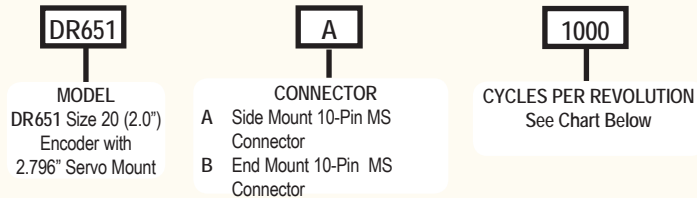


# DR651

## Direct Replacement Encoder For DRC 29L



The Accu-Coder™ DR651 is EPC's Direct Replacement Encoder for the DRC 29L. DR651 is a heavy duty, rugged 2.0" encoder designed for harsh industrial environments such as machine tools and robotics. The DR651 is an exact mechanical fit to the DRC 29L; a large shafted encoder with Servo hub, CPR, and Connector mount options. But the similarities stop there. The DR651 can withstand 80 lb axial load, 60 lb radial load, and 75 g of shock, as compared to the DRC 29L's 30 lbs of load and 50 g of shock. Select the DR651 for a more durable rugged replacement for the hard to find, DRC 29L.



### Model DR651 CPR Options

0025	0050	0100	0128	0150	0160	0200	0250	0256
0300	0360	0400	0500	0512	0600	0625	0635	0720
0800	0900	1000	1024	1200	1250	1270	1440	1500
1800	2000	2500						

### The Accu-Coder™ DR651 Features:

- Rugged 2" industrial encoder with 2.796" Servo Hub
- 0.3748" shaft with flat made from 303 Stainless
- Quadrature with index
- Line Driver output
- 5 to 28 VDC Input Voltage
- Side or end mount 10-pin MS connector
- Frequency up to 100 kHz
- Sealing to IP66

### The Accu-Coder™ Advantage

- Get this encoder **FAST!**
- **Huge savings** in price comparison!
- The accuracy, reliability, and quality that only come from an Accu-Coder™
- Industry Best 3-year warranty!

## Model DR651 Specifications

### Electrical

Input Voltage.....4.75 to 28 VDC max for temperatures up to 70° C  
 Input Current.....100 mA max with no output load  
 Input Ripple.....100 mV peak-to-peak at 0 to 100 kHz  
 Output Format.....Incremental- Two square waves in quadrature with channel A leading B for clockwise shaft rotation, as viewed from the encoder mounting face. See *Waveform Diagrams* below.  
 Output Type.....Line Driver- 20 mA max per channel (Meets RS 422 at 5 VDC supply)  
 Index.....Occurs once per revolution. See *Waveform Diagram* below.  
 Freq Response.....100 kHz  
 Noise Immunity.....Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DDENV 50141; DDENV 50204; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN50081-2  
 Symmetry.....180° (±18°) electrical at 100 kHz output  
 Quad Phasing.....90° (±22.5°) electrical at 100 kHz output  
 Min Edge Sep.....67.5° electrical at 100 kHz output  
 Rise Time.....Less than 1 microsecond  
 Accuracy.....Instrument and Quadrature Error: 0.017° mechanical (1.0 arc minutes) from one cycle to any other cycle. (Total Optical Encoder Error = Instrument + Quadrature + Interpolation)

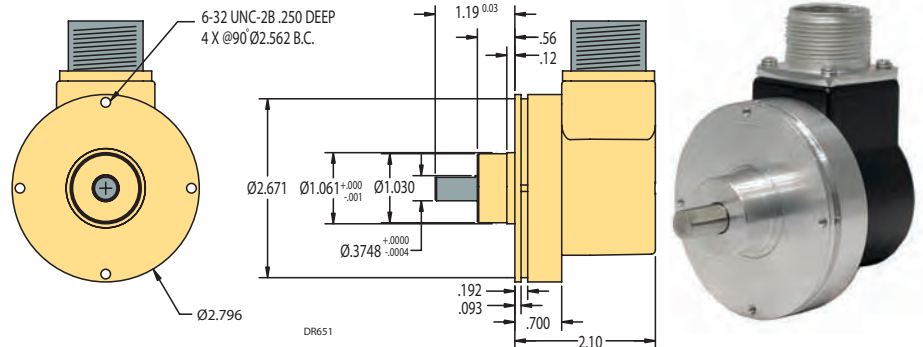
### Mechanical

Max Shaft Speed.....8000 RPM. Higher shaft speeds may be achievable, contact Customer Service.  
 Shaft Size.....0.3748"  
 Shaft Material.....303 Stainless Steel  
 Shaft Rotation.....Bi-directional  
 Radial Shaft Load.....60 lb max. Rated load of 15 to 30 lb for bearing life of  $1.5 \times 10^9$  revolutions  
 Axial Shaft Load.....80 lb max. Rated load of 20 to 40 lb for bearing life of  $1.5 \times 10^9$  revolutions  
 Starting Torque.....3.0 oz-in typical with IP66 shaft seal  
 Moment of Inertia..... $5.2 \times 10^{-4}$  oz-in-sec<sup>2</sup>  
 Max Acceleration..... $1 \times 10^5$  rad/sec<sup>2</sup>  
 Electrical Conn.....Side or end mount 10-pin MS  
 Housing.....All metal construction with black protective coating  
 Bearings.....Precision ABEC ball bearings  
 Mounting.....2.796" Servo Hub  
 Weight.....1 lb typical

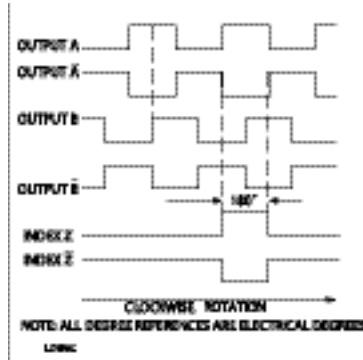
### Environmental

Operating Temp.....0° to 70° C  
 Storage Temp.....-25° to +85° C  
 Humidity.....98% RH non-condensing  
 Vibration.....20 g @ 58 to 500 Hz  
 Shock.....75 g @ 11 ms duration  
 Sealing.....IP66

## DR651 Dimensions



## DR651 Waveform Diagram



## DR651 Wiring Table

Pin	Function
A	A
B	A'
C	B
D	B'
E	Z
F	Z'
I	+VDC
J	COM

This Direct Replacement Encoder provided by;

