

SERIES H56

NorthStar™ brand

Heavy Duty Encoder

Key Features

- Encoder-Within-Encoder Design
- Large Outer Bearings Isolate Shaft Loads
- Foot Mount or 56C Mace Mount Easily Replaces BC42 and 46 Tachs



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental
Resolution: 1 to 5000 PPR (pulses/revolution)
Accuracy: (Worst case any edge to any other edge) ±7.5 arc-min.
Format: Two channel quadrature (AB) with optional Index (Z) and complementary outputs
Phase Sense: A leads B for CW shaft rotation as viewed from the C-face of the encoder
Quadrature Phasing: 90° ± 22.5° electrical
Symmetry: 180° ± 18° electrical
Index: 180° ± 18° electrical (gated with B low)
Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL

Input Power: (each output) 4.5 min. to 26 VDC max. at 100 mA max., not including output loads
Outputs:
 7273 Open Collector: 30 VDC max., 40 mA sink max.
 7272 Push-Pull and Differential Line Driver: 40 mA sink or source
 4469 Differential Line Driver: 100 mA, sink or source
Frequency Response: 100 kHz min.
Electrical Protection: Overvoltage, reverse voltage and output short circuit protected
Noise Immunity: Tested to EN50082-2 (Heavy Industrial) for Electro Static Discharge, Radio Frequency Interference, Electrical Fast Transients, Conducted and Magnetic Interference

Mating Connector:

6 pin, style MS3106A-14S-6S (MCN-N4);
 10 pin, style MS3106A-18-1S (MCN-N6)
 Pluggable Screw-Terminal (110532-0001)

ELECTRICAL CONNECTIONS

* This is a mating connector/cable assembly described in the Encoder Accessories section of this catalog. Color-coding information is provided here for reference.

Function (If	Cable #14002090010* 6 Pin Single Ended		Twisted Pairs Cable #14004190010* 10 Pin Differential		Pluggable Screw Terminal Pin Number
	Pin	Wire Color	Pin	Wire Color	
Sig. A	B	RED	B	RED	3
Sig. \bar{A}	—	—	G	BLK	8
Sig. B	D	BLU	D	BLU	7
Sig. \bar{B}	—	—	H	BLK	2
Sig. Z	A	GRN	A	GRN	4
Sig. \bar{Z}	—	—	I	BLK	9
+V	E	WHT	E	WHT	6
Common	C	BLK	C	BLK	1
Shield	F	SHIELD	F	SHIELD	10

MECHANICAL

Bearing Life: see table, below
Shaft Loading: 100 lbs. radial, 50 lbs. axial
Shaft Speed: 3600 RPM max.
Starting Torque: 16 oz-in max.;
Moment of Inertia: 7.9 x 10⁻⁴ oz-in-sec²
Weight: 144 oz. (9 lbs.)

ENVIRONMENTAL

Operating Temperature: -40 to +80 °C
Storage Temperature: -40 to +80 °C
Shock: 50 G's for 11 milliseconds duration
Vibration: 5 to 2000 Hz at 2.5 G's
Humidity: to 98% without condensation
Enclosure Rating: NEMA4/IP66 (dust proof, washdown)

Bearing Life versus Load

Radial	Axial	Revolutions
75	15	1.3 x 10 ¹⁰
75	25	6.4 x 10 ⁹
100	25	4.1 x 10 ⁹
100	50	1.3 x 10 ⁹



Worldwide Brands: NorthStar™ • Acuro™ • Dynapar™ • Hengstler™ • Harowe™

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Ordering Information

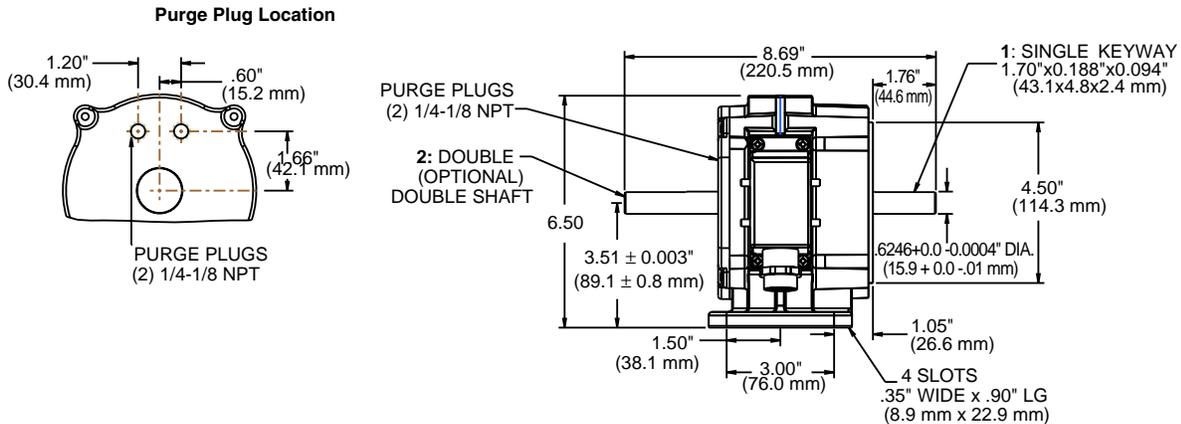
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: PPR	Code 3: Shaft	Code 4: Format	Code 5: Electrical	Code 6: Termination	Code 7: Options
H56	□□□□	□	□	□	□	□□

Ordering Information						
H56 Mill Duty, 56C-Face or Foot Mount Rotopulser®	0001 0500 0003 0512 0010 0600 0012 0900 0015 1000 0032 1024 0050 1200 0060 1500 0100 2000 0120 2048 0200 2400 0240 2500 0250 3072 0300 4000 0360 4096 5000	1 Single 2 Double	Compliments available when Code 5 is 3 or 4 2 Single, bidirectional quadrature (AB) 3 Single, bidirectional quadrature with index (ABZ) 4 Dual, isolated bidirectional quadrature (dual AB) 6 Dual, isolated bidirectional quadrature with index (dual ABZ)	0 5-26V in, 5-26V open collector out 1 5-26V in, 5-26V open collector out w/ 2.2kΩ pullups 2 5-26V in, 5-26V single ended push-pull out 3 5-26V in, 5V differential line driver out (7272) 4 5-26V in, 5-26V differential line driver out (7272) 5 5-26V in, 5V Differential Line Driver out (4469) 6 5-15V in, 5-15V Differential Line Driver out (4469)	0 MS Connector(s) 1 MS Connector(s), plus mating connector(s) 2 Pluggable screw terminal connector(s) 3 Pluggable screw terminal(s), plus mating connector(s)	available when Code 6 is 0 or 1: PS LED Output Indicator

DIMENSIONS inches [mm]

Code 3: Shaft



Code 6: Termination

0,1: MS Connectors
Shown with LED Output Indicator Option
Code 9: PS

2,3: Pluggable Screw Terminals

Code 4: Format

