

# SN series

## Hall effect T-bar fader

Distinctive features and specifications



- Consistent smooth feel
- Precision ball race bearings & PTFE guides
- Latest generation Hall effect sensor
- 12 bit resolution
- "Barrel" or "Bullet" aluminum handles
- Analog voltage or PWM output options
- Absolute positioning
- Industry standard mounting

### MECHANICAL

- Operating Force: 0.5N
- Mechanical Angle of Movement: 63° (±31.5° from center)
- Expected Life: 1 Million Operations
- Mass/Weight: 65g
- Package Size (mm) (L x W x H) or (Dia x H): 75 x 96 x 42mm
- Lever Action (Centering): Friction Clutch

### MATERIALS

- Body: Mineral filled nylon - Black
- Lever: Acetyl - Black
- Handle: Aluminum - Silver anodized
- Screening Plates: Mild Steel - Zinc plated

### ENVIRONMENTAL

- Operating Temperature: -20°C to +70°C (-4°F to +158°F)
- Storage Temperature: -40°C to +70°C (-40°F to +158°F)
- Sealing (IP): Not sealed. For internal applications only.

### ELECTRICAL SENSOR

- Sensor: Hall effect
- Output at Center:  $V/2 \pm (5\% \times \text{Gain})$
- Power Supply:  $5V \pm 0.5V$  Transient free
- Reverse Polarity Max: -10VDC
- Overvoltage Max: 20VDC
- Output Voltage: 0V to 5V (See gain options)
- Output Impedance: 10Ω
- Current Consumption Typ: 13mA
- Load: Minimum 10K, preferred 100K+

### NOTES:

- All values are nominal.
- All specifications shown are based on a standard configuration and are provided for guidance only.
- Please contact factory for assistance on how to achieve the best performance from your chosen configuration.



Note: The company reserves the right to change specifications without notice.

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### Overview



**NOTES:**

Dimensions in mm/(inch).  
 Images shown are for illustration purposes only.

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Overview

### GAIN OPTIONS



### MECHANISM

The SN series utilizes high quality ball bearings at the pivot point of its lever and uses a PTFE friction clutch assembly to create a smooth, damped, put and stay feel of the lever to ensure a consistent feel over the life of the product.

### POWER SUPPLY

The SN series is designed to be powered by a regulated  $5V \pm 0.5V$  power supply. The output is ratiometric, making a stable, noise free, power supply essential. The power supply to the SN series should be carefully regulated to be within tolerance. Should the power supply change outside specified tolerances, permanent damage may occur.

### MAGNETIC IMMUNITY AND SYSTEM DESIGN

The SN series faders incorporate magnetic shielding, however, mounting or operating the SN series close to strong magnetic fields is not recommended. System designers should follow best practice when incorporating the SN series into their products. Care should be taken to disconnect the power supply properly and to employ adequate EMC shielding.

### MOUNTING

When mounting the SN series, care should be taken to site it in a position that does not make it vulnerable to damage when in use. The SN series must not be subject to water spray, excessive humidity or dust. The handle is supplied separately, in two halves that must be screwed together after the SN series has been mounted to the panel.

### GAIN OPTIONS

The voltage output on the wiper, at full scale deflection is determined by the gain. The gain is expressed as a percentage of the voltage supplied. Therefore (assuming a 5V supply), a SN series specified with  $\pm 25\%$  gain would yield 1.25V at South and 3.75V at North. A range of gain options are available as standard. All SN series are supplied pre-set and no further calibration is needed throughout the lifetime of operation.

### OUTPUT IMPEDANCE

The voltage output at the center and at each end of travel are specified across an infinite load, with no current flowing. The output impedance specified in the electrical specification should be taken into account when designing a system. Load resistance of less than 10K Ohms is not recommended.

### CONNECTIONS

The SN series are supplied with three solder post connections.

Additional cable outputs and customer specific connectors are available on request.

