

SERIES RIM 1250

NorthStar™ brand

Bearingless Encoder

Key Features

- **Bearingless Design Mounts to 250-C Face Motors (12.5" Diameter Mounting Flange)**
- **Sensor Modules are Removable On-The-Fly and Require No Gapping**
- **Stainless Steel and Ductile Cast Iron Construction for Harsh Mill Environments**
- **Magneto-Resistive Technology Resists Dust, Dirt, Oil, Water and Other Common Contaminants**



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental
Pulses per Revolution: 60-2048
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)

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

Shaft Speed: 7,000 RPM (J or K wheels); 3600 RPM (TL wheels)
Mounting Configuration: 12.5" face mount for NEMA MG1 standards
Housing Material: Cast Iron/Stainless Steel
Acceleration Rate: 3600 rpm/sec max
Shaft Length Required: 3.0" min
Allowable Shaft End-Play: $\pm 0.050"$
Allowable Shaft Runout: 0.003" TIR

ENVIRONMENTAL

Operating Temperature Range: -40°C to $+80^\circ\text{C}$
Storage Temperature Range: -40°C to $+120^\circ\text{C}$
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	A
B	2	Green	E
A	3	Blue	D
Z *	4	Violet	C
No Connection	5	—	—
Vcc	6	Red	B
\bar{B}	7	Yellow	H
\bar{A}	8	Gray	G
\bar{Z} *	9	Orange	I
Shield	10	Braid	J

* Index (Z) optional. See Ordering Information

Ordering Information

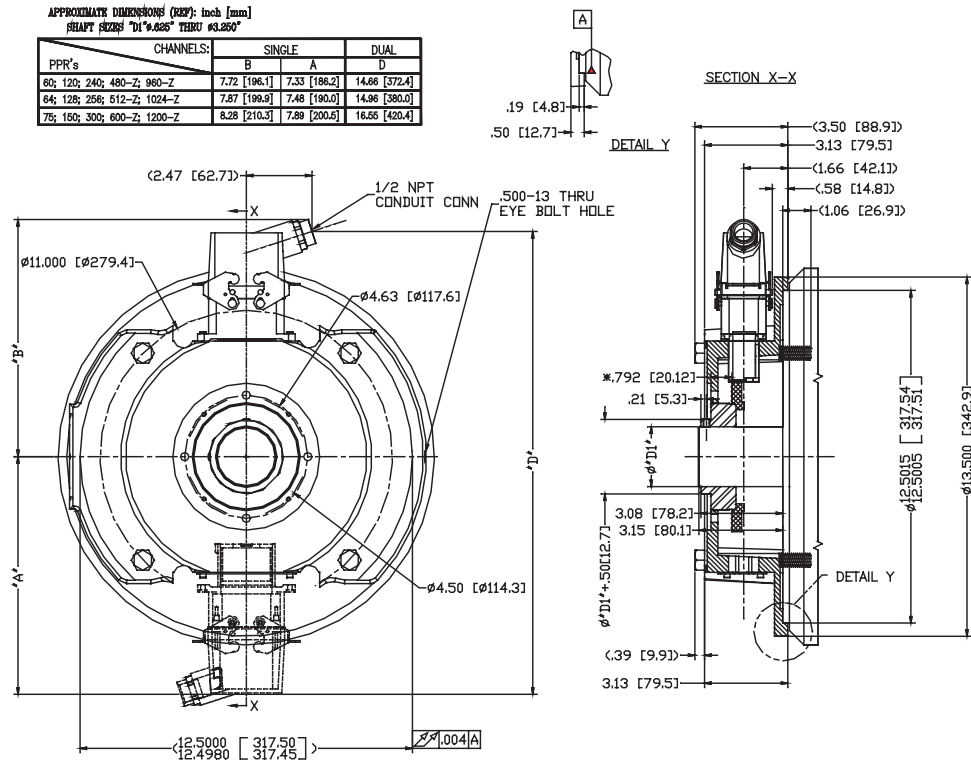
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: PPR	Code 3: Index	Code 4: Wheel Bore	Code 5: Output	Code 6: Electrical	Code 7: Termination	
R1	□□□□	□	□□□	□	□	□	
Ordering Information							
R1 Motor Mount Ring, for 12-1/2" C-Face Motors	0060	0300	L No Index	J04 5/8" bore	1 Single 2 Dual (Isolated)	L 5-15V in, 5-15V Line Driver (4428) out	C Latching Industrial Connector with 1/2" NPT
	0064	0480	Available when Code 2 is 0480,	J05 7/8" bore			
	0075	0512	0512, 0600,	J06 1.00" bore	Differential, bidirectional signals (A, \bar{A} , B, \bar{B})	R 15-26V in, 15V Line Driver (4428) out	M 10 pin MS Connector
	0120	0600	0960, 1024,	J07 1-1/8" bore			
	0128	0960	1200 or 2048	K09 1-3/8" bore			
	0150	1024	G Gated Index (Z, \bar{Z})	K10 1-1/2" bore			
	0240	1200	Z Differential Index (Z, \bar{Z})	K11 1-5/8" bore			
	0256	2048		K12 1-3/4" bore			
				K13 1-7/8" bore			
				K14 2" bore			
				K15 2-1/8" bore			
				K16 2-1/4" bore			
				K17 2-3/8" bore			
				K18 2-1/2" bore			
				K19 2-7/8" bore			
				Additional Shaft Sizes Available Up to 8.00" Maximum		5 5-15V in, 5V Line Driver (4428) out	P 18" Pigtail

DIMENSIONS inch [mm]

APPROXIMATE DIMENSIONS (REF): inch [mm]
SHAFT SIZES "D1" & "D2" THRU #3.650"

PPR's	CHANNELS:		
	B	A	D
60; 120; 240; 480-Z; 960-Z	7.72 [196.1]	7.33 [186.2]	14.66 [372.4]
64; 128; 256; 512-Z; 1024-Z	7.87 [199.9]	7.48 [190.0]	14.86 [380.0]
75; 150; 300; 600-Z; 1200-Z	8.28 [210.3]	7.88 [200.5]	16.65 [420.4]



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