



ITT

Cleveland Motion Controls



ENCODERS

SHAFT-TYPE

DataTorque™ RS23

Performance Benefits

Cleveland Motion Controls is widely recognized for providing high performance shaft and motor-mounted DataTorque™ Encoder solutions. The CE compliant DataTorque RS23 is no exception.

By combining high performance, proven reliability and low cost, the DataTorque RS23 is an ideal instrument quality encoder where high volume and cost are primary concerns.

All DataTorque Encoders can be custom configured to meet specific, high volume OEM requirements. We can accommodate many specialized combinations of electrical and mechanical interfaces. Please consult our experienced team of application engineers for details on custom OEM products.

Design Features

The DataTorque RS23 Encoder is manufactured with precision surface-mount technology. It also includes VMOS and CMOS circuitry, providing the encoder with superior isolation between the output leads and the internal circuitry of the encoder.

The DataTorque RS23 is available with differential line driver output with terminal connections.

The DataTorque RS23 is an optical incremental encoder with resolution of 1-2500 CPR (cycles per revolution). It is accurate to ± 6 arc seconds (pulse to adjacent pulse) and ± 3 arc minutes (pulse to any other pulse).

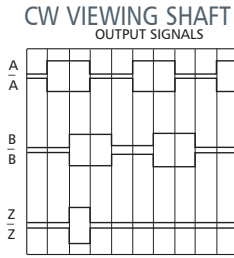


Instrument Quality Optical Incremental Industrial Encoder

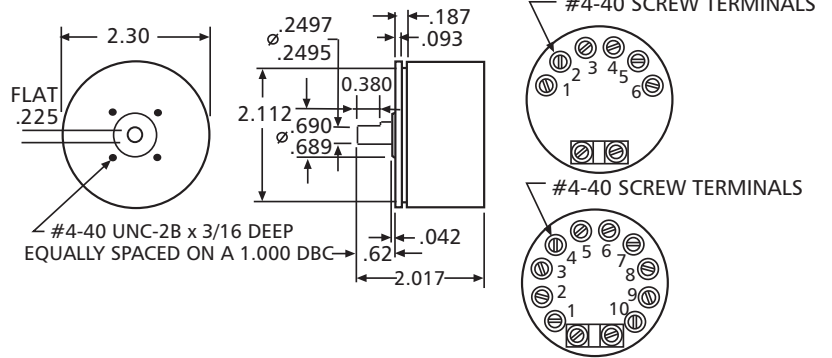
- High performance that costs less
- Precision surface mount technology
- VMOS and CMOS circuitry providing superior isolation between the output leads and internal circuitry
- Available with differential line driver options with terminal connections
- Numerous built-in design features and performance benefits enable the RS23 to meet or exceed any other competitive encoder on the market today.
- CE Compliant



DataTorque™ RS23



PACKAGE DIMENSIONS



ELECTRICAL SPECIFICATIONS

Encoder Type	Optical Incremental Solid State
Resolution	1-2500 CPR (cycles per revolution)
Power Input	+ 5 VDC ±10% 80 ma +12 VDC ±10% 80 ma +15 VDC ±10% 80 ma
Phase Relationship	A leads B by 90 degrees ±18 degrees electrical
Symmetry	180 degrees ±9 degrees
Illumination Source	Single Infrared Emitting Diode (IRLED) Gallium Aluminum Arsenide (GaAlAs)
Frequency Response	200 kHz or 3,000 RPM, whichever occurs first
Drive Capability	CMOS & TTL compatible
Output Mode	TTL-Power MOSFET 5 volt differential line driver-SN75183 12 & 15 volt differential line driver-MM88C30
Output Channels	Dual (A quad B) squarewaves with zero marker pulse (1/4 cycle gated)
Accuracy	Pulse to Adjacent Pulse: ±6 arc seconds Pulse to Any Other Pulse: ±3 arc minutes

TERMINATION

Pin Function: Standard (With connector facing you, clockwise from the left)	Pin Function: Differential Line Driver (With connector facing you, clockwise from the left)
1 +VDC	1 Case Ground 6 \overline{B} out
2 DC Ground	2 +VDC 7 \underline{B} out
3 Case Ground	3 \underline{DC} Ground 8 \underline{Z} out
4 A out	4 A out 9 Z out
5 B out	5 A out 10 N/C
6 Z out/ N/C	

ENVIRONMENTAL SPECIFICATIONS

Operating Ambient	-10 to +70 degrees C
Storage Ambient	-35 to +80 degrees C
Vibration	50 Hz - 10 G - 1 Hr
Shock	30 G 11 ms

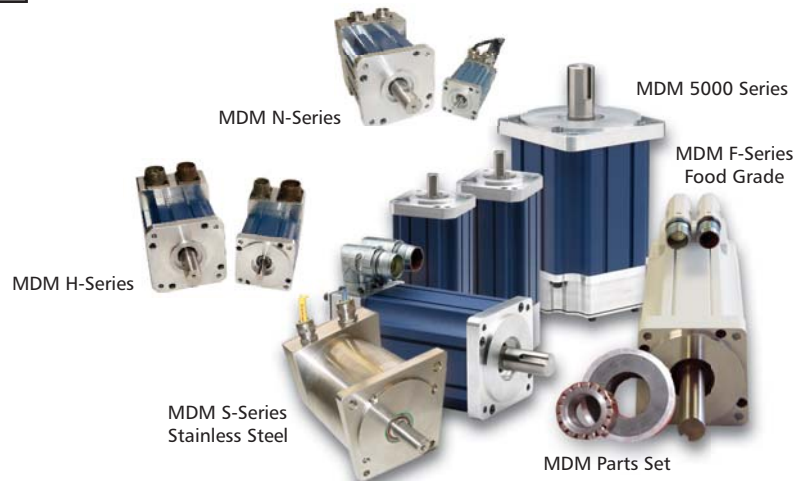
ORDERING INFORMATION

RS23 - 1000 - 4 0 / 5 - 03 - LXX
A B C D E F G

- A. Encoder Series:
- B. Resolution: (Up to 2500 CPR, many standards, please inquire)
- C. Output Configuration: 2 = Single Channel
3 = Single Channel with Index Pulse
4 = Dual Channel
5 = Dual Channel with Index Pulse
- D. Type of Output: 0 = Squarewave Output
2 = Open Collector
- E. Power Input (specify): 5, 12, or 15 VDC
- F. Output Option: Blank = TTL
03 = Differential line driver option
- G. Special Deviation:

MECHANICAL SPECIFICATIONS

Front End	All metal shaft and bearing housing-- Face and servo mount standard
Cover	Anodized Aluminum
Bearings	Shielded, Instrument Quality
Bearing Life	2.8 X 10 ⁹ revolutions
Slew Speed	6,000 RPM maximum
Shaft Loading Max.	Axial 10 lbs., (4.54 Kg), Radial 10 lbs. (4.54 Kg)
Shaft Rotation	Bi-directional and continuous
Moment of Inertia	4.0 x 10 ⁻⁵ oz.-in.-sec ² (3.0 gm-cm ²)
Starting Torque	0.05 oz.-in. (36 gm cm)
Weight	6 ozs



Cleveland Motion Controls

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