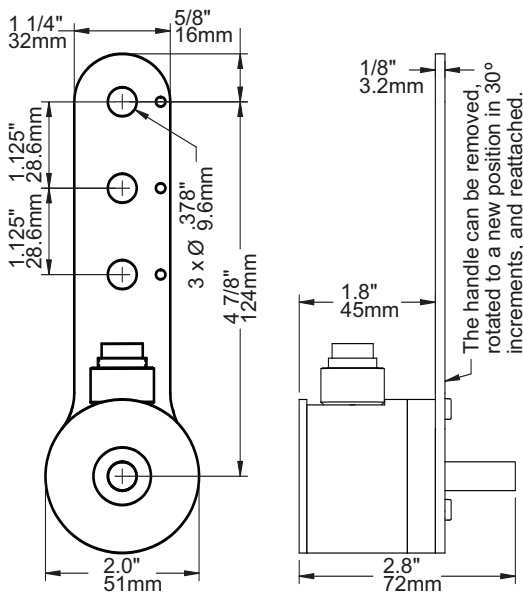


The BlueCoder model RB21 is an optical incremental encoder that use the benefits of blue LED light. It is a size 20 encoder that is a compact 2" diameter x 1-7/8" (Ø51mm x 48mm) long optical shaft encoder with an integral mounting arm, compatible with a variety of mounting accessories for installation either above or below a moving web or conveyor. When used with the MW-8 (8.00" circumference) or MW-20 (20.00cm circumference) measuring wheel it can accurately track the web or conveyor to within ±.007" or ±.016cm per revolution. Solid construction and heavy duty bearings make this encoder a great choice for long-term operation in continuous duty applications.

- High-Definition blue-light phased array technology
- Compensated blue-light source
- Wide operating voltage 4.5Vdc - 30Vdc
- High resolution up to 10,000 CPR
- Unbreakable code disk
- IP65 environmental seal
- Integrated mounting arm
- Precision measuring wheel

DIMENSIONS

(Shown with 16mm Din connector)



Mechanical

Maximum Speed: 6,000 rpm
Shaft Loading:
 Radial - 50 lbs. for life of 4.1 x 10⁹ revolutions
 Axial - 50 lbs. for life of 4.1 x 10⁹ revolutions
Note: A flexible shaft coupling is recommended to increase bearing life.
Bearing Life: 32 x 1,000,000/rpm = hours
Materials: Case - Aluminum, anodized
 Shaft - 303 Stainless steel
Weight: 10 oz. (285 grams)
Sealing: P65

Electrical Connections

Single Ended Outputs:

16mm Din 6-pin	M12 4-pin	Function	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:

16mm Din 8-Pin	Function	Color
1	Output A	White
2	Output B	Green
3	Output Z	Yellow
4	Supply voltage	Red
5	Common	Black
6	Output \bar{A}	Blue or Green
7	Output \bar{B}	Brown
8	Output \bar{Z}	Orange

8-pin connector is Amphenol T3506000 or equivalent

SPECIFICATIONS

Electrical

Supply Voltages: 4.5 Vdc to 30 Vdc
 (6.0 Vdc to 30 Vdc for RS422 differential line driver)
Current: 65 mA max exclusive of load
 Short circuit and ESD protected
Operating Temperature: 0° to 70° C
Pulse Symmetry: 180°±36° @ maxRPM
Quadrature Phase Error: 90°±36° @ maxRPM
Phase jitter: 27°
Maximum Frequency: up to 1.4 Mhz
Noise Immunity: Tested to EN61000-6-2
Output Type: (specify when ordering)
 Two channel quadrature square waves (A,B)
 • optional index (Z).
 • optional complimentary outputs (-A,-B,-Z).
Note: Output A leads B by 90° for clockwise rotation when viewed from shaft end.

Counts per Revolution: (specify when ordering)
 360, 720, 1000, 1024, 1200, 1250, 1440, 1500, 1800, 2000, 2048, 2400, 2500, 3000, 3600, 4000, 4096, 4800, 5000, 6000, 7200, 8000, 8192, 10000

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 (5 Vdc output level)

Connections: (specify when ordering)

- Attached 10ft cable
- 16mm 6/8-pin Din connector
- M12 4-pin connector

Accessories

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

MODEL NUMBER

Build Encoder

RB21	Output Type	—	CPR	Output Circuit	Connector	Measuring Wheel
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RB21 —

Output Type:

blank = single pulse A output,
Q = quad. outputs on A & B
QZ = quad. outputs on A & B with Z outputs

Counts Per Revolution:

Choose one number:
 360, 720, 1000, 1024, 1200, 1250, 1440, 1500, 1800, 2000, 2048, 2400, 2500, 3000, 3600, 4000, 4096, 4800, 5000, 6000, 7200, 8000, 8192, 10000

Output Circuit:

blank = 7272 push/pull
C = NPN open collector open circuit
DH = Differential line driver - output level same as input level
DL = RS422 line driver with 5vdc output level

Cable/Connector:

blank = attached 10ft. shielded cable
S = 16mm 6/8-pin Din connector
S3 = 4-pin M12 connector

Measuring Wheel:

MW8 = 8" circumference
MW10 = 10" circumference
MW1 = 12" circumference
MW1R = 12" circumference with replaceable o-ring
MW1W = 12" circumference
MW20 = 20cm circumference
MW30 = 30cm circumference
MW30R = 30cm circumference with replaceable o-ring
MW30W = 30cm circumference 25mm wide

Example: **RB21Q-10240DHS MW10** - quadrature outputs, 1024 cpr, differential line driver output, 16mm connector (8-pin), 10" measuring wheel

