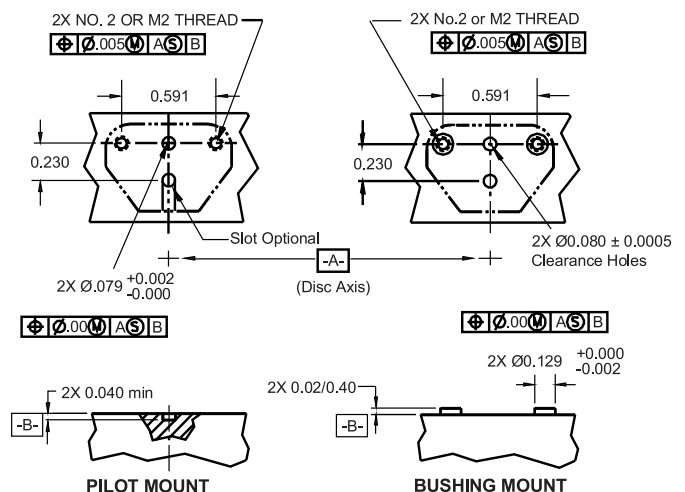
### Disc only

.3942 I.D. x .002 min. thick



Note:  
Except for  
10mm shafts

## Recommended Mounting Configurations



# **Dynapar<sup>TM</sup> brand**

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**Satellite Locations:**

- **North America:** North Carolina, South Carolina, Connecticut, Massachusetts, New York, Canada, British Virgin Islands
- **West Indies:** St. Kitts • **Europe:** United Kingdom, Italy, France, Germany, Spain, Slovakia
- **South America:** Brazil • **Asia:** China, Japan, Korea, Singapore

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