DR651 - DIRECT REPLACEMENT ENCODER FOR DRC 29L

The **Accu-Coder® DR651** is EPC's Direct Replacement encoder for the DRC 29L. The 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.

Features:

- Rugged 2.0" industrial encoder with 2.796" Servo Hub
- 0.3748" shaft with flat made from 303 stainless steel
- 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

Contact Customer Service for pricing. Discounts available for volume orders.

DR651	A	1000
MODEL DR651	**CONNECTOR TYPE**	**CYCLES PER REVOLUTION**
Size 20 (2.0") encoder with 2.796" servo mount	**A** Side mount 10-Pin MS connector **B** End mount 10-Pin MS connector	See chart

DR651 CPR Options

0025	0050	0100	0128	0150	0160	0200
0250	0256	0300	0360	0400	0500	0512
0600	0625	0635	0720	0800	1000	1024
1200	1250	1270	1440	1500	1800	2000
2500	5000	10,000				

The Accu-Coder® Advantage

- *US-based since 1969*
- *Industry-best 3-year warranty*
- *Exceptional customer service*
- *Fast lead times – contact us for lead times and expedite options*

ACCU-CODER® by Encoder Products Company

1-800-366-5412 | encoder.com | sales@encoder.com
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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 Diagram 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)

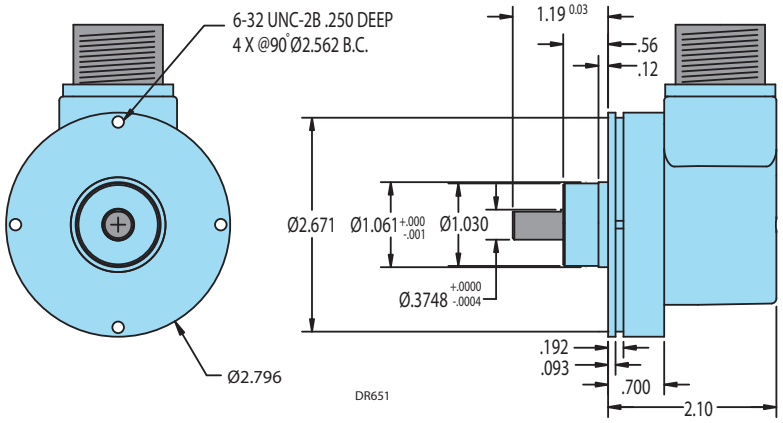
Mechanical

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 x 10^9 revolutions
Axial Shaft Load	80 lb max. Rated load of 20 to 40 lb for bearing life of 1.5 x 10^9 revolutions
Starting Torque	3.0 oz-in typical with IP66 shaft seal
Moment of Inertia	5.2 x 10^{-4} oz-in-sec^2
Max Acceleration	1 x 10^5 rad/sec^2
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

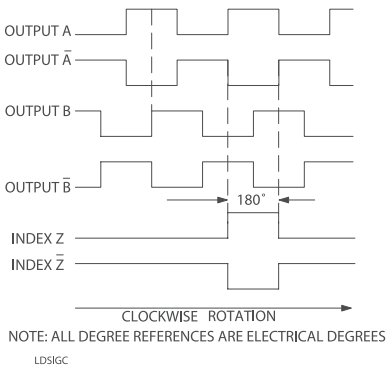
Environmental

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



NOTE: ALL DEGREE REFERENCES ARE ELECTRICAL DEGREES

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?

*Call **(800) 366-5412** and our Technical Sales Department will cross-reference your encoder to the correct EPC model.*

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