SERIES SL85

NorthStar™ brand

Bearingless Encoder

Key Features

- Bearingless Design Mounts to 180 C-Face Motors
- Magneto-Resistive Technology Resists Dust, Dirt, Oil, Water, and Other Contaminants
- Dual-C-Face Versions Available for "Sandwich" Mounting
- Single or Dual Isolated Outputs Available







SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental

Pulses per Revolution: 64-1024

Phasing Sense: A leads B for Counter-Clockwise rotation (CCW) viewing encoder-mounted end

Quadrature Phasing: $90^{\circ} \pm 22^{\circ}$

Symmetry: $180^{\circ} \pm 54^{\circ}$

Index: 270°, ungated (optional gated to

falling B edge)

Number of Output Modules: Single or Dual

Redundant

ELECTRICAL

Input Power Requirements: 5-15 Volts DC, 45 mA typical per sensor module plus line driver load

Output Signals: Line Driver, 150mA source/sink Frequency Response: 0 - 120kHz Data & Index Electrical Immunity: 2kV ESD, Reverse Polarity, Short Circuit

Connector: 10 pin industrial duty latching, sealed NEMA 4 &12, IP65

MECHANICAL

Max: Shaft Speed: 5,000 RPM

Mounting Configuration: 8.5" 180C face mount

for NEMA MG1 standards

Housing Material: Cast Aluminum Acceleration Rate: 3600 rpm/sec max Shaft Length Required: 1.0" min Allowable Shaft End-Play: ± 0.050"

Allowable Shaft Runout: 0.003" TIR

ENVIRONMENTAL

Operating Temperature Range:

Standard: -40°C to +90°C Extended: -40°C to +100°C

Storage Temperature Range: -40°C to +120°C Humidity: to 98% RH (non-condensing)

Humidity: to 98% RH (non-condensing) **Shock (Sensor Module):** 1 meter drop test,

30 G's Min

Vibration: 18 G's @ 5-2000 Hz spectrum

ELECTRICAL CONNECTIONS

Signal	Connector Pin	Pigtail Cable	MS 3102E18-IT#	
Common	1	Black	F	
В	2	Green	В	
Α	3	Blue	A	
Z *	4	Violet	С	
No Connection	5	-	E	
Vcc (5-15 VDC)	6	Red	D	
B	7	Yellow		
Ā	8	Gray	H	
Z *	9	Orange	J	
Shield	10	Braid	G	

^{*} Index (Z) optional. See Ordering Information

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Ordering Information

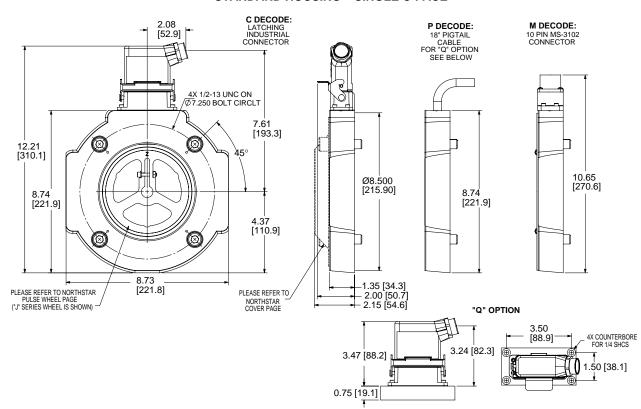
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: PPR	Code 3: Index	Code 4: Wheel Bore	Code 5: Termination	Code 6: Electrical	Code 7: Cover/Adapter	
□ 8							
Ordering Information							
S8 Motor Mount Ring, for 8 1/2" C-Face Motors (180C) Single Output D8 Motor Mount Ring, for 8 1/2" C-Face Motors (180C) Dual Output	0064 0128 0256 0512 1024	L No Index Available when Code 2 is 0512 or 1024 G Gated Index (Z, \(\overline{Z} \)) Z Differential Index (Z, \(\overline{Z} \))	J04 5/8" bore J05 7/8" bore J06 1.00" bore J07 1-1/8" bore K09 1-3/8" bore K10 1-1/2" bore K11 1-5/8" bore K12 1-3/4" bore K13 1-7/8" bore K14 2.00" bore K15 2-1/8" bore K16 2-1/4" bore K17 2-3/8" bore K18 2-1/2" bore K18 2-1/2" bore K19 2-7/8" bore Additional Shaft Sizes Available Up to 3.75" Maximum End of Shaft Mounting for GE & Emerson Motors N01 1.125" EOS N06 2.125" EOS N08 2.375" EOS N10 2.875" EOS	C Latching Industrial Connector with 1/2" NPT M 10 pin MS Connector Double C-face Sandwich Version D 1" Extended height connector E 3" extended height connector P 18" pigtail cable Q Latching Industrial Connector on 18" pigtail cable	L 5-15V in, 5-15V Line Driver (4428) out H Same as L with extended temp. to 100°C V 5-26V in, 5-26V Line Driver (IC-WE) out 5 5-15V in, 5V Line Driver (4428) out Differential, bidirectional signals (A, Ā, B, B)	C Standard Flat Cover E Extra heavy duty steel pie pan cover F Flat Thru-hole cover Grounding brush kits available for End of Shaft Mounting, Consult Factory for ordering	

Note: See ACCESSORIES Section For Connectors, Spare Parts and Pulse Wheels

DIMENSIONS [mm]

STANDARD HOUSING - SINGLE C-FACE



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DIMENSIONS [mm]

DOUBLE C-FACE HOUSING

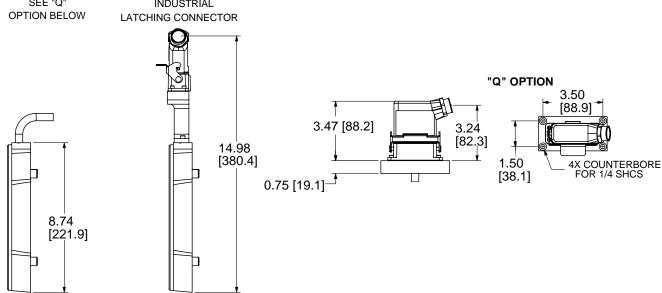
D-DECODE: DOUBLE C-FACE **INDUSTRIAL** 1" EXTENDED HEIGHT LATCHING CONNECTOR 2.08 [52.9] -8.82 [224.0] 8.58 [218.1] 5.35 12.95 [135.8] 4.37 [328.9] [111.0] 8.500 [215.90] 4.37 [111.0] 1/2-13 UNC ON 45° 0.19 [4.8] 1.10 [27.9] Ø7.25 BOLT CIRCLE PLEASE REFER TO NORTHSTAR COVER PAGE PLEASE REFER TO 1.90 [48.3] NORTHSTAR PULSE WHEEL PAGE ("J" SERIES WHEEL IS SHOWN)

P-DECODE:

DOUBLE C-FACE 18" PIGTAIL SEE "Q"

E-DECODE:

DOUBLE C-FACE 3" EXTENDED HEIGHT INDUSTRIAL



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inch **DUAL OUTPUT HOUSING** DIMENSIONS [mm] 4.37 4.37 [111.0] [111.0] PLEASE REFER TO NORTHSTAR PULSE WHEEL PAGE ("J" SERIES WHEEL IS SHOWN) 4.37 [111.0]2.08 [52.9] 2.08 [52.9] 4.36 45° [110.9] E DECODE: DOUBLE C-FACE 1/3-13 UNC ON Ø7.25BOLT CIRCLE 3" EXTENDED HEIGHT PLEASE REFER TO NORTHSTAR COVER PAGE — **INDUSTRIAL** LATCHING CONNECTOR 10.61 10.61 0.19 [269.5] [269.5][4.8]2.10 [53.3] 1.10 [27.9] 8.58 8.58 D DECODE: DOUBLE C-FACE 1" EXTENDED HEIGHT [218.1] [218.1] LATCHING CONNECTOR 4.37 4.37 P DECODE: [111.0] [111.0] DOUBLE C-FACE 18" PIGTAIL SEE "Q" OPTION AT RIGHT "Q" OPTION 3.50 **4X COUNTERBORE** [88.9] FOR 1/4 SHCS 1.50 [38.1] 3.47 [88.2]



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0.75 [19.1]

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