

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; DDENV 50141; DDENV 50204; BS EN55022 (with European compliance option); BS EN61000-6-2; BS EN50081-2
Symmetry	1 to 6000 CPR: 180° ($\pm 18^\circ$) electrical at 100 kHz output
	6001 to 20,480 CPR: 180° ($\pm 36^\circ$) electrical at 100 kHz output
Quad Phasing	1 to 6000 CPR: 90° ($\pm 22.5^\circ$) electrical at 100 kHz output
	6001 to 20,480 CPR: 90° ($\pm 36^\circ$) electrical at 100 kHz output
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)

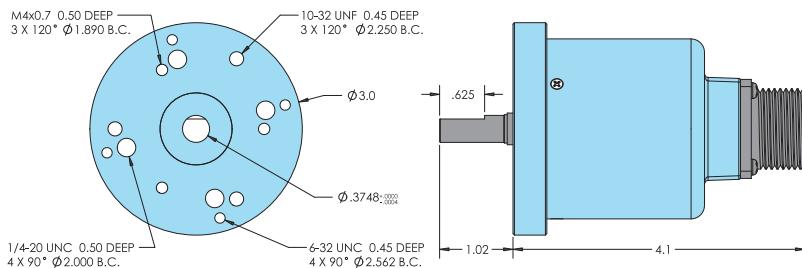
Mechanical

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-sec ²
Housing	Black non-corrosive finish
Bearings	Precision ABEC ball bearings
Weight	20 oz typical

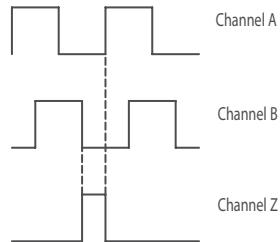
Environmental

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 Ā, B̄, Z̄ 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'