

DR857

Direct Replacement Encoder For
AMS Incremental Optical Encoders



Features:

- Standard 3 inch (76.2mm) round encoder body
- 0256, 0500, 1000, 2000, and 4000 PPR available
- 3/8" (9.525mm) shaft made of 303 Stainless Steel
- 5V Line Driver output
- End-mount 10-pin MS connector
- Precision ABEC ball bearings
- IP66 sealing

The DR857 is designed as a drop-in replacement for the AMS Incremental Optical Encoders, the DR857 meets or exceeds all OEM specifications, and is available with BEPC'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.

ORDER GUIDE :-

AMS Part #	BEPC Order Number	PPR
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.

ACCU-CODER™
by Encoder Products Company

The Accu-Coder™ Advantage

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

Don't see the exact encoder you need?

Call +44(0)1978 262100 and our Technical Sales Department will cross-reference your encoder to the correct BEPC model.

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Model DR857 Specifications

Electrical

Input Voltage..... 4.75 to 28 VCC max for temperatures up to 70° C
4.75 to 24 VCC 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 VCC supply)

Index Occurs once per revolution. The index for units >3000 PPR 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; DDENV 50141; DDENV 50204; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN50081-2

Symmetry 1 to 6000 PPR: 180° (±18°) electrical at 100 kHz output
6001 to 20,480 PPR: 180° (±36°) electrical

Quad Phasing 1 to 6000 PPR: 90° (±22.5°) electrical at 100 kHz output
6001 to 20,480 PPR: 90° (±36°) electrical

Min Edge Sep 1 to 6000 PPR: 67.5° electrical at 100 kHz output
6001 to 20,480 PPR: 54° electrical
>20,480 PPR: 50° electrical

Rise Time Less than 1 microsecond

Accuracy Instrument and Quadrature Error: For 200 to 1999 PPR, 0.017° mechanical (1.0 arc minutes) from one cycle to any other cycle. For 2000 to 3000 PPR, 0.01° mechanical (0.6 arc minutes) from one cycle to any other cycle. Interpolation error (units > 3000 PPR 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 36.28 Kg max. Rated load of 9.07 to 18.14 Kg for life of 1.5 x 10⁹ revolutions

Axial Shaft Load 36.28 Kg max. Rated load of 9.07 to 18.14 Kg for bearing life of 1.5 x 10⁹ revolutions

Starting Torque 7.062 X 10⁻³ N-m typical with IP64 seal or no seal
2.118 X 10⁻² N-m typical with IP66 shaft seal
4.943 X 10⁻² N-m 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 566 grams typical

Environmental

Storage Temp -25° to 85° C

Operating Temp 0° to 70° C for PPR of 0256 or 4000;
0° to 100° C for PPR 0500, 1000, or 2000

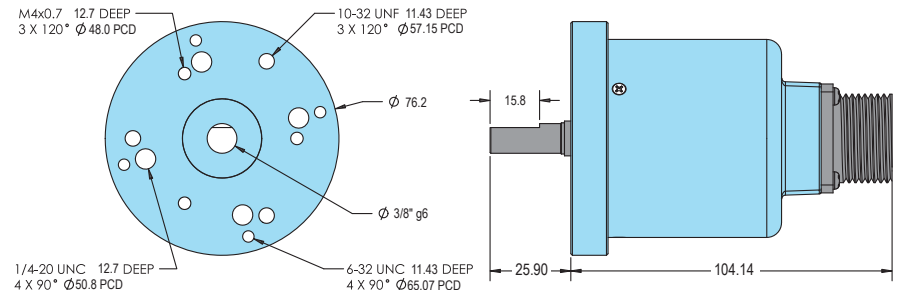
Humidity 95% RH non-condensing

Vibration 20 g @ 58 to 500 Hz

Shock 75 g @ 11 ms duration

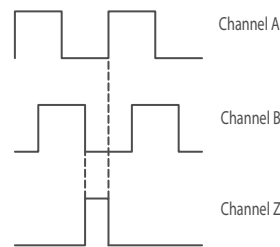
Sealing IP66

DR857 Dimensions



All dimensions are in mm with a tolerance of ±0.127mm or ±0.254 unless otherwise specified

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.

Wiring Table

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