

# SERIES HT55

**NorthStar™ brand**

## Hollow Shaft Encoder

### Key Features

- Redesigned Circuitry for On-Board Diagnostics with LED
- Hollowshaft Design with Heavy-Duty Bearings Ideal for TEFC AC Motor Mounting
- Expanded Resolution up to 4096 PPR
- Accommodates Shaft Sizes from 1/2" to 2-7/8"
- Stainless Steel and Anodized Aluminum Construction
- Single or Dual Isolated Outputs Available with Field-Serviceable Connector

**HD**  
Heavy Duty



## SPECIFICATIONS

### STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental, Magnetic

**Pulses per Revolution:** 256-4096 PPR

**Phasing Sense:** A leads B for CW shaft rotation viewing the shaft clamp end of the encoder

**Quadrature Phasing:** 90° ± 45°

**Symmetry:** 180° ± 54°

**Index:** Less than A/B pulse width

**Number of Output Modules:** Single or Dual

### ELECTRICAL

**Input Voltage Requirement:** 5-26 Volts DC

**Current Requirement:** 120 mA typical per sensor module plus line driver load

### Output Signals:

IC-WE Differential Line Driver: 150 mA, sink or source

**Frequency Response:** 0 - 180kHz Data & Index

**Noise Immunity:** Tested to EN61326-1

**Electrical Immunity:** Reverse polarity and short circuit protected

**Connector:** 10 pin industrial duty latching, sealed NEMA 4 & 12, IP65; MS connector or pig-tail

### MECHANICAL

**Bore Size:** 1/2" to 2-7/8"

**Mounting Configuration:** Hollow Shaft mount with Anti-Rotation Tether

### Max. Shaft Speed:

Shaft Size ≤ 1.250 = 5000 RPM,

Shaft Size > 1.250 = 3600 RPM

### Torque:

Shaft Size ≤ 1.250: Typical 6 oz-in

Shaft Size > 1.250: Typical 15 oz-in

**Shaft Length Required:** 2.00" Minimum

**Acceleration Rate:** 3,600 rpm/sec max

**Housing Material:** Hard Anodized Aluminum, W/Stainless Steel Shaft.

**Weight:** 5 lbs.

### ENVIRONMENTAL

**Operating Temperature Range:** -40°C to +85°C

**Storage Temperature Range:** -40°C to +120°C

**Shock:** 100 G's Min.

**Vibration:** 20 G's @ 5-2000 Hz spectrum

**Humidity:** Up to 98% (non-condensing)

### ELECTRICAL CONNECTIONS

Signal	Connector Pin	Pigtail Cable	MS 3102E18-IT#
Common	1	Black	F
B	2	Green	B
A	3	Blue	A
Z *	4	Violet	C
No Connection	5	—	E
Vcc (5-26 VDC)	6	Red	D
B	7	Yellow	I
A	8	Gray	H
Z *	9	Orange	J
Shield	10	Braid	G

\* Index (Z) optional. See Ordering Information

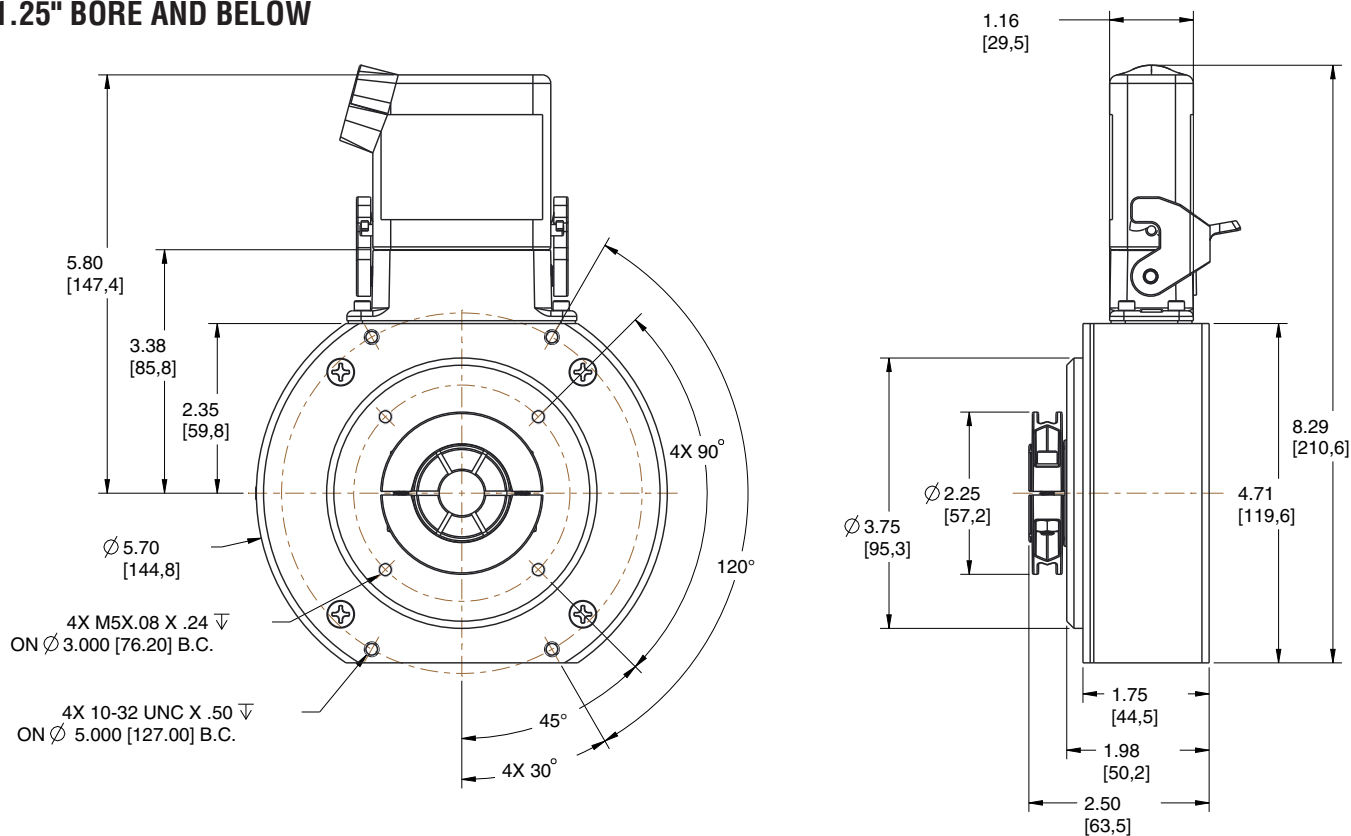
## Ordering Information

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: Output	Code 8: Fixing		
□ □ □	□ □ □ □	□	□ □ □		□	□	□			
HT5 Hollow Shaft Mount	0256 0512 1024 2048 4096	L No Index Z With Differential Index	J03	1/2"	M12	12mm	C Latching Industrial Connector with 1/2" NPT  M 10 Pin MS Connector  P 18" Pigtail Cable  Q Latching Industrial Connector on 18" Pigtail Cable	V 5-26V in, 5-26V Line Driver (IC-WE) out  5 5-26V in, 5V out Line Driver (IC-WE)	1 Single 2 Dual (Isolated)  Differential , bidirectional signals (A, $\bar{A}$ , B, $\bar{B}$ )	Stamped Metal Available when shaft is 1.25" or smaller  1 4.5" C-Face Tether 2 8.5" C-Face Tether 3 Slotted Tether  Swivel Rod A Rod Tether
			J04	5/8"	M14	14mm				
			J24	3/4"	M15	15mm				
			J05	7/8"	M16	16mm				
			J06	1.000"	M18	18mm				
			J07	1.125"	M20	20mm				
			J08	1.250"	M25	25mm				
			J09	1.375"	M45	45mm				
			J10	1.500'	M50	50mm				
			J11	1.625"	M55	55mm				
			J12	1.750"						
			J13	1.875"						
			J14	2.000"						
			J15	2.125"						
			J16	2.250"						
			J17	2.375"						
			J18	2.500"						
			J20	2.625"						
			J19	2.875"						
			For additional bore sizes available, please consult factory.							

## DIMENSIONS inches

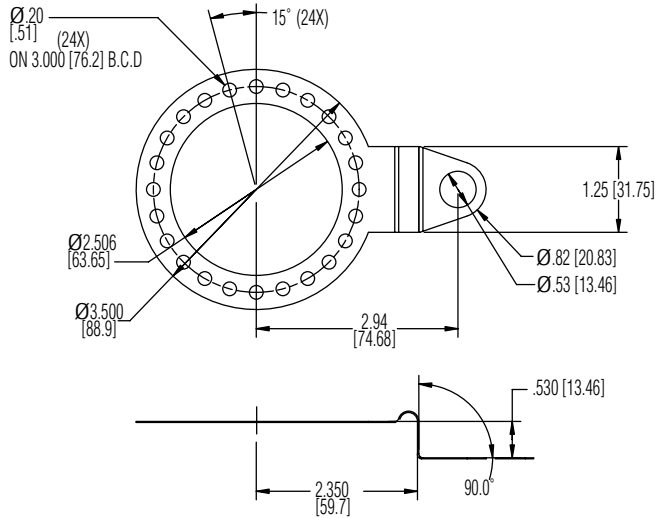
## 1.25" BORE AND BELOW



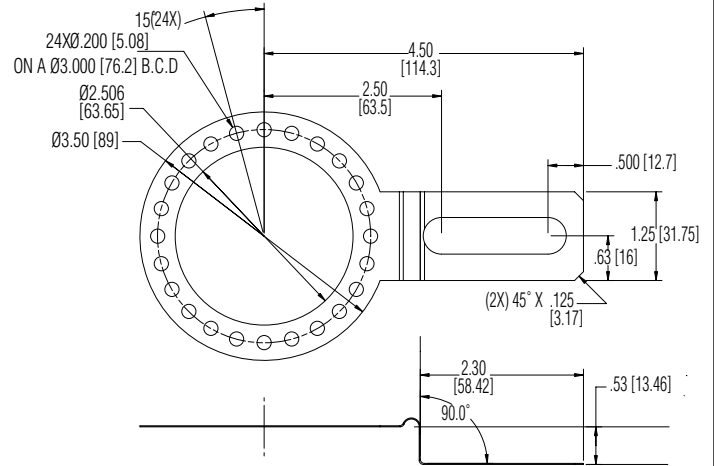
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## DIMENSIONS inches

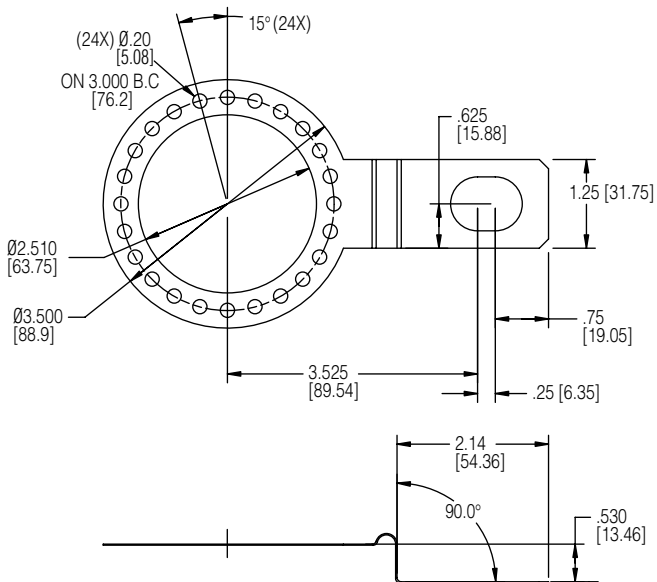
### 4.5" C-Face Tether



### Slotted Tether



### 8.5" C-Face Tether



Tether Kit Number	Description
117788-0001	KIT, TETHER, HT55, SLOTTED
117789-0001	KIT, TETHER, HT55, NEMA 4.5
117790-0001	KIT, TETHER, HT55, NEMA 8.5
117791-0001	KIT, TETHER, HT55, ROD END

DIMENSIONS inches

BORES ABOVE 1.25"

