

# Rotary Position Sensors



## Connector Dust-proof Type SV21 Series

### ■ Features

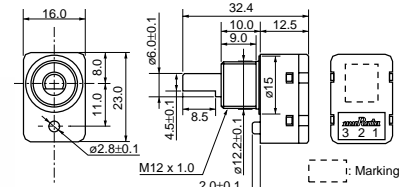
1. Available for 200 degrees max. of effective rotational angle.
2. A programmable hole IC can be available for optional output voltage curve.
3. Temperature compensate range -20 to +85 degree C
4. 10M cycles rotational life
5. Optimal connector: Connector socket and Bushing mount

### ■ Applications

1. Valve actuator
2. Measuring Equipment
3. Farm Equipment
4. Construction Equipment
5. Mechatronics



SV21

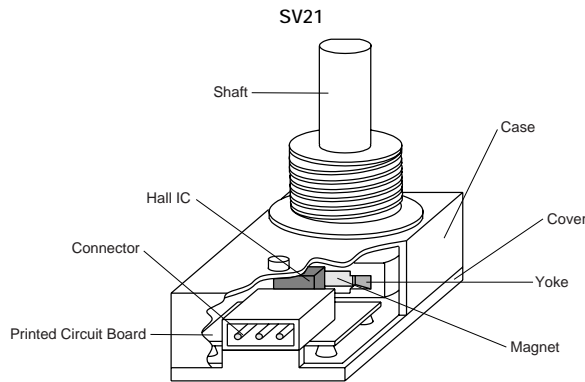


1	Gnd
2	Output
3	+5V DC

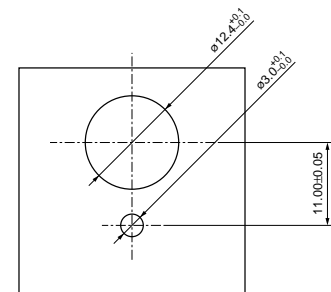
The shaft position in this drawing shows 0 deg. angle.  
 Connector: J.S.T.Mfg Co., Ltd. Model No.: S3B-ZR-SM2

Part Number	Action Voltage	Linearity	Effective Rotational Angle	Rotational Torque	Rotational Life
SV21C201BJA01	5±0.5VDC	±2%FS/±100°	200° max.	5mN·m (Ref.; 50gf·cm) max.	10M cycles

### ■ Construction



### ■ Standard Mounting Holes

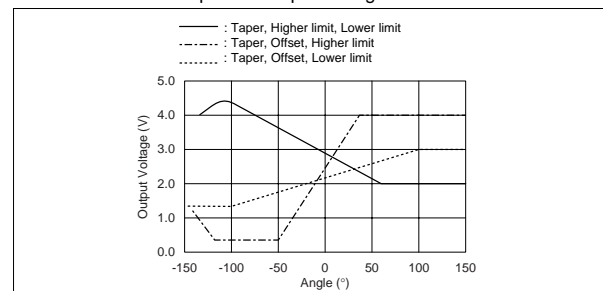


(in mm)

### ■ Characteristics

Operating Temperature Range	-25 to +85°C
Temperature Characteristics	±4% / 25°C / Full Scale
Input Current	10mA max.
Output Voltage Range	Available to set In range : 10±4% (0.5±0.2V) to 90±4% (4.5±0.2V) of input voltage range
Rotational Life	Linearity: ±3% Full Scale
Vibration	Linearity: ±3% Full Scale
Shock	Linearity: ±3% Full Scale

### Optional Output Voltage Curve



## SV21 Series Notice

### ■ Notice (Operating and Storage Conditions)

1. Store in temperatures of -10 to +40 deg. C and relative humidity of 30-85%RH.
2. Do not store in or near corrosive gases.
3. Use within six months after delivery.
4. Open the package just before using.
5. Do not store under direct sunlight.
6. Do not use the rotary position sensor under the following environmental conditions. If you use the rotary position sensor in an environment other than these listed below, please consult with Murata factory representative prior to using.
  - (1) Corrosive gasses atmosphere  
(Ex. Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
  - (2) In liquid  
(Ex. Water, Oil, Medical liquid, Organic solvent, etc.)
  - (3) Dusty / dirty atmosphere
  - (4) Direct sunlight
  - (5) Static voltage nor electric/magnetic fields
  - (6) Direct sea breeze
  - (7) Other variations of the above

### ■ Notice (Soldering and Mounting)

1. When installing sensor, tighten the nut at the torque levels less than 1.0N.m (10kgf.cm as reference).  
The exceeded force might damage the screw thread of sensor.
2. When coupling to the shaft of sensor, handle within max. value of shaft force.
3. Don't wire the sensor while the power supply is ON.  
Be careful during wiring.
4. Please design the cable wire to avoid the influence of the power line or high voltage line.
5. Please use the recommended connector which is "ZHR-3 series / J.S.T. made".  
When using other connector, the contact problem might happen or the connector might be damaged.
6. Can not be cleaned by any solvents due to the open construction.

### ■ Notice (Handling)

1. Uncontrolled mechanical force except usual rotation on the shaft of product, may cause big change of electrical characteristic, big increase of rotational torque or mechanical damage of product.  
Therefore, please pay your attention on the following points for your design.  
Please design your coupler by holding shaft bush to avoid exceeded radial or thrust shaft force of sensor.
2. The magnetic is installed inside of sensor.  
Please pay your attention as below.
  - (1) If sensor closes magnetic storage (magnetic tape, floppy disc drive etc.), the magnetic memory might be damaged.
  - (2) Don't close sensor to patient who is wearing electrical medical equipments. The equipment might malfunction due to magnetic influence of sensor.

### ■ Notice (Other)

1. Input voltage  
Please design the input voltage value of less deteriorated with age and smaller ripple because of direct influence for output voltage.  
Though the protection circuit of 8.5V is installed, the exceeded input voltage might damage inner circuit of sensor.
2. Influence of magnetic field  
Don't place another magnetic materials or magnetic generator. These might happen malfunction of your set due to changing the output voltage of sensor.