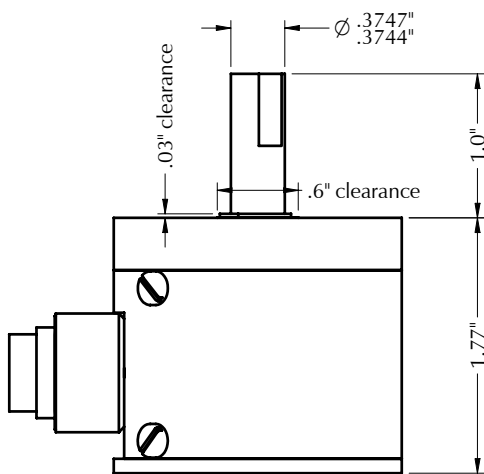
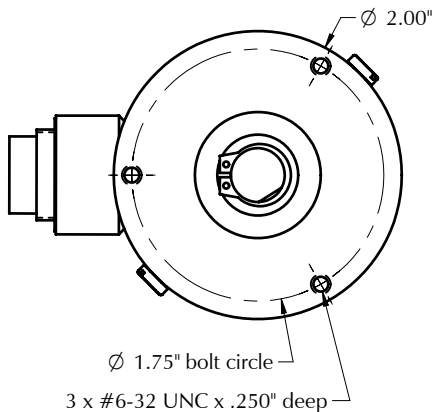


FEATURES

- Heavy Duty bearings
- Size 20 housing
- Short circuit and ESD protected
- Up to 1200 pulses per revolution
- Attached cable, or 16mm or M12 connector
- Hollow shaft model available - see Model HS20
- Wheeled version available - see Models R21 and R22
- Programmable model available - see Model R20-P

DIMENSIONS

(shown with optional 16mm connector)



SPECIFICATIONS

Mechanical

Maximum Speed: 6,000 rpm
Shaft Loading: Radial - 40 lbs. / 18.1 kg
 Axial - 30 lbs. / 13.6 kg
Note: a flexible shaft coupling is recommended
Bearing Life: 32 x 1,000,000/rpm = hours
Materials: Case - Aluminum, anodized
 Shaft - 303 Stainless steel
Weight: 10 oz. (285 grams)
Enclosure: IP50 standard, IP64 available

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 F54.4/18.25 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 |

8-pin 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: (specify when ordering)
 1 to 1200

Operating Temperature: 0° to 70° C

Output Circuit: (specify when ordering)

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 (output level same as supply voltage)
- RS422 differential line driver (with regulated 5vdc output level)

Output Format: Two channel quadrature square waves (A,B) with optional index (Z).
 Optional complimentary outputs (-A,-B,-Z).
 Output A leads B by 90° for clockwise rotation when viewed from shaft end.

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 to 1/2 of a pulse width, eliminating the effects of mechanical vibration and possible false output pulses. For example a 10 pulse per revolution output has 18° hysteresis (i.e. 360° ÷ 10 × 1/2).

Enhanced Anti-jitter: see our website or contact us for more information.

Accessories

See our website or contact us for more information about cables, flexible couplings, and measuring wheels.

MODEL NUMBER

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| R20 | | | | | | | | | |
| Model Number | | | | | | | | | |
| Shaft Diameter: blank for 3/8", A = 5/16", C = 1/4", M4 = 4mm, M6 = 6mm, M8 = 8mm | | | | | | | | | |
| Output Type: leave blank for single output on A, Q = quadrature outputs on A and B | | | | | | | | | |
| Index Output: leave blank for no index, Z = index output | | | | | | | | | |
| Pulses Per Revolution: a number from 1 to 1200 | | | | | | | | | |
| Anti-jitter option: leave blank for no anti-jitter, AJ = anti-jitter option (single output models only) | | | | | | | | | |
| Supply Voltage: 5 or 8-30 | | | | | | | | | |
| Output Circuit: leave blank for 7272 Push/Pull, C = 7273 open collector, DH = 7272 line driver, DL = RS422 line driver with 5vdc output level | | | | | | | | | |
| Cable/Connector: leave blank for attached cable, S = 16mm connector, S3 = M12 connector | | | | | | | | | |
| Modification Number: optional modification or special feature ID. Call or see our website. | | | | | | | | | |
| Accessories: leave blank for no accessories. Call or see our website for more information. | | | | | | | | | |

Example: R20Q-1024/8-30DS - 3/8" shaft, quadrature outputs, 1024 ppr, 8-30 vdc, 7272 differential line driver output, optional 16mm connector (8-pin)



602 E. North Street T: 630-365-7148
 Elburn, IL 60119, USA F: 630-365-7149

www.photocraftencoders.com