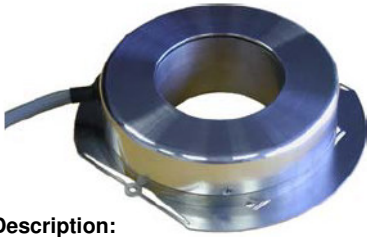


CP-3700 Series Hollow Shaft Encoders

CP-3700, Incremental & absolute



Description:

The CP-3700 is a large bore (2"), low profile hollow shaft encoder. Outputs available are sinusoidal "infinite resolution", specifically designed for digitizing the waveform, digital RS 422 compatible outputs as well as absolute 20 bit parallel (external electronics necessary).

The sine/cosine versions allow a high degree of interpolation because of the low distortion waveform for extremely accurate positioning and speed control. This unit may be used in conjunction with our CP-1064 64X interpolator, which provides as many as 256 measuring steps for each cycle.

Available resolutions include 2000, 8192 and 9000 full sine/cosine cycles per revolution for the sinusoidal version and up to 36,000 c/r direct read (144,000 measuring steps) for the digital output units.

The light source is a single light emitting diode, servo controlled for constant light output over time and temperature, the sensor is a monolithic silicon array.

The encoder mounts with set-screws on the host shaft and a flex mount for rotational rigidity.

Ordering information:

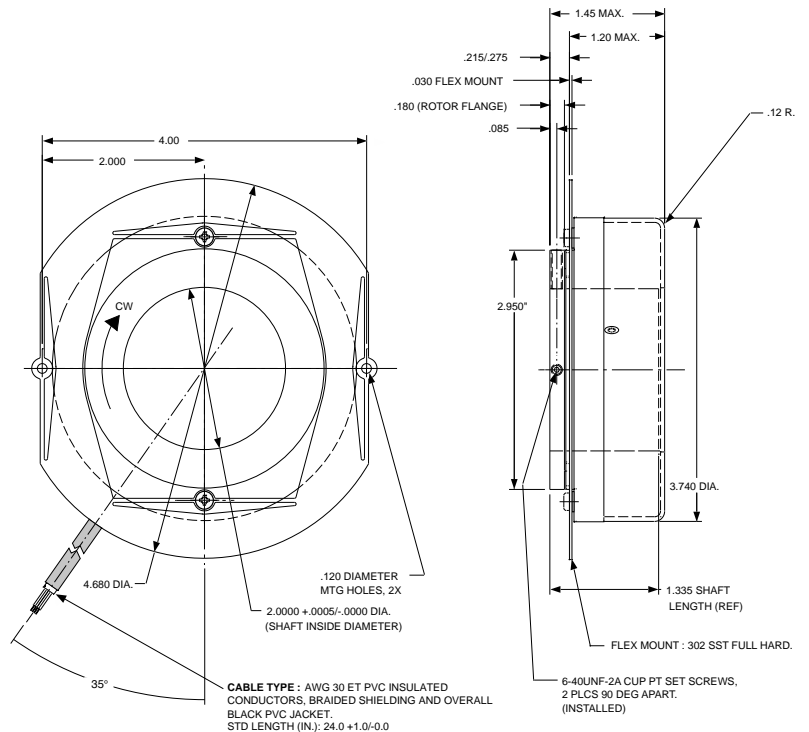
CP-3700-(linecount) for sine/cosine output, default V out = ± 0.5 V (1 Vpp), zero-centered. Other amplitudes, offsets and power supply configuration available, please consult factory.

CP-3750-(linecount) for digital output.

For 20 bit parallel output, consult factory

Cable: 20", unterminated. Color code:

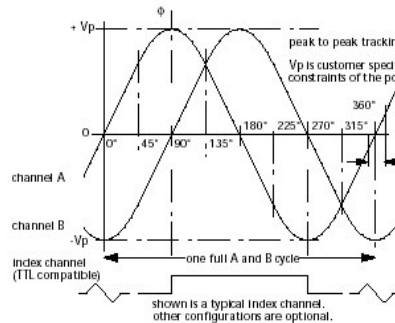
| | CP-3750 | CP-3700 |
|-----------|---------|---------|
| A | yellow | yellow |
| Ainv | orange | orange |
| B | blue | blue |
| B inv | violet | violet |
| Index | green | green |
| Ind. inv. | white | n/a |
| + 5 V dc | red | red |
| ground | black | black |
| case gnd | grey | grey |



Mechanical Data:

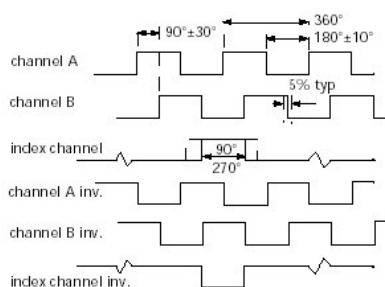
- shaft diameter: 2.000", -0, + 0.0005
- shaft loading: 40 lbs axial, 35 lbs radial
- shaft runout: .0002" T.I.R.
- starting torque: 4.5 oz.in max @20 °C
- shaft rotation: continuous, reversible
- shaft speed: 1,800 RPM max
- bearings: ABEC 3
- shaft material: 416 stainless
- housing material: aluminum (stainless 416 optional)

- bearing life: manufacturer's specs
- moment of inertia: 8.5 x 10⁻⁴ oz.in.sec²
- weight: approx. 26 oz
- temperature: operating: -20 °C to +85 °C
- shock: 50 G's @ 11 ms
- vibration: 5-2,000 Hz @ 20 G's
- humidity: 98% without condensation



Electrical Data:

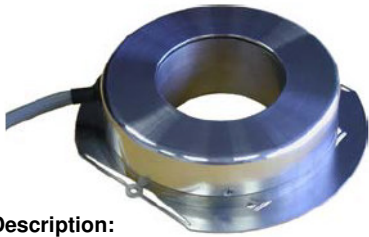
- power supply: ± 5 Vdc @ 60 mA max.
- code: incremental, sinusoidal
- output format: A and B channel in quadrature, index
- output: ± 0.5 V, 0 V centered
- frequency response: flat up to 100 kHz
- absolute accuracy of zero-crossings: ± 24 arcseconds typ, (tighter accuracy available on request)
- standard linecounts: 2,000 c/r, 8,192 c/r, 9,000 c/r



- power supply: + 5Vdc ± 10% @ 100 mA max (no load)
- code: incremental, digital
- output format: A and B channel in quadrature, index
- frequency response: 150 kHz min. @ 85 °C
- linedriver output: 26LS31, EIA std. RS 422 & DIN 66259 compatible
- absolute accuracy of zero-crossings: ± 24 arcseconds typ. (tighter accuracy available on request)
- standard linecounts: 2,000, 4,000, 8,192, 9,000, 16,384, 18,000, 36,000 c/r

CP-3700 Series Hollow Shaft Encoders

CP-3750-HHC, High count incremental



Description:
 The CP-3750 is a large bore (2"), low profile hollow shaft encoder with linecounts of up to 2,250,000 c/r (9,000,000 measuring steps per revolution). Outputs are digital RS 422 compatible.

The light source is a single light emitting diode, servo controlled for constant light output over time and temperature, the sensor is a monolithic silicon array.

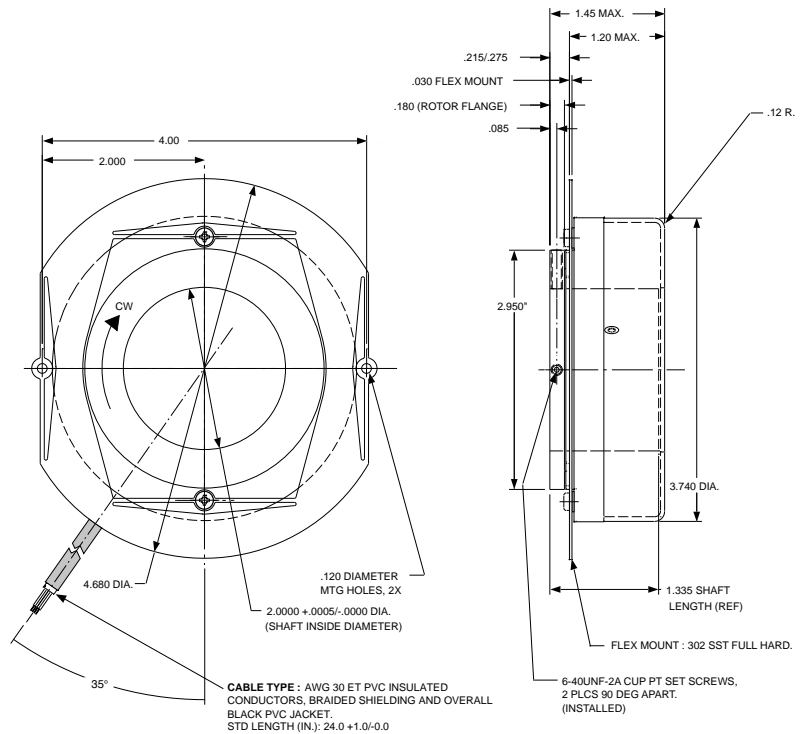
The encoder mounts with set-screws on the host shaft and a flex mount for rotational rigidity.

Ordering information:

CP-3750-(linecount).

Cable: 20", unterminated. Color code:

| | |
|-----------|--------|
| A | yellow |
| Ainv | orange |
| B | blue |
| B inv | violet |
| Index | green |
| Ind. inv. | white |
| + 5 V dc | red |
| ground | black |
| case gnd | grey |

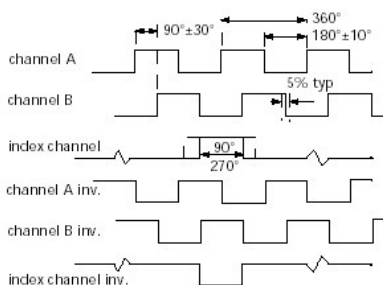


Mechanical Data:

- shaft diameter: 2.000", -0, + 0.0005
- shaft loading: 40 lbs axial, 35 lbs radial
- shaft runout: .0002" T.I.R.
- starting torque: 4.5 oz.in max @20°C
- shaft rotation: continuous, reversible
- shaft speed: 1,800 RPM max
- bearings: ABEC 3
- shaft material: 416 stainless
- housing material: aluminum (stainless 416 optional)

- bearing life: manufacturer's specs
- moment of inertia: 8.5 x 10⁻⁴ oz.in.sec²
- weight: approx. 26 oz
- temperature: operating: -20°C to +85°C
- shock: 50 G's @ 11 ms
- vibration: 5-2,000 Hz @ 20 G's
- humidity: 98% without condensation

Electrical Data:



- power supply: + 5Vdc ± 10% @ 100 mA max (no load)
- code: incremental, digital
- output format: A and B channel in quadrature, index
- frequency response: 2 MHz min. @ 85 °C
- linedriver output: 26LS31, EIA std. RS 422 & DIN 66259 compatible
- absolute accuracy of zero-crossings: ± 24 arcseconds typ. (tighter accuracy available on request)
- repeatability: ± 1/4 cycle (one measuring step)
- standard linecounts: 50k, 62.5k, 100k, 125k, 200k, 204.8k, 225k, 250k, 256k, 281.25k, 400k, 409.6k, 450k, 500k, 512k, 562.5k, 819.2k, 900k, 1,024k, 1,125k, 1,638.4k, 1,800k, 2,048k, and 2,250k full A and B cycles per revolution.