

## 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.

**Typical Price- \$600 to \$900**

**DR651 Price: \$395** Additional Discounts Available For Volume Orders.

**DR651**

**MODEL**  
DR651 Size 20 (2.0")  
Encoder with  
2.796" Servo Mount

**A**

**CONNECTOR**  
A Side Mount 10-Pin MS  
Connector  
B End Mount 10-Pin MS  
Connector

**1000**

**CYCLES PER REVOLUTION**  
See Chart Below

#### 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	5000	10,000				

**Call EPC Customer Service  
Today At 1-800-366-5412  
To Order The DR651!**

#### 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

- This encoder is available and ready for **quick delivery!**
- **Huge savings** in price comparison!
- The accuracy, reliability, and quality that only come from an Accu-Coder™
- A **3-year** satisfaction guaranteed warranty!

**ACCU»CODER™**  
by Encoder Products Company



# DR651

## Direct Replacement Encoder For DRC 29L

### 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)

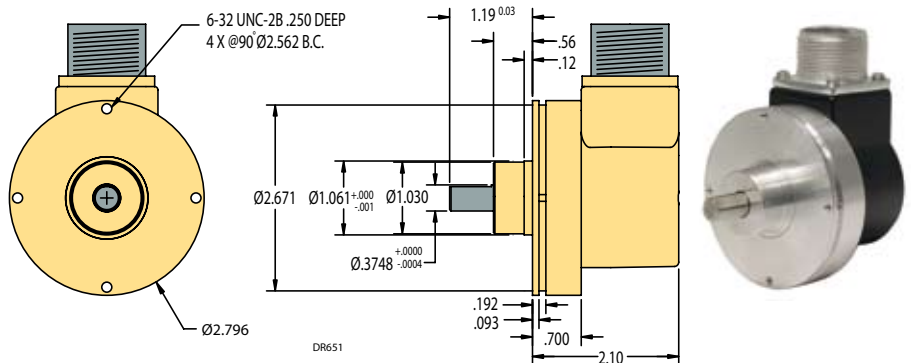
#### Mechanical

- 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

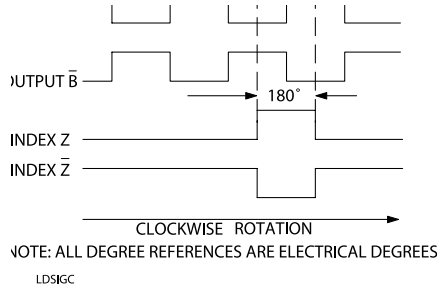
#### Environmental

- 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

**Don't see the exact encoder  
you need replaced?**  
Call **1-800-366-5412** and a friendly  
Customer Service Representative will be  
happy to cross-reference any encoder  
that you need replaced.