

R11X-J12/3 Specification Sheet

SHEET # 940-2TA10

DESCRIPTION

Designed for reliable operation in the harshest industrial environments, the R11X-J12/3 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.

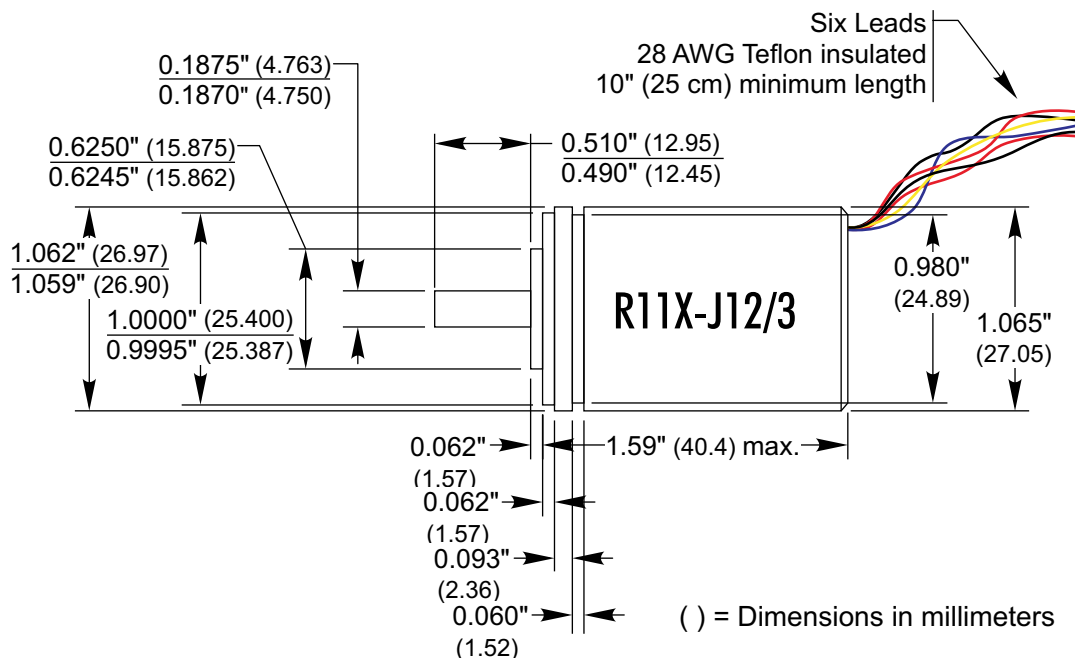
The resolver is a passive transducer that does not require sensitive electronics or optics to sense the angular position of the shaft. In many ways, a resolver can be thought of as a specialized transformer, and it is manufactured with similar components. Resolvers are primarily made up three precision 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-J12/3 resolver is directly compatible with most AMCI electronics.

DIMENSIONAL DRAWING



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SPECIFICATIONS

Electrical:

Input Voltage: 7.0 V
 Input Freq: 5000 Hz
 Primary: Rotor
 Input Current: 23.0 mA max.
 Input Power: 90 mW max.
 Output Voltage: 6.65 V nom.
 Trans. Ratio: $0.95 \pm 5\%$
 $Z_{ro} (\Omega)$: $240 + j245$
 $Z_{rs} (\Omega)$: $110 + j173$
 $Z_{so} (\Omega)$: $412 + j590$
 $Z_{ss} (\Omega)$: $170 + j394$
 DC Rotor Res.: 16Ω
 DC Stator Res.: 41Ω
 Phase Shift: -6° leading max.
 Null Voltage: 15 mV total max.
 Accuracy: ± 3 min. max.

Mechanical:

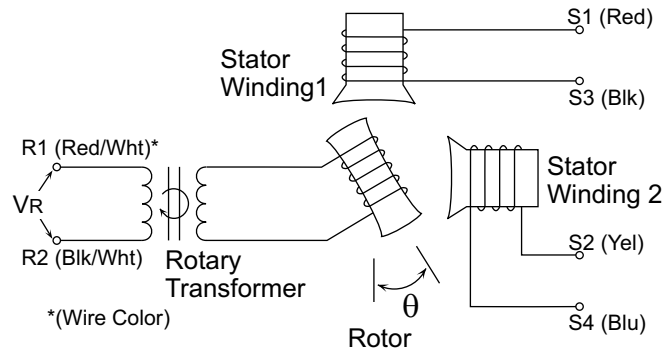
Shaft Load: 6 lbs. radial[†]
 3 lbs. axial[†]
 Starting Torque: 0.08 oz-in @ 25°C
 Rotor Moment: 0.51×10^{-4} oz-in-sec²
 Weight: 115g (4.04 oz)
 Enviro. Rating: IP40 / NEMA 1

[†] At the recommended maximum loads, average bearing life is 2×10^9 revolutions. (L10 rating)

Environmental:

Operating Temperature: -40°C to $+125^\circ\text{C}$
 -40°F to $+257^\circ\text{F}$
 Shock: 50 g's for 11 ms
 Vibration: 15 g's to 2000 Hz

SCHEMATIC



SAMPLE INSTALLATION

The picture below shows how to connect a R11X-J12/3 to AMCI's standard cable.

