

DR857

Direct Replacement Encoder for AMS Incremental Optical Encoders



Designed as a drop-in replacement for the AMS Incremental Optical Encoders, the DR857 meets or exceeds all OEM specifications, and is available with EPC's competitive pricing, short lead-time, and 3 year warranty. The DR857 is designed to provide precision feedback control on any AMS Controls machine that includes their optical encoder, from metal roll forming to material tracking equipment. As always, the DR857 comes with the renowned Accu-Coder™ quality, and you can get it FAST - standard lead time is just 6 business days, with expedite options available.

Features:

- Standard 3 inch round encoder body
- 0256, 0500, 1000, 2000, and 4000 CPR available
- 3/8" shaft made of 303 Stainless Steel
- 5V Line Driver output
- End-mount 10-pin MS connector
- Precision ABEC ball bearings
- IP66 sealing
- Get it fast – standard lead time of 6 business days (expedite options available)

DR857 Price: \$545*

*Add \$45 for 4000 CPR

AMS Part #	EPC Order Number	CPR
N256	DR857-0256	0256
N500	DR857-0500	0500
N1000 / S1000	DR857-1000	1000
N2000 / S2000	DR857-2000	2000
N4000	DR857-4000*	4000

Blue indicates price adder.

The Accu-Coder™ Advantage

- ✓ Get this encoder FAST – you'll get your encoders in days, not weeks.
- ✓ The accuracy, reliability, and quality that only come from an Accu-Coder™
- ✓ Industry leading 3-year warranty!

ACCU»»CODER™
by Encoder Products Company

DR857

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Model DR857 Specifications

Electrical

- Input Voltage 4.75 to 28 VDC max for temperatures up to 70° C
4.75 to 24 VDC for temperatures between 70° C and 100° 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.
- Output Type Line Driver – 20 mA max per channel (Meets RS 422 at 5 VDC supply)
- Index Occurs once per revolution. The index for units >3000 CPR is 90° gated to Outputs A and B. See Waveform Diagram.
- Max Frequency 500 kHz
- Electrical Protection Reverse voltage and output short circuit protected. NOTE: Sustained reverse voltage may result in permanent damage.
- Noise Immunity Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DENV 50141; DENV 50204; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN50081-2
- Symmetry 1 to 6000 CPR: 180° (±18°) electrical at 100 kHz output
6001 to 20,480 CPR: 180° (±36°) electrical
- Quad Phasing 1 to 6000 CPR: 90° (±22.5°) electrical at 100 kHz output
6001 to 20,480 CPR: 90° (±36°) electrical
- Min Edge Sep 1 to 6000 CPR: 67.5° electrical at 100 kHz output
6001 to 20,480 CPR: 54° electrical
>20,480 CPR: 50° electrical
- Rise Time Less than 1 microsecond
- Accuracy Instrument and Quadrature Error: For 200 to 1999 CPR, 0.017° mechanical (1.0 arc minutes) from one cycle to any other cycle. For 2000 to 3000 CPR, 0.01° mechanical (0.6 arc minutes) from one cycle to any other cycle. Interpolation error (units > 3000 CPR only) within 0.005° mechanical. (Total Optical Encoder Error = Instrument + Quadrature + Interpolation)

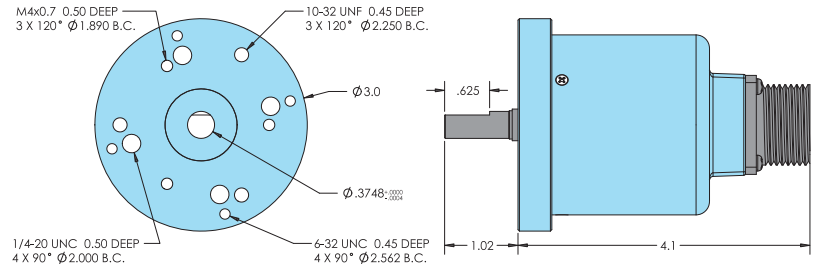
Mechanical

- Max Shaft Speed 8000 RPM. Higher shaft speeds may be achievable, contact Customer Service.
- Shaft Material 303 Stainless Steel
- Shaft Rotation Bi-directional
- Radial Shaft Load 80 lb max. Rated load of 20 to 40 lb for bearing life of 1.5 x 10⁹ revolutions
- Axial Shaft Load 80 lb max. Rated load of 20 to 40 lb for bearing life of 1.5 x 10⁹ revolutions
- Starting Torque 1.0 oz-in typical with IP64 seal or no seal
3.0 oz-in typical with IP66 shaft seal
7.0 oz-in typical with IP67 shaft seal
- Moment of Inertia 5.2 x 10⁻⁴ oz-in-sec²
- Housing Black non-corrosive finish
- Bearings Precision ABEC ball bearings
- Weight 20 oz typical

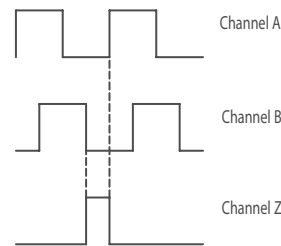
Environmental

- Storage Temp -25° to 85° C
- Operating Temp 0° to 70° C for CPR of 0256 or 4000;
0° to 100° C for CPR 0500, 1000, or 2000
- Humidity 95% RH non-condensing
- Vibration 20 g @ 58 to 500 Hz
- Shock 75 g @ 11 ms duration
- Sealing IP66

DR857 Dimensions



DR857 Waveform Diagram



CLOCKWISE ROTATION AS VIEWED FROM THE MOUNTING FACE

NOTE: ALL DEGREE REFERENCES ARE ELECTRICAL DEGREES. WAVEFORM SHOWN WITH OPTIONAL COMPLEMENTARY SIGNALS A', B', Z' FOR HV OUTPUT ONLY.

DR857 Wiring Table

For EPC-supplied mating cables, refer to wiring table provided with cable. Trim back and insulate unused wires

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