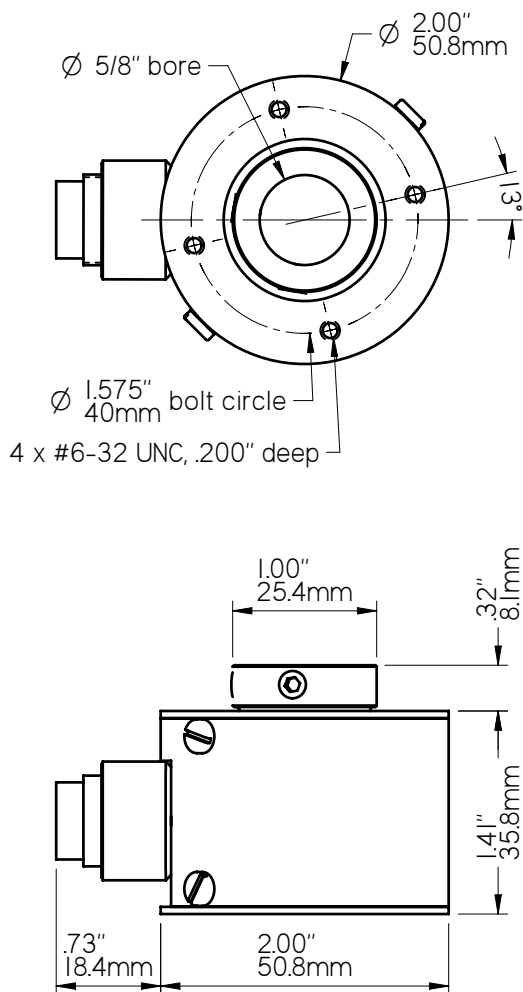


**FEATURES**

- Up to 5/8" or 16mm shaft bore diameter
- Heavy Duty bearings
- Unbreakable code disk
- Size 20 housing
- Short circuit and ESD protected
- Shaft model available - see Model R20
- Up to 1200 pulses per revolution
- Attached cable or optional connector
- Programmable model available - see Model HS20-P

**DIMENSIONS**

(shown with optional connector, 5/8" shaft bore)



**OVER 30 YEARS OF MATERIAL HANDLING AND INDUSTRIAL EXPERIENCE**

**HOTOCRAFT INC**

602 E. North Street **630-365-7148**  
 Elburn, IL 60119, USA Fax: 630-365-7149  
[www.photocraftencoders.com](http://www.photocraftencoders.com)

**SPECIFICATIONS**

**Mechanical**

**Shaft Bore:** Any up to 5/8", 16mm diameter  
**Maximum Speed:** 6,000 rpm  
**Shaft Loading:**  
 — Radial: 30 lbs. / 13.6 kg  
 — Axial: 20 lbs. / 9.1 kg  
*A flexible mounting bracket is recommended.*  
**Bearing Life:** 44 x 1,000,000/rpm = hours  
**Materials:**  
 — Case: Aluminum, anodized  
 — Shaft: 303 Stainless steel  
**Weight:** 6.5 - 8.5 oz. (185 - 240 grams)

**Electrical Connections**

**Single Ended Outputs:**

| Optional 6-Pin | Optional M12 4-pin | Function | Wire Color |
|----------------|--------------------|----------|------------|
| 1              | 3                  | Common   | Black      |
| 2              | 1                  | +vdc     | Red        |
| 3              |                    | Output Z | Brown      |
| 4              | 4                  | Output A | White      |
| 5              | 2                  | Output B | Green      |
| 6              |                    | not used | -          |

6-pin connector is Amphenol T3402000 or equivalent  
 M12 4-pin is Turck FS4.4/18.25 or equivalent

**Differential Line Driver Outputs:**

| Optional 8-Pin Connector* | Function       | Wire Color    |
|---------------------------|----------------|---------------|
| 1                         | Output +A      | White         |
| 2                         | Output +B      | Green         |
| 3                         | Output +Z      | Yellow        |
| 4                         | Supply voltage | Red           |
| 5                         | Common         | Black         |
| 6                         | Output -A      | Blue or Green |
| 7                         | Output -B      | Brown         |
| 8                         | Output -Z      | Orange        |

\* connector is Amphenol T3506000 or equivalent

Standard cable length is 10 ft / 3 meters.  
 Other lengths are available.

**Electrical**

**Supply Voltages:** (specify when ordering)  
 — 5 VDC, or  
 — 8-30 VDC  
**Current:** 50 mA max (no load)  
 100 mA max (line driver)  
**Pulse Rate:** 0 - 30 kHz  
**Pulses per Revolution:** 1 to 1200  
 (specify when ordering)  
**Operating Temperature:** 0° to 70° C  
**Output Circuit:** (specify when ordering)  
 Output voltage level is approximately the same as the input voltage level.  
**Single Ended:**  
 — 7273 open collector (30 VDC max, 50 mA max)  
 — 7272 Push-Pull (50 mA max source or sink)  
**Differential Line Driver:**  
 — 7272 differential line driver (also with optional 5vdc output level)  
**Output Waveshape:**  
 Square wave outputs A and B are 50/50 duty cycle nominal. Output Z (index output) is approximately the width of one cycle on outputs A or B.  
 — Pulse symmetry: 180° ± 30%  
 — Pulse interval jitter: 30% max  
 — Quadrature: 90° ± 30% max  
 — Phase jitter: 30% max

**Anti-jitter:** (single output models only)  
 Increases the pulse hysteresis of 1/2 of a pulse width, eliminating the effects of mechanical vibration and the possible dither that results in false output pulses. For example a 10 pulse per revolution output would have 18° hysteresis (i.e. 360° ÷ 10 × 1/2).

**Accessories**

See our website or contact us for more information about Cables and Flexible Mounting Bracket.

**MODEL NUMBER**

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
| <b>HS20</b>  |  |  |  |  |  |  |  |  |  |
| <b>Model Number</b>  |  |  |  |  |  |  |  |  |  |
| <b>Shaft Bore:</b> B = 3/8", .5 = 1/2", .625 = 5/8", M10 = 10mm, M12 = 12mm, M16 = 16mm  |  |  |  |  |  |  |  |  |  |
| <b>Output Type:</b> leave blank for single output on A, Q = quadrature outputs on A and B  |  |  |  |  |  |  |  |  |  |
| <b>Index Output:</b> leave blank for no index, Z = index output  |  |  |  |  |  |  |  |  |  |
| <b>Pulses Per Revolution:</b> a number from 1 to 1200  |  |  |  |  |  |  |  |  |  |
| <b>Anti-jitter option:</b> leave blank for no anti-jitter, AJ = anti-jitter option (single output models only)                                     |  |  |  |  |  |  |  |  |  |
| <b>Supply Voltage:</b> 5 or 8-30   |  |  |  |  |  |  |  |  |  |
| <b>Output Circuit:</b> leave blank for 7272 Push/Pull, C = 7273 open collector, D = 7272 line driver, DL = 7272 line driver with 5vdc output level |  |  |  |  |  |  |  |  |  |
| <b>Cable/Connector:</b> leave blank for attached 10' (3meter) cable, S = 6 or 8 pin connector, S3 = M12 4-pin connector                            |  |  |  |  |  |  |  |  |  |
| <b>Modification Number:</b> optional modification or special feature ID. Call or see our website.  |  |  |  |  |  |  |  |  |  |
| <b>Accessories:</b> leave blank for no accessories. Call or see our website for more information.  |  |  |  |  |  |  |  |  |  |

Example: HS20.5Q-1024/8-30DS - 1/2" shaft bore, quadrature outputs, 1024 ppr, 8-30 vdc, 7272 differential line driver output, optional side connector (8-pin)