



NorthStar brand
R56 resolvers
General Wiring and
Installation Guidelines

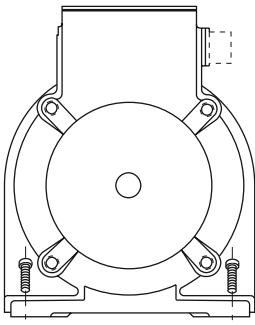
- **Typical Mounting Installations**
- **Electrical Connections**
- **General Guidelines**
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Congratulations on your purchase of a NorthStar brand resolver. All NorthStar brand resolvers are 100% final tested and have a full one-year warranty against defects in material and workmanship. This booklet is provided to you as a guideline for the installation of your new resolver.

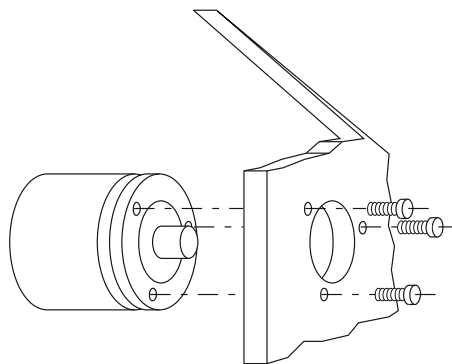
TYPICAL MOUNTING INSTALLATIONS

NorthStar brand resolvers feature industry standard mounting configurations and mounting bracket accessories to help simplify installation.

Shaft Resolvers



FOOT MOUNT



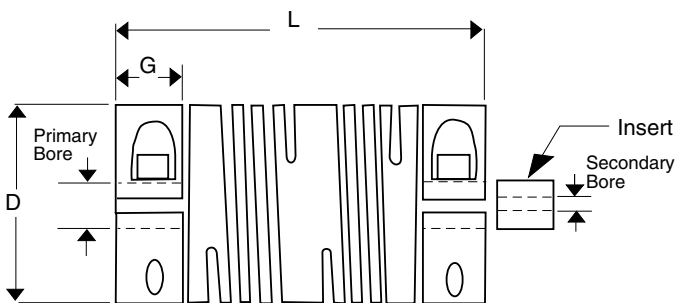
FACE MOUNT

Because shaft resolvers have no flexure, mechanically coupling one to a machine requires important consideration. Backlash or modulation in the coupling can cause errors in position indication. Rigid attachment of the shaft may cause bearing failure. **Therefore, a *flexible coupling*, which compensates for misalignment between the resolver shaft and the machine, must be used.**

Flexible Couplings - Resolver shafts and bearings are designed to require very restricted axial and radial play. When shafts are coupled, excessive shaft loading, electrical leakage, and thermal stress can cause resolver failures. Therefore, a flexible coupling (Dynapar brand CPL Series) which provides maximum mechanical, thermal, and electrical protection for encoder shaft connections, should be used to ensure long encoder life. The CPL Series provides a full range of flexible coupling models designed to match specific resolvers. Each is supplied with input-shaft size adapters. When selecting a flexible shaft coupling, there are four major criteria which must be considered:

1. Resolver Application (light duty to extra heavy duty)
2. Resolver Shaft Size 0.625
3. Drive Shaft Size
4. Endplay of Shaft

Most applications use the Primary Bore as the resolver end; however, it is permissible to reverse the coupling to provide for specific shaft accommodations. Secondary bore inserts are supplied. There are also dimensional options available - D=Diameter (0.75" to 2.0"), L=Length (0.875" to 2.0"), and G=Grip (0.23" to 0.45").



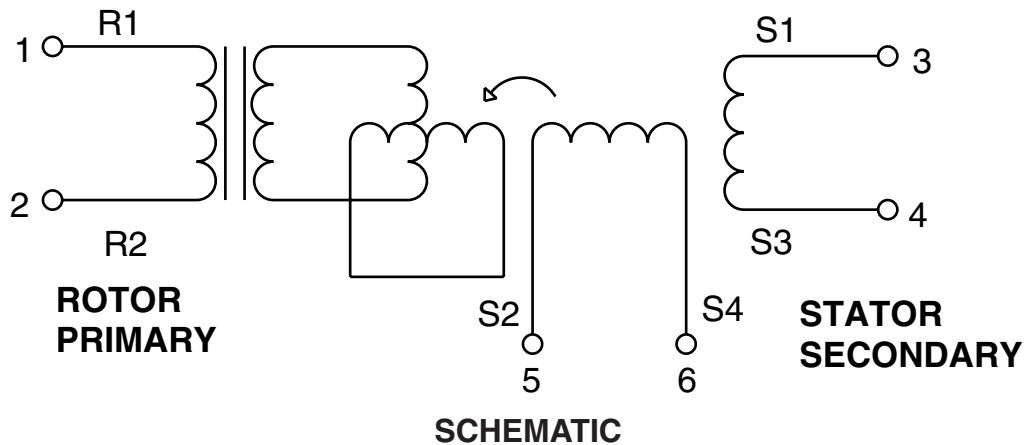
Model # Number	Primary Bore	Secondary Bore
CPL01500500	1/2	5/8
CPL01500625	5/8	5/8
CPL02000875	7/8	5/8
CPL02001000	1	5/8
CPL02001125	1 1/8	5/8

Attachment of a flexible coupling at both ends is via integral 360° clamps which firmly grip the resolver shaft and the input shaft while remaining slip-free to the rated torque of the coupling.

NOTE: Shafts may extend beyond the clamp-grip area (G) to the flexure area but they must not butt.

Resolver Electrical Connections

The AC input excitation voltage must meet the 26 Vrms & 2,400 Hz requirements and should be connected to the Rotor primary pins #1 & #2. The resolver will transfer the excitation voltage to the outputs of the stator coils. The sine and cosine outputs can be observed on S1/S3 and S2/S4.



Function	Pin #
R1 — Rotor Hi	1
R2 — Rotor Lo	2
S1 — Cosine Hi	3
S3 — Cosine Lo	4
S2 — Sine Hi	5
S4 — Sine Lo	6
Not Used	7
Not Used	8
Not Used	9
Not Used	10

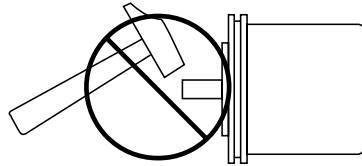
CONNECTIONS

The resolver is supplied with female connector and hood assembly. This assembly mates with the 10 pin male connector attached to the resolver housing. A cable assembly can be threaded through the hood and fastened to the mating connector using a screwdriver. Please refer to the connection table above for appropriate pin assignments. It is recommended to mount the hood assembly with the cable exit facing downward in order to minimize the potential for water entry.

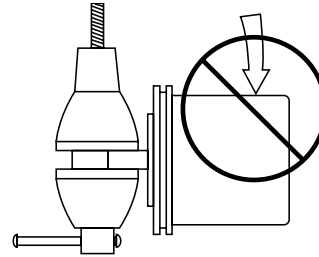
GENERAL GUIDELINES

Resolvers provide quality measurements and long life when common sense, care, and accurate alignments are provided during installation. The following general guide-lines will help to ensure a trouble-free installation.

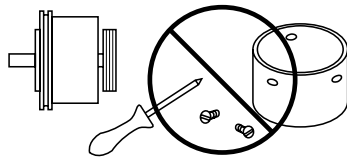
Mounting the Resolver



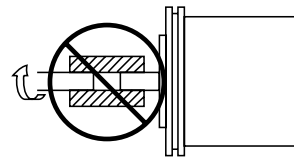
Do not shock the resolver



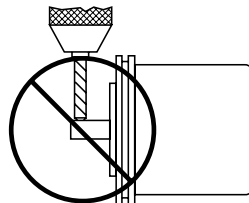
Do not subject the resolver to axial or radial shaft stresses.



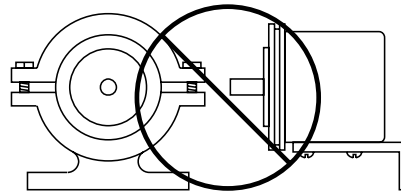
Do not disassemble the resolver



Do not use a rigid coupling.



Do not tool the resolver or its shaft.



Do not use makeshift techniques to mount the resolver

COMMON QUESTIONS & ANSWERS

I've read and followed the technical manual and these guidelines and the encoder still doesn't work properly. Help!?

Calm down - help is at your fingertips! Simply pick up the phone and dial our Applications Engineering Department at 1-800-234-8731 (US & Canada) or 847-662-2666 from 8:00 AM to 4:45 PM (Central time) Monday - Friday. One of our engineers will gladly walk through the problem with you and help determine a solution.



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