

## R11X-L10/6 Specification Sheet

SHEET # 940-2TB40

### DESCRIPTION

Designed for reliable operation in the harshest industrial environments, the R11X-L10/6 resolver can be used in a wide range of space critical applications where environmental sealing is not needed or can be provided by other means. If environmental sealing is required, contact AMCI for more options.

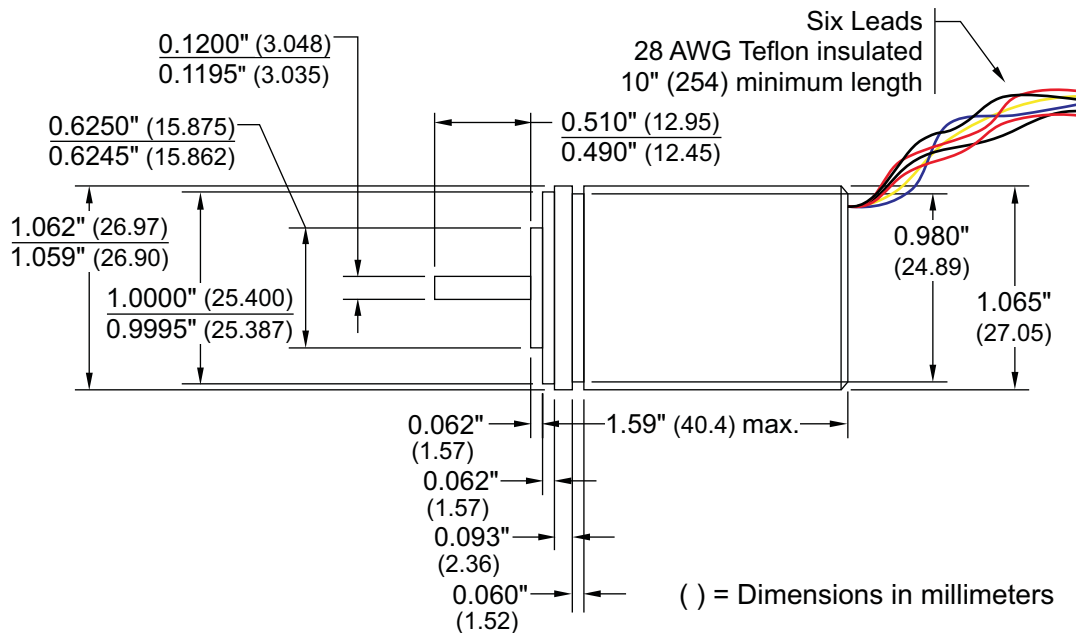
The resolver is a passive transducer that does not require sensitive electronics or optics to sense the angular position of the shaft. In many ways, a resolver can be thought of as a specialized transformer, and it is manufactured with similar components. Resolvers are primarily made up three precision assemblies of copper wire wound on laminations that are then coated and honed to exacting tolerances. These assemblies, the rotary transformer, rotor, and stators, are then encased in a stainless steel body. The simplicity of the design and inherent ruggedness of the materials yields a position sensor that can survive conditions no other sensor can.

Resolver are absolute sensors and will not "lose count" if the shaft is rotated with power removed. Another advantage of the resolver is the fact that it is a *ratiometric* device. This means the ratio of the two return signals is important, not their actual values. Any changes in the resolver's characteristics, such as those caused by aging, or its environment, such as fluctuations in temperature and humidity, or operating frequency and voltage, are ignored.

Due to the small shaft size a flexible coupler must be used when connecting the resolver to your machinery.

Note that the R11X-L10/6 resolver is not directly compatible with most AMCI electronics. It is compatible with controllers manufactured by AVG/Autotech and Gemco.

### DIMENSIONAL DRAWING



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## SPECIFICATIONS

### Electrical:

Input Voltage: 1.88 Vrms  $\pm$ 50%  
 Input Freq: 2250 Hz  $\pm$ 20%  
 Primary: Rotor  
 Input Current: 8.0 mA max.  
 Input Power: 10 mW max.  
 Trans. Ratio: 1.4  $\pm$  6%  
 Zro ( $\Omega$ ): 166 + j190  
 Zrs ( $\Omega$ ): 90 + j107  
 Zso ( $\Omega$ ): 620 + j890  
 Zss ( $\Omega$ ): 630 + j500  
 DC Rotor Res.: 16  $\Omega$   
 DC Stator Res.: 116  $\Omega$   
 Phase Shift: 5° leading max.  
 Null Voltage: 15 mV total max.  
 Accuracy:  $\pm$ 6 min. spread

### Mechanical:

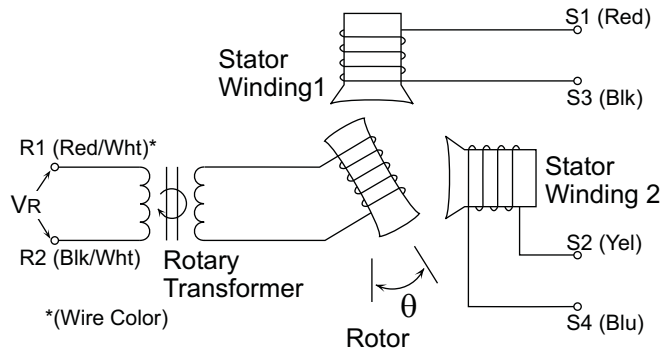
Shaft Load: 2 lbs. radial<sup>†</sup>  
 1 lbs. axial<sup>†</sup>  
 Starting Torque: 0.08 oz-in @ 25°C  
 Rotor Moment: 0.51X10<sup>-4</sup> oz-in-sec<sup>2</sup>  
 Weight: 115g (4.04 oz)  
 Enviro. Rating: IP40 / NEMA 1

<sup>†</sup> At the recommended maximum loads, average bearing life is 2X10<sup>9</sup> revolutions. (L10 rating)

### Environmental:

Operating Temperature: -40°C to +125°C  
 -40°F to +257°F  
 Shock: 50 g's for 11 ms  
 Vibration: Per MIL-R-50781

## SCHEMATIC



## SAMPLE INSTALLATION

The picture below shows how to connect a R11X-L10/6 to AMCI's standard cable.

