

# Custom Solutions VR Resolver

Variable Reluctance type, Resolver  
TS7053N2063E102 | Size 15

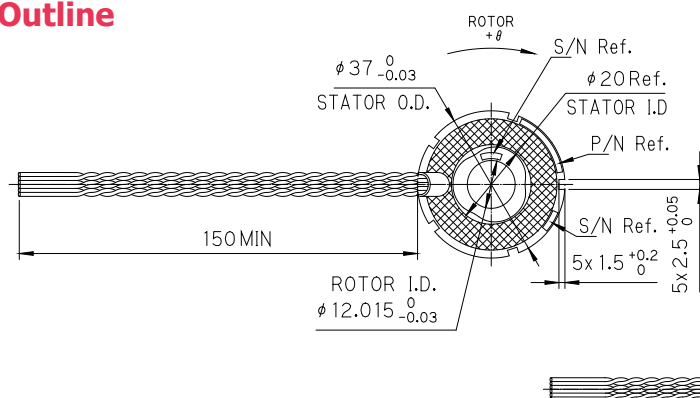
## Description

TAMAGAWA VR Resolver is a high reliable absolute angular sensor, it needs winding on a stator only. Forming the rotor core into a special shape and changing the width of the gap between rotor core and stator core generates changes in the amplitude of output voltage. Customization of fitting and electrical specification is available based on standard models. Modification of commercial off-the-shelf (COTS) product by airworthiness design technology is made for aviation applications. This approach creates and gives lots of benefits to our customers for cost, elimination of development risk and shorter lead time for development and production.

## Features

- Wide Temperate Range, Vibration & Shock Resistance
- VR configuration enables High Reliability & Maintenance-Free
- Decades of experiences in the field of Automotive Hybrid system application
- Small size & Lightweight
- High speed rotation up to 90,000 rpm
- Ultra-thin structure

## Outline



## Output Equation

$$E_{S1-S3} = K E_{R1-R2} \cos 3\theta$$

$$E_{S2-S4} = K E_{R1-R2} \sin 3\theta$$

Singsyn



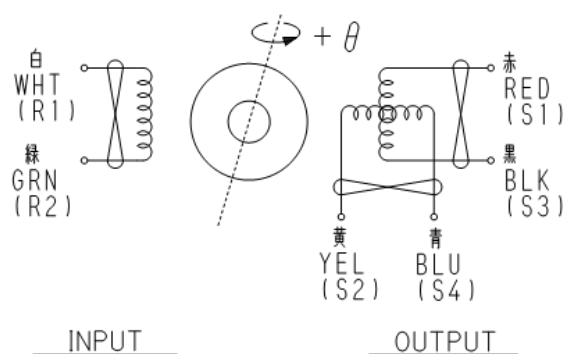
\*Dimensions are in mm

## Specifications

Function	3X-BRX, Size 15
Input Voltage	7 Vrms, 10000 Hz
Transformation Ratio	0.286 $\pm$ 10 %
Electrical Error	$\pm$ 45 minutes MAX
Input Current	87.5 mA NOM
Input Impedance (Zro)	80 $\Omega$ $\pm$ 20 %
Output Impedance (Zss)	290 $\Omega$ $\pm$ 20 %
Dielectric Strength	AC 500 Vrms, 60 s
Insulation Resistance	100 M $\Omega$ MIN, DC 500 V
Mass	50 g NOM
Temperature Range	-40 $^{\circ}$ C to +180 $^{\circ}$ C
MAX Operating Speed	90,000 min <sup>-1</sup> (rpm)

## Schematic

### Wiring Diagram

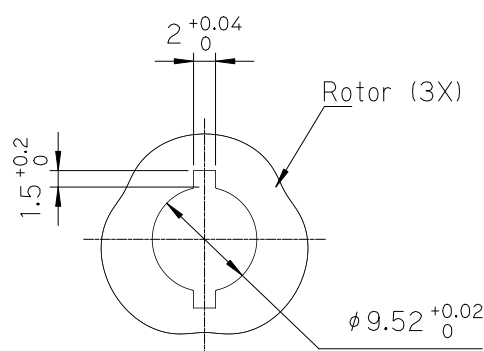


## Production

- Automatic Winding
- Automatic Test Equipment



## Options – Rotor Key-way



## Options – Terminal Pin Type

