

# PERFORMANCE SPECIFICATIONS

## 1.0 MECHANICAL:

- 1.1 DIMENSIONS — SEE FIGURE 1
- 1.2 WEIGHT — 2.1 oz
- 1.3 MOMENT OF INERTIA —  $2.6 \times 10^{-3}$  oz in<sup>2</sup>
- 1.4 ACCELERATION — 500,000 rad/sec<sup>2</sup>
- 1.5 BORE SIZE — 1/2 IN.
- 1.6 SLEW SPEED — 15,000 RPM MAX.

## 2.0 MOTOR INTERFACE

- 2.1 MOUNTING HARDWARE — 2 SCREWS # 4-40 X 1 IN. LONG, SUPPLIED.
- 2.2 PERPENDICULARITY — 0.005" TIR
- 2.3 SHAFT RUNOUT — 0.005" MAX.
- 2.4 SHAFT END PLAY — 0.010"
- 2.5 SHAFT FINISH — 16 MICRONS OR BETTER, END MUST BE CHAMFERED OR ROUNDED.
- 2.6 SHAFT DIAMETER —  $\phi .4993 - .4998$
- 2.7 SHAFT LENGTH — 0.56" MIN. (REMOVE CAP FOR MOTOR THROUGH SHAFT)

## 3.0 ELECTRICAL

- 3.1 CODE — INCREMENTAL W/GATED INDEX
- 3.2 PULSES PER REVOLUTION — 200
- 3.3 SUPPLY VOLTAGE — 5VDC,  $\pm 5\%$ , @ 80 MA MAX.
- 3.4 OUTPUT FORMAT — DUAL CHANNEL QUADRATURE (MIN. EDGE SEPARATION .45")
- 3.5 OUTPUT TYPE — SQUARE WAVE TTL AND CMOS, 10mA SINK, 500  $\mu$  A SOURCE, SHORT CIRCUIT PROTECTED.
- 3.6 FREQUENCY RESPONSE — 100kHz (DATA & INDEX)
- 3.7 FREQUENCY MODULATION —  $\pm 0.5\%$  MAX. @ 55kHz
- 3.8 ENCODER ACCURACY — 3.0 ARC MIN. MAX. WITH ZERO SHAFT RUNOUT (SEE 2.3)

## 4.0 ENVIRONMENTAL

- 4.1 TEMPERATURE — OPERATING: -10°C TO 105°C  
STORAGE: -20°C TO 125°C
- 4.2 ENCLOSURE — UNSEALED HOUSING, UNIT MUST BE PROTECTED FROM HARSH ENVIRONMENTS.
- 5.0 TERMINATION — CABLE: 6 CONDUCTOR, #28 AWG
- 5.1 TYPE — COLOR SIGNAL
- 5.2 COLOR CODE — COLOR SIGNAL

|        |          |
|--------|----------|
| RED    | .5V      |
| BLACK  | GROUND   |
| WHITE  | A        |
| GREEN  | B        |
| ORANGE | INDEX    |
| SHIELD | FLOATING |

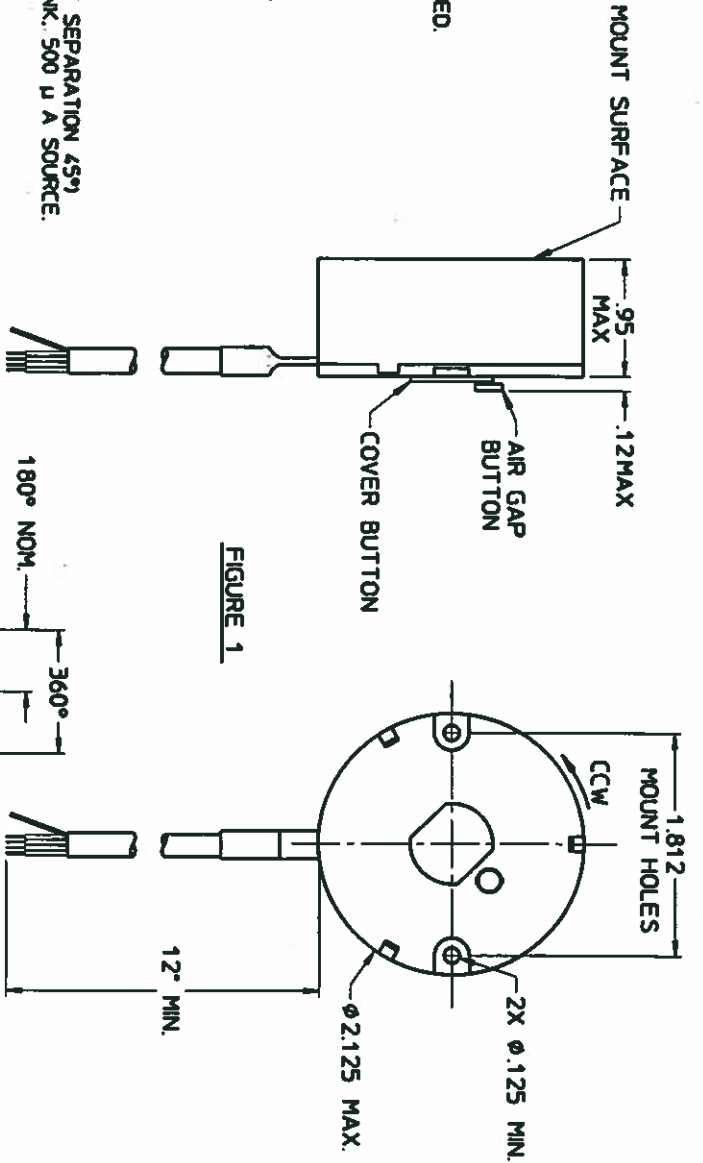
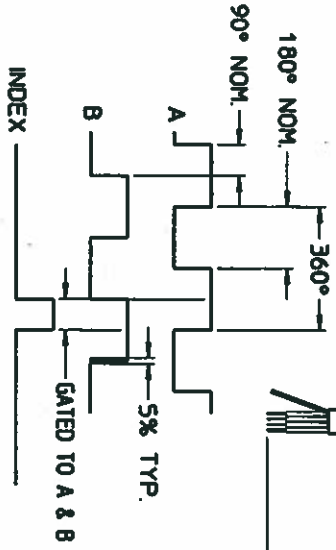


FIGURE 1



OUTPUT WAVE FORM  
CCW ROTATION OF SHAFT—  
FIGURE 2

UNCONTROLLED DOCUMENT

|                   |  |                     |  |                      |  |
|-------------------|--|---------------------|--|----------------------|--|
| DATE: 27-JAN-97   |  | DESIGN: 27-JAN-97   |  | REVISION: 1          |  |
| DRAWN: [blank]    |  | CHECKED: [blank]    |  | APPROVED: [blank]    |  |
| MATERIAL: [blank] |  | PROCESS: [blank]    |  | FINISH: [blank]      |  |
| QUANTITY: [blank] |  | UNIT PRICE: [blank] |  | TOTAL PRICE: [blank] |  |
| CITY: [blank]     |  | STATE: [blank]      |  | COUNTRY: [blank]     |  |
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