

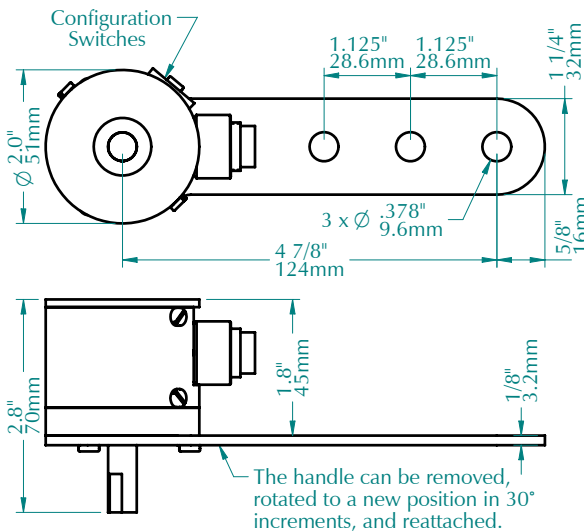
shown with optional  
20cm measuring wheels  
and 16mm connector

**FEATURES**

- Generates pulses for accurate linear measurement
- Selectable resolution: Millimeters per Pulse
- Heavy Duty construction
- Compact size
- Precision 20cm circumference measuring wheel
- 16mm or M12 connector, or attached cable
- Enhanced "Anti-Jitter" feature for web applications
- ESD, Short Circuit, Reverse Voltage protection
- Various mounting hardware kits are available
- Other programmable models are available

**DIMENSIONS**

(shown with optional 16mm connector)



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

**SPECIFICATIONS**

**Mechanical**

**Maximum Speed:** 3,000 rpm  
**Shaft Loading:**  
 — Radial: 40 lbs. / 18.1 kg  
 — Axial: 30 lbs. / 13.6 kg  
**Bearing Life:** 32 x 1,000,000/rpm = hours  
**Materials:** Switch cover: ABS  
 — Case: Aluminum, anodized  
 — Shaft: 303 Stainless steel  
**Weight:** 12 oz. / 340 grams (without accessories)  
**Protection:** IP50

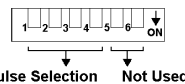
**Electrical Connections**

Function	Connectors			Wire Color
	16mm 6-Pin	16mm 8-Pin	M12 4-Pin	
Common	1	5	3	Black
+vdc	2	4	1	Red
Output A	4	1	4	White
Output -A	-	6	2	Green

Unlisted pins are not used.  
 16mm 6-pin is Amphenol T3402000 or equivalent, for Single Ended outputs.  
 16mm 8-pin is Amphenol T3506000 or equivalent, for Differential Line Driver.  
 M12 4-pin is Turck FS4.4/.. or equivalent for either Single or Differential Outputs.  
 Attached cable is 10-ft / 3-meters. Other lengths are available.

**Configuration Switches**

Determines the linear movement per output pulse when used with the 20 centimeter circumference measuring wheel (MW-20).



Millimeters per Pulse											
1	2	3	4	1	2	3	4	1	2	3	4
1	□	□	□	5	□	□	□	25	□	□	□
2	□	□	□	10	□	□	□	50	□	□	□
3	□	□	□	15	□	□	□	75	□	□	□
4	□	□	□	20	□	□	□	100	□	□	□

Switch definitions: □ Up (off), ■ Down (on).

**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:** 2, 2-<sup>2</sup>/<sub>3</sub>, 4, 8, 10  
 13-<sup>1</sup>/<sub>3</sub>, 20, 40, 50, 66-<sup>2</sup>/<sub>3</sub>, 100, 200  
**Operating Temperature:** -25° to +85° C  
**Output Circuit:** (specify when ordering)  
 Output voltage level is approximately the same as the input voltage level.  
Single Ended: (output A)  
 — 7273 open collector (30 VDC max, 50 mA max)  
 — 7272 Push-Pull (50 mA max source or sink)  
Differential Line Driver: (outputs A / -A)  
 — 7272 differential line driver (also with optional 5vdc output level)

**Output Waveshape:**

Square wave output A is 50/50 duty cycle nominal. Output -A is the compliment of A.  
 — Pulse symmetry: 180° ± 30%  
 — Pulse interval jitter: 30% max

**Enhanced Anti-jitter:** Developed for conveyor applications that typically operate in one direction, and do not want pulses generated if the conveyor stops or reverses for a short distance. Pulses are generated as long as rotation continues in one direction. If the direction reverses then pulse output ceases until it returns to its original direction and position it was at before reversing. If the reverse rotation exceeds 10 rotations then the encoder resets assuming the current direction is forward and begins pulsing.

**Accessories**

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

**MODEL NUMBER**

<b>R21</b>	<b>P20EAJ</b>					
<u>Model Number</u>	Call or see our website for information about other programs.	<b>Supply Voltage:</b> 5 or 8-30	<b>Output Circuit:</b> leave blank for 7272 Push/Pull, C=7273 open collector, D=differential line driver, DL=differential line driver with 5vdc output level	<b>Cable/Connector:</b> leave blank for attached cable, S = 16mm connector, S3 = M12 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: **R21-P20EAJ/8-30S MW20-3M** R21 with P20EAJ program, 8-30 vdc, 7272 push/pull output, 16mm connector (6-pin), and Accessories: MW-20 wheel, 3 meter cable