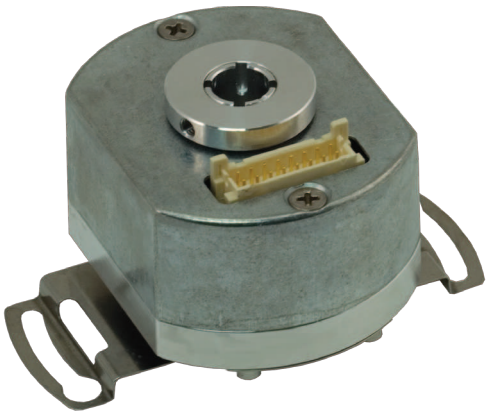
DR21R

Direct Replacement Encoder for Select Renco RCH20D and RHS25D Models*



The Accu-Coder DR21R is a highly customized, Direct Replacement Encoder with a unique, OEM-specific ABS stepped voltage output channel. DR21R configurations replace select Renco RCH20D and RHS25D models* originally installed on legacy F, H, W, N and HSM servo motor models. An exact mechanical and electrical cross-reference for these obsolete Renco configurations, the DR21R also incorporates EPC's advanced Opto-ASIC sensing technology, providing superior thermal stability and signal reliability. The DR21R is available in 4 to 6 working days, with a Next Day Expedite option available, and it is fully backed by EPC's industry best 3-year warranty.

**These models have been discontinued by the manufacturer, and are increasingly difficult to find and costly to replace.*

Features:

- Replaces select RCH20D and RHS25D Renco models
- Line Driver output with ABS stepped voltage output
- Quadrature with index
- 5 VDC Input Voltage
- End mount 16-pin header connection
- Operating temperature up to 100°C

Ordering Information

RENCO MODEL NUMBER	EPC DIRECT REPLACEMENT	CPR	POLE COUNT	BORE SIZE	MOUNT BC	INDEX GATING	MOTOR SERIES
RCH20D-2000/4-1/2-5/0-LD/VC-7-M6-S	DR21R-01	2000	8	0.500"	3.125"	A	F
RHS25D-P3-2000/4-1/2-5-CA6-LD-MS-CM-S	DR21R-01†	2000	8	0.500"	3.125"	A	F
RCH20D-5000/4-1/2-5/0-LD/VC-1-M6-S	DR21R-02	5000	8	0.500"	3.125"	A & B	F
RCH20D-2000/2-8MM-5/0-LD/VC-1-M6-S	DR21R-03	2000	4	8 mm	2.375"	A & B	H, HSM2
RCH20D-2000/3-8MM-5/0-LD/VC-1-M6-S	DR21R-04	2000	6	8 mm	2.375"	A & B	H, HSM3, HSM4
RCH20D-2000/4-1/2-5/0-LD/VC-1-M6-S	DR21R-05	2000	8	0.500"	2.375"	A & B	H, HSM6, HSM8
RCH20D-5000/3-8MM-5/0-LD/VC-1-M6-S	DR21R-06	5000	6	8 mm	2.375"	A & B	H
RCH20D-2000/3-1/2-5/0-LD/VC-7-M6-S	DR21R-07	2000	6	0.500"	2.375"	A	W
RHS25D-P3-2000/3-1/2-5-CA6-LD-MS-CM-S	DR21R-07†	2000	6	0.500"	2.375"	A	W
RCH20D-2000/2-12MM-5/0-LD/VC-1-M4-S *Includes hub shaft cover.*	DR21R-08	2000	4	12 mm	1.812"	A & B	N

†Requires accessory cable 080499-01

Accessory Options

PART NO.	DESCRIPTION
080499-01	6" Mating Cable

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Model DR21R Specifications

Electrical

- Input Voltage..... 5 VDC
- Input Current..... 150 mA max with no output load
- Output Format..... Incremental – Two square waves in quadrature with channel A leading B for clockwise shaft rotation (as viewed from the mounting face), commutation and ABS stepped voltage. See Waveform Diagrams.
- Output Types ..... TTL Line Driver – 20 mA max per channel (Meets RS 422 at 5 VDC supply)
- Index ..... Once per revolution. See Waveform Diagrams.
- Max. Frequency ..... 300 KHz
- Noise Immunity..... Tested to BS EN61000-6-2; BS EN50081-2; BS EN61000-4-2; BS EN61000-4-3; BS EN61000-4-6, BS EN55011
- Symmetry..... 180° (±18°) electrical
- Quad. Phasing ..... 90° (±22.5°) electrical
- Min. Edge Sep..... 67.5° electrical
- Accuracy ..... Within 0.01° mechanical from one cycle to any other cycle, or 0.6 arc minutes.
- Commutation ..... Up to 8 pole
- Comm. Accuracy ..... 1° mechanical

Mechanical

- Max Shaft Speed..... 6000 RPM
- Bore Size..... 0.500" or 8 mm
- Bore Tolerance ..... -0.0000" / +0.0006"
- User Shaft Tolerances
  - Radial Runout ..... 0.007" max
  - Axial Endplay ..... ±0.030" max
- Starting Torque..... 0.50 oz-in
- Moment of Inertia .... 3.9 X 10^{-4} oz-in-sec^2
- Max Acceleration ..... 1 X 10^5 rad/sec^2
- Electrical Conn ..... 16-pin End Mount Header
- Housing ..... All Metal A luminum and Zinc Alloy
- Mounting..... 1.182", 2.375" or 3.125" Flex-Mount
- Weight..... 3.5 oz typical

Environmental

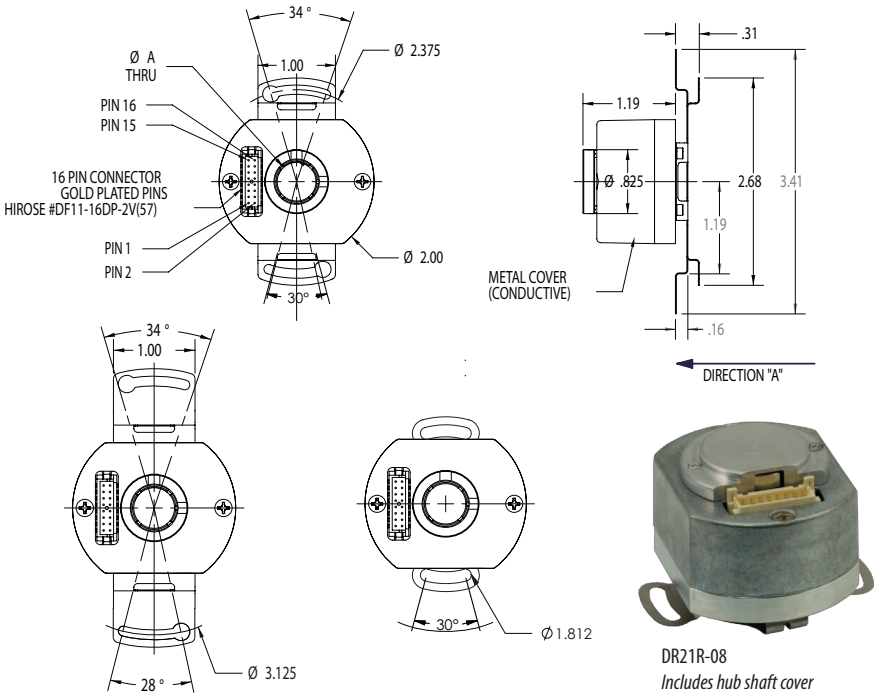
- Operating Temp ..... 0° to 100°C
- Storage Temp..... -30° to 110° C
- Humidity ..... 5% – 90% RH non-condensing
- Vibration..... 10 g @ 58 to 500 Hz
- Shock..... 50 g @ 11 ms duration
- Sealing IP50

DR21R Wiring Table

Pin	Function	Mating Cable Wire Color
1	+5 VDC	White
2	U	Violet
3	COM	Black
4	V	Gray
5	A	Brown
6	W	Red/Black
7	A'	Yellow
8	ABS	Yellow/Black
9	B	Red
10	---	N/C
11	B'	Green
12	---	N/C
13	Z (INDEX)	Orange
14	---	N/C
15	Z' (INDEX)	Blue
16*	CASE GROUND	N/C

** A 0.10 uF capacitor is connected from common (COM) to case ground internal to encoder.*

DR21R Dimensions



DR21R-08

Includes hub shaft cover

DR21R Waveform Diagram

