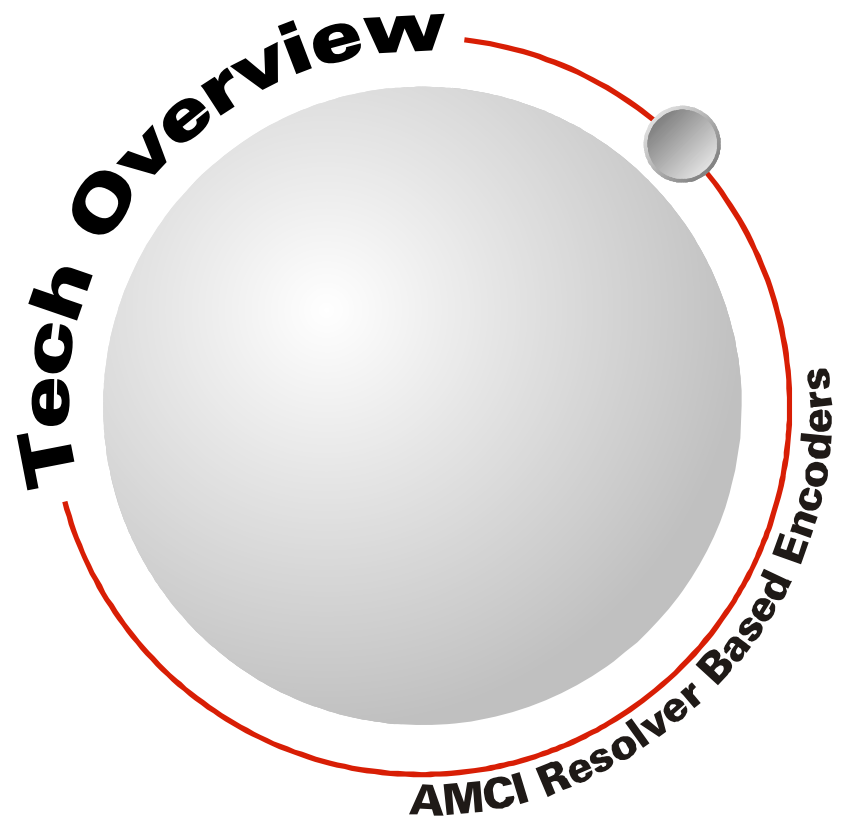


NR25 Networked Encoder EtherNet/IP Interface



GENERAL INFORMATION

Important User Information

The products and application data described in this manual are useful in a wide variety of different applications. Therefore, the user and others responsible for applying these products described herein are responsible for determining the acceptability for each application. While efforts have been made to provide accurate information within this manual, AMCI assumes no responsibility for the application or the completeness of the information contained herein.

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All equipment being returned to AMCI for repair or replacement, regardless of warranty status, must have a Return Merchandise Authorization number issued by AMCI. Call (860) 585-1254 with the model number and serial number (if applicable) along with a description of the problem during regular business hours, Monday through Friday, 8AM - 5PM Eastern. An "RMA" number will be issued. Equipment must be shipped to AMCI with transportation charges prepaid. Title and risk of loss or damage remains with the customer until shipment is received by AMCI.

24 Hour Technical Support Number

24 Hour technical support is available on this product. If you have internet access, start at www.amci.com. Product documentation and FAQ's are available on the site that answer most common questions.

If you require additional technical support, call (860) 583-7271. Your call will be answered by the factory during regular business hours, Monday through Friday, 8AM - 5PM Eastern. During non-business hours an automated system will ask you to enter the telephone number you can be reached at. Please remember to include your area code. The system will page an engineer on call. Please have your product model number and a description of the problem ready before you call.

We Want Your Feedback

Manuals at AMCI are constantly evolving entities. Your questions and comments on this manual are both welcomed and necessary if this manual is to be improved. Please direct all comments to: Technical Documentation, AMCI, 20 Gear Drive, Terryville CT 06786, or fax us at (860) 584-1973. You can also e-mail your questions and comments to techsupport@amci.com

The NR25 Networked Encoder

Overview

The NR25 is a new line of heavy-duty resolver based encoder product from AMCI. The initial offerings in this line communicate over Ethernet with an ODVA compliant EtherNet/IP protocol stack. These Networked Encoders are compatible with all Allen-Bradley and Schneider PLCs/PACs that support EtherNet/IP. Power over Ethernet (PoE) is a standard feature on all NR25 Ethernet products, allowing you to reduce cabling requirements if you use a network switch that supports PoE. Side connect units only have the PoE connector. End connect units also have a second connector for power that allows you to use these encoders as drop in replacements for other units.

The NR25 series are absolute single turn or multi-turn sensors in an IP67 rated 2.5" diameter package. Solid shaft and hub shaft mounting styles are available to suit a variety of mounting requirements.

All NR25 Networked Encoders offer a programmable single turn position resolution of 16 bits (65,536 counts per turn). Two multi-turn packages are available. One encodes 4,096 turns (12 bit) and the other encodes 16,384 turns (14 bit).

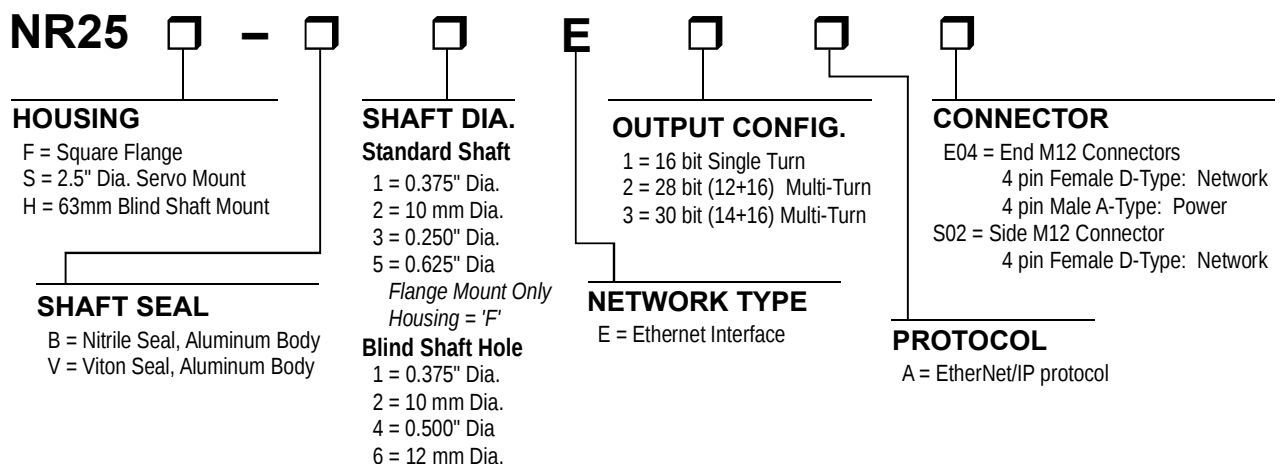
All EtherNet/IP NR25 resolver based encoders are programmable over the Ethernet interface using Rockwell Automation's RSLogix or Schneider's Unity Pro software. This eliminates the cost of an additional programming device and the hassle of having to learn a new piece of software. The programmable parameters are:

- Counts per Turn (2 to 65,536 counts per turn)
- Count Direction (CW/CCW increasing)
- Velocity Data Format, (counts/second, counts/millisecond, counts/minute, RPM)
- Position Preset.

The Position Preset allows you to set the position to any value within its programmed range without rotating the shaft.



Part Number Description



SPECIFICATIONS

Electrical Specifications

Operating Voltage (External Supply)

12Vdc to 54Vdc

Power Requirements

2.5W max.

1000mA @ 24Vdc

Power over Ethernet (PoE)

With only data pairs available, the power sourcing equipment (PSE) must be able to output power on these two pairs (Mode A)

Single Turn Resolution

Programmable from 2 to 65,536 counts per turn (16 bit resolution max.)

Multi-turn Resolution

4,096 turns (12 bit) or 16,384 (14 bit)

Direction of Increasing Counts

Default of CW increasing when looking at the shaft.

Programmable to CCW increasing over the EtherNet/IP interface.

Preset Position

Position can be preset to any value within its range over the EtherNet/IP interface. Offset can be stored in EEPROM and retrieved on power up.

Mechanical Specifications

Package Style

2.5 inch housing with flange, servo, or hub shaft mounting

Connector Location

Side or End

Housing

Powder coated aluminum

Shaft

0.250", 0.375", 0.625", or 10 mm

Blind shaft with 0.375", 0.500", 10mm or 12mm hole

Mechanical Specifications (cont'd)

Max. Starting Torque @ 25°C

2.0 oz-in: 0.250", 0.375", and 10 mm shafts

6.0 oz-in: All blind shafts

6.0 oz-in: 0.625" shaft

Moment of Inertia (oz-in-sec²)

6.00×10^{-4} : 0.250", 0.375", and 10 mm shafts

7.00×10^{-4} : All blind shafts

8.50×10^{-4} : 0.625" shaft

Max. Operating Speed

6000 RPM max.

Max. Shaft Loading (0.625" shaft)

Axial: 50lbs. (222N)

Radial: 100lbs. (445N)

At specified max. loads, minimum bearing life is 2×10^9 revolutions.

Max. Shaft Loading (All other shafts)

Axial: 20lbs. (89N)

Radial: 40lbs. (178N)

At specified max. loads, minimum bearing life is 2×10^9 revolutions.

Environmental Specifications

Operating Temperature

-40°F to +167°F (-40°C to +75°C)

Shock

50g, 11 millisecond duration

Vibration

20g, 5 to 2000Hz

Enclosure Rating

IP67

Approximate Weight

2.0lbs. (0.91kg) 0.625" shaft

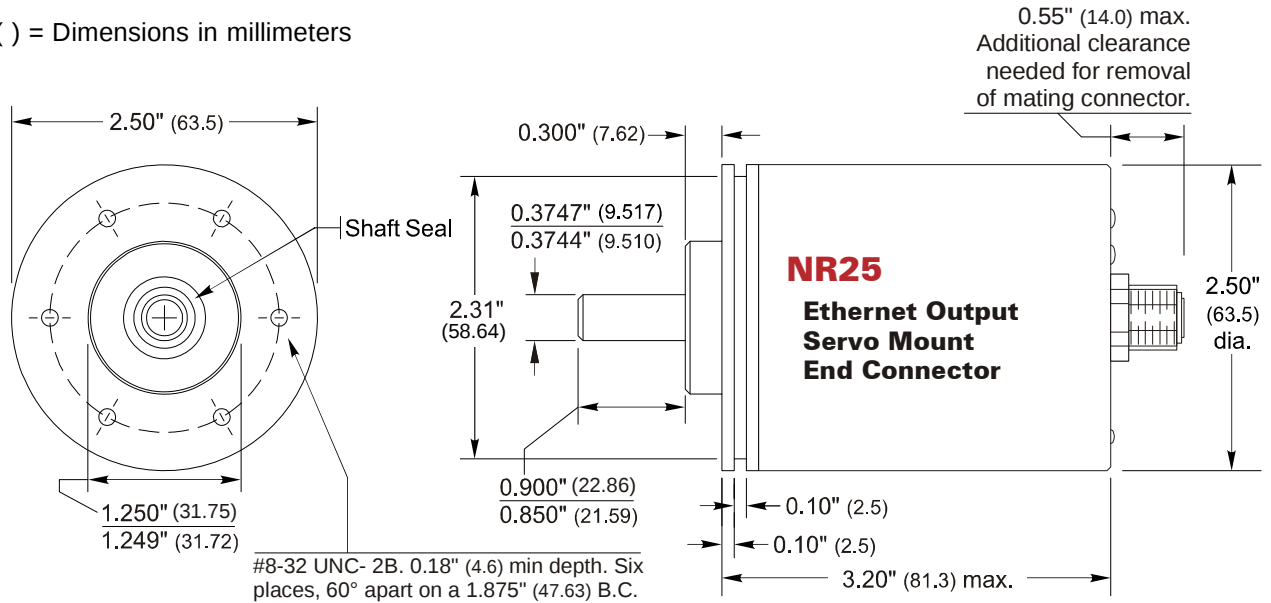
1.4lbs. (0.65kg) All other shafts

OUTLINE DRAWINGS

Servo Mount Outline Drawing

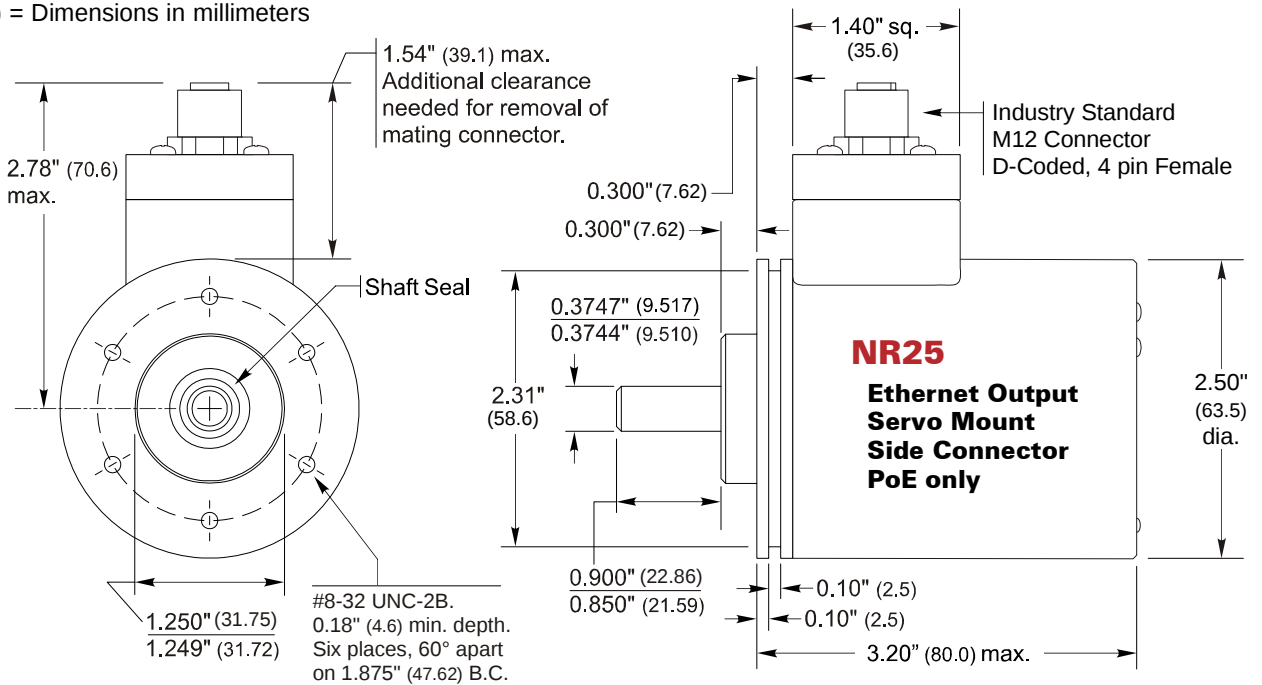
Aluminum Body, End Connect

() = Dimensions in millimeters



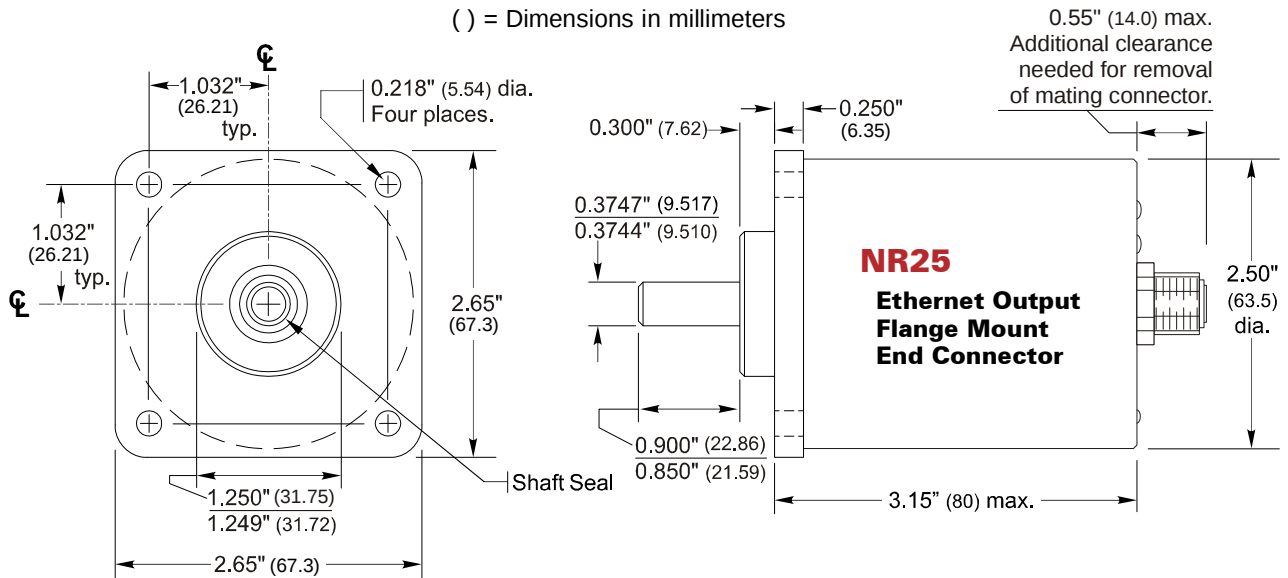
Aluminum Body, Side Connect

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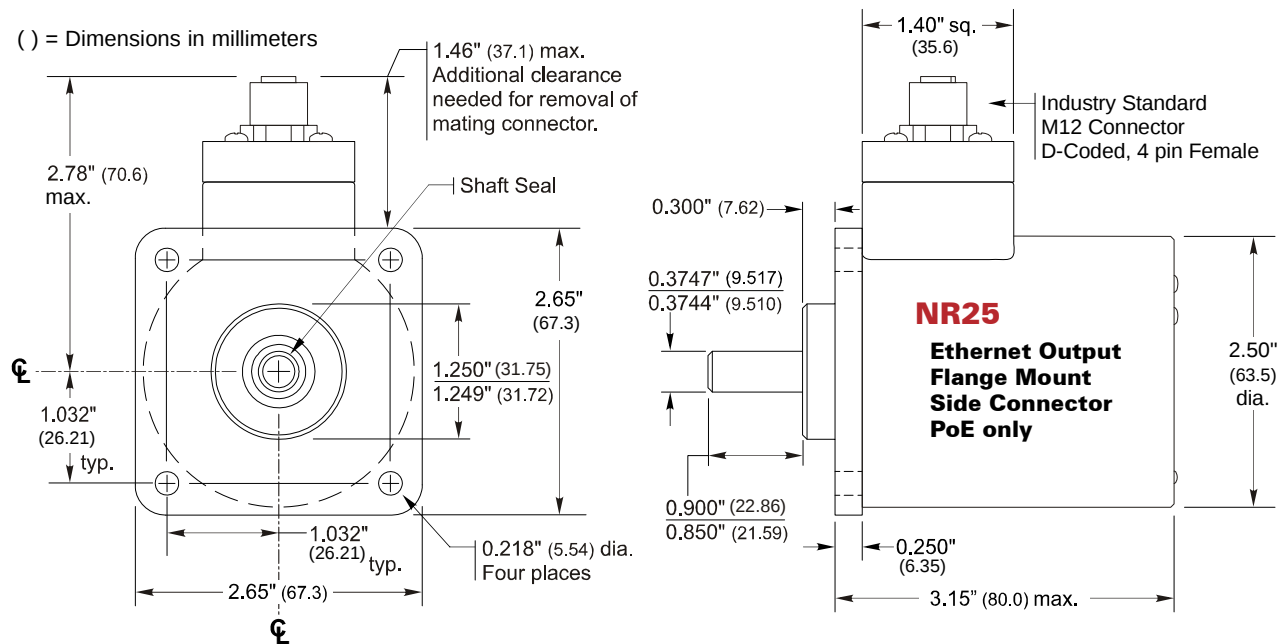


Flange Mount Outline Drawings

Aluminum Body, End Connect



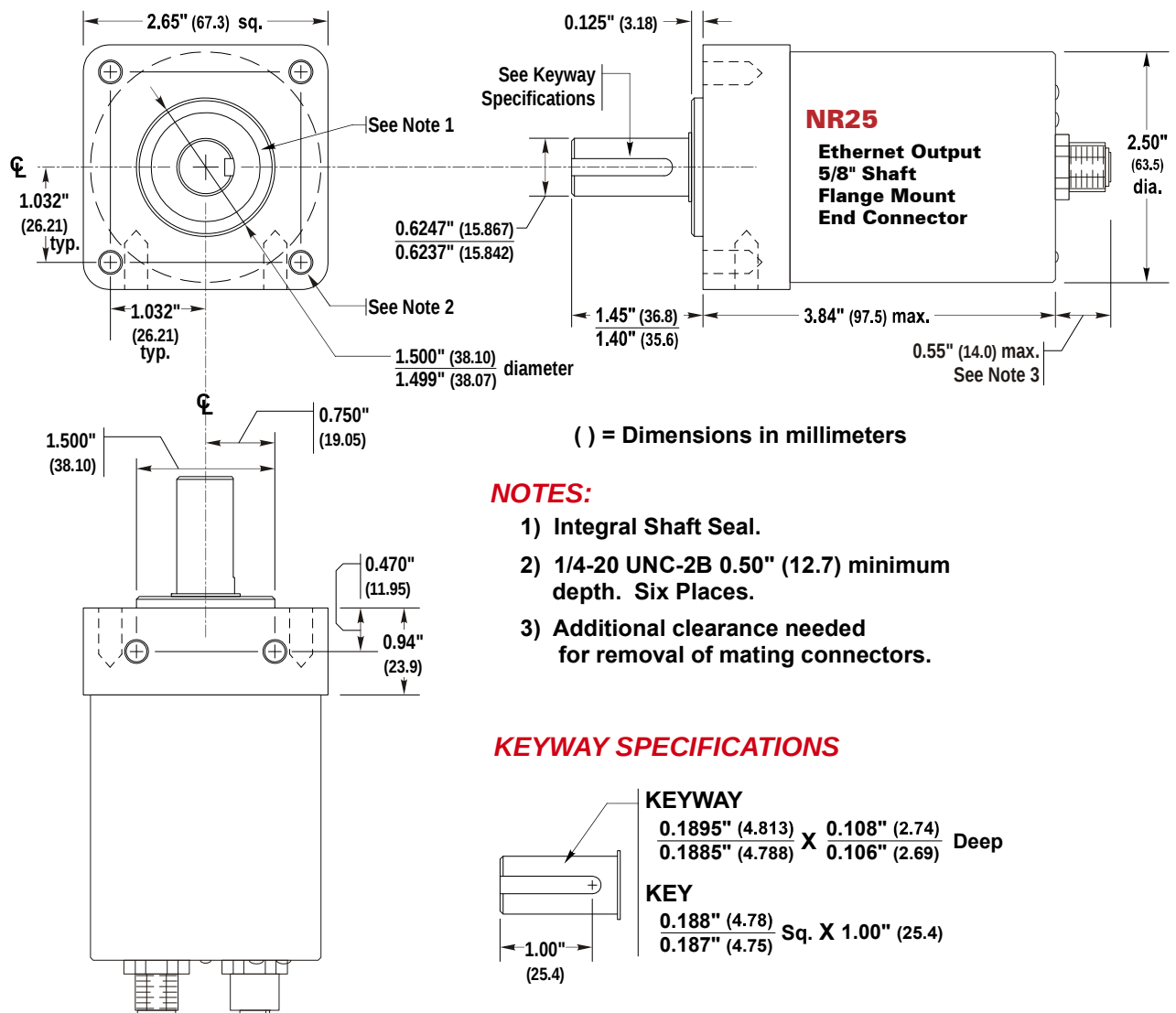
Aluminum Body, Side Connect



OUTLINE DRAWINGS

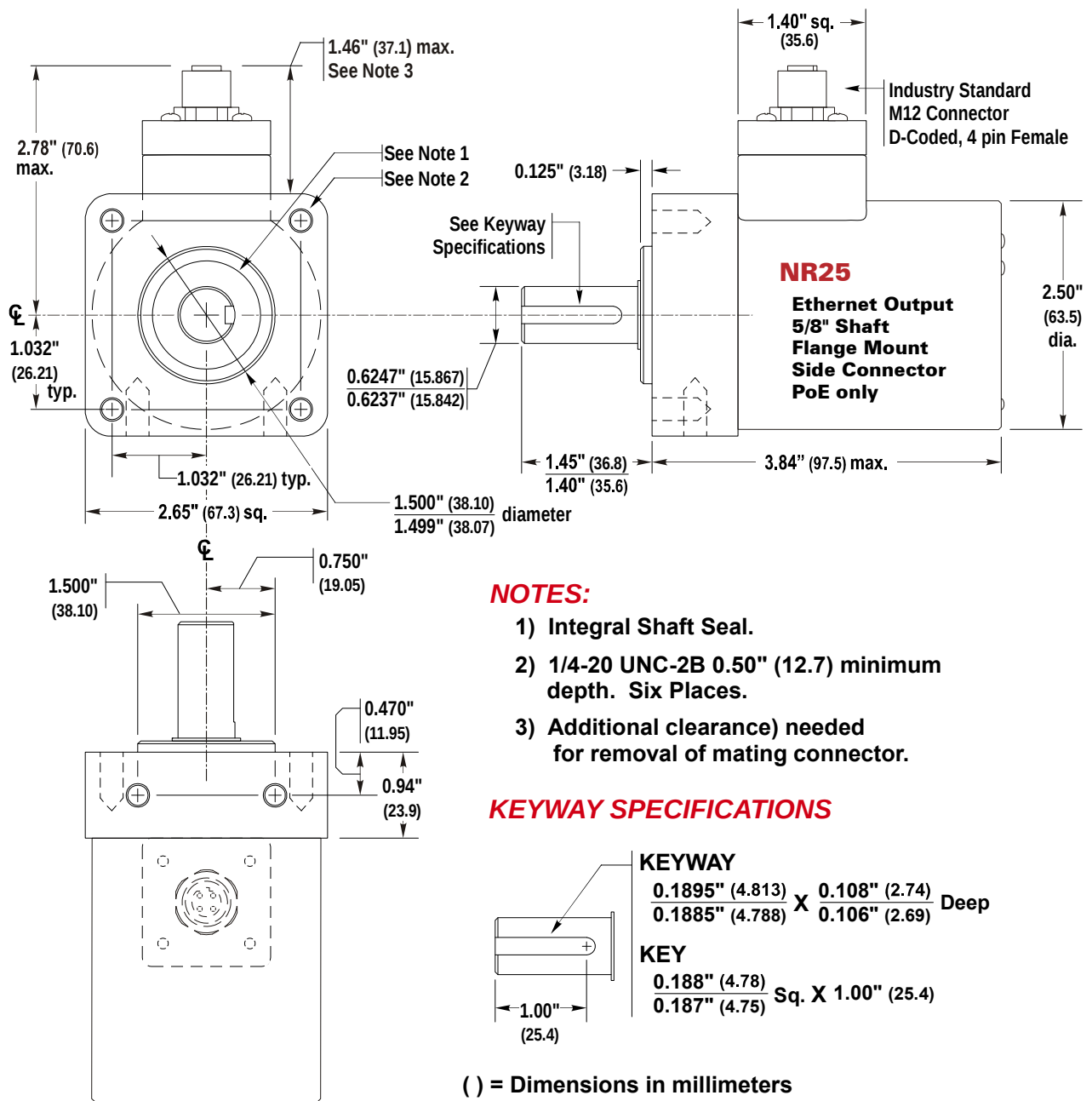
Flange Mount Outline Drawings (continued)

5/8" Shaft, Aluminum Body, End Connect



Flange Mount Outline Drawings (continued)

5/8" Shaft, Aluminum Body, Side Connect

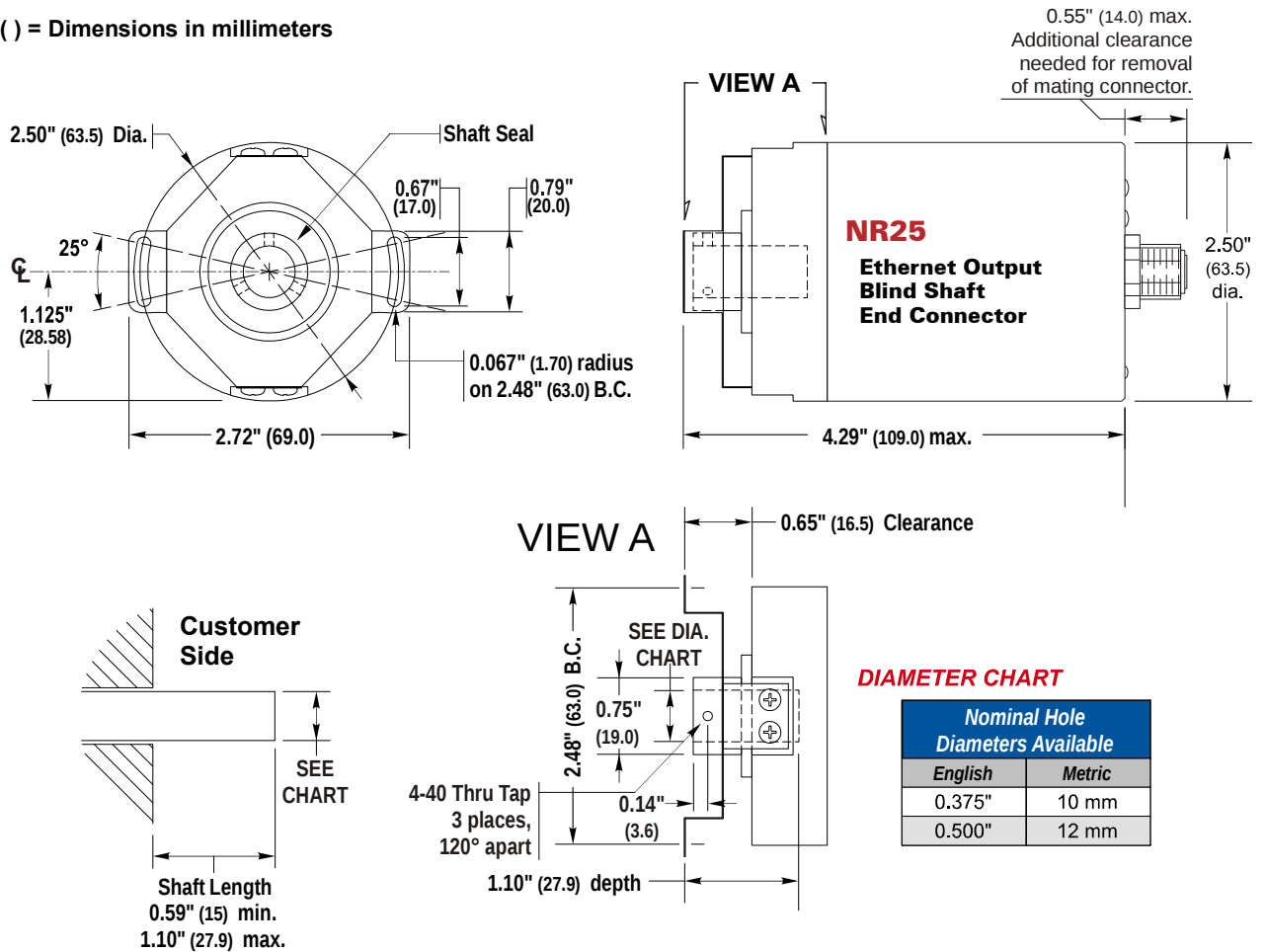


OUTLINE DRAWINGS

Hub Shaft Mount Outline Drawings

Aluminum Body, End Connect

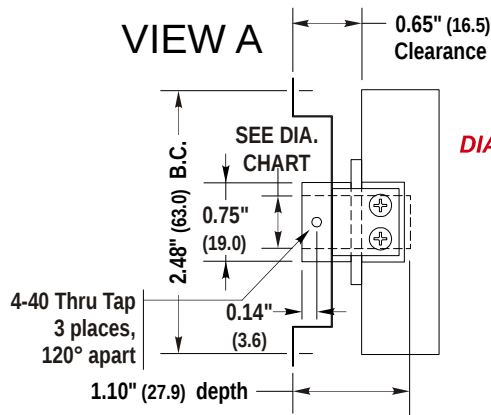
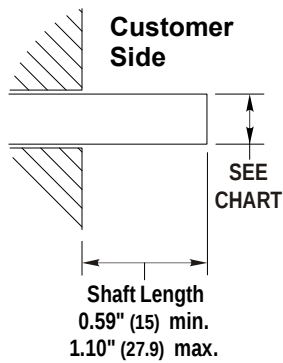
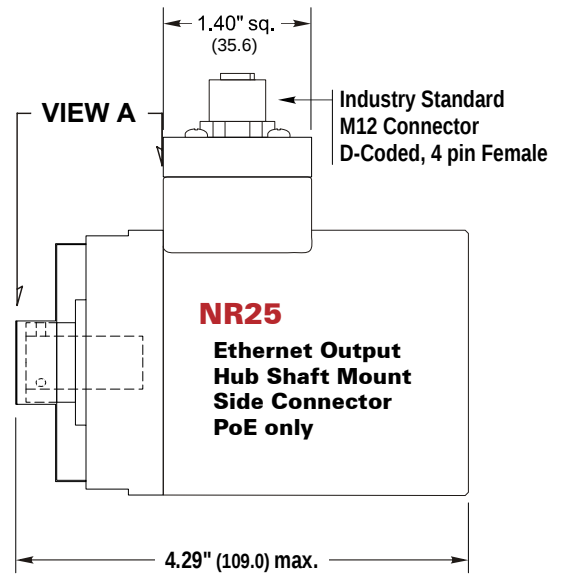
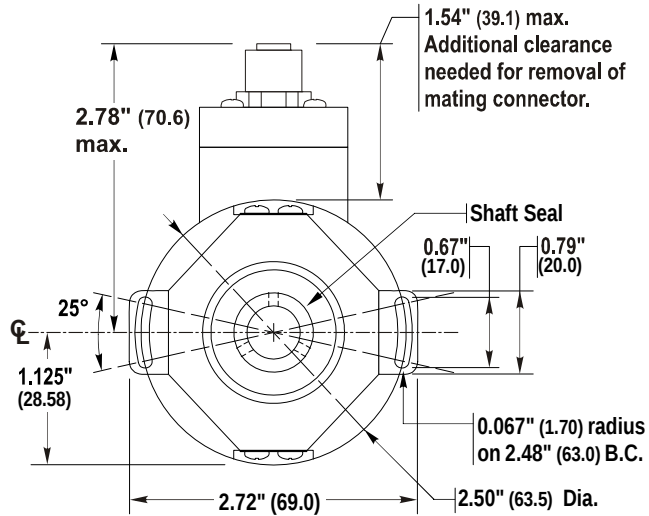
() = Dimensions in millimeters



Hub Shaft Mount Outline Drawings (Continued)

Aluminum Body, Side Connect

() = Dimensions in millimeters

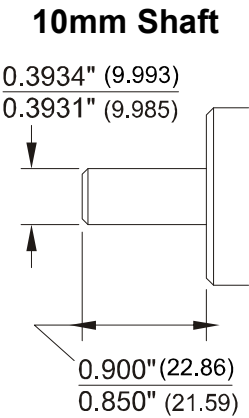
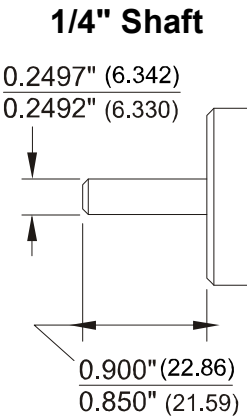
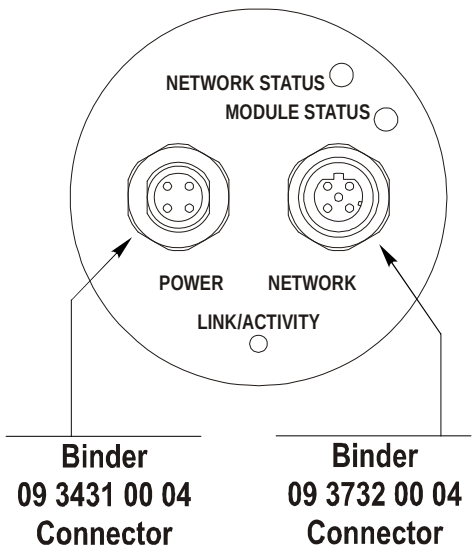


DIAMETER CHART

Nominal Hole Diameters Available	
English	Metric
0.375"	10 mm
0.500"	12 mm

OUTLINE DRAWINGS

End View and Alternate Shafts





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