



The SN Series is a precision fader control designed and built to meet the demands of the broadcast industry. Contactless hall effect technology, using the latest generation sensor, results in reliable noise-free operation. A smooth consistent feel is achieved by utilising steel ball races and PTFE bearing surfaces. The SN Series is available with analog linear voltage or PWM outputs, having a range of factory configured gain settings. The mechanical design is complemented by two aluminium handle options in 'Barrel' and 'Bullet' styles.



### KEY FEATURES

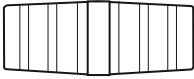
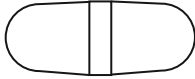
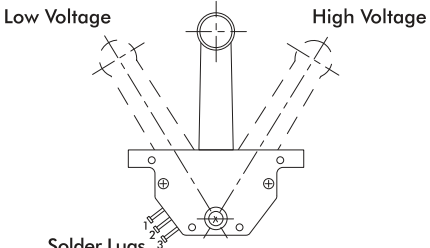
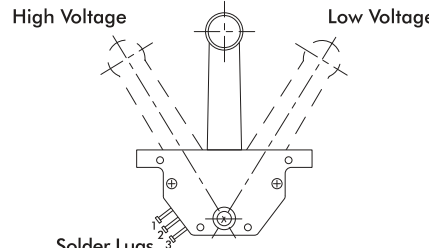
- |   |   |
|---|---|
| <input type="checkbox"/> CONSISTENT SMOOTH FEEL                     | <input type="checkbox"/> 'BARREL' OR 'BULLET' ALUMINIUM HANDLES |
| <input type="checkbox"/> PRECISION BALL RACE BEARINGS & PTFE GUIDES | <input type="checkbox"/> ANALOG VOLTAGE OR PWM OUTPUT OPTIONS   |
| <input type="checkbox"/> LATEST GENERATION HALL EFFECT SENSOR       | <input type="checkbox"/> ABSOLUTE POSITIONING                   |
| <input type="checkbox"/> 12 BIT RESOLUTION                          | <input type="checkbox"/> INDUSTRY STANDARD MOUNTING             |



# SN series

## Hall effect T-bar fader

### OPTION SELECTION

SN				
<b>SERIES</b>	<b>OUTPUT</b>	<b>POLARITY</b>	<b>HANDLE</b>	
	1 Analog 2 PWM	S Standard R Reversed	S Barrel Handle N Bullet Handle	 
<b>GAIN</b>		<b>OUTPUT VOLTAGE POLARITY</b>		
01	+/-50%xV	<b>Standard</b>		<b>Reversed</b>
02	+/-40%xV	Low Voltage		High Voltage
03	+/-30%xV			
04	+/-25%xV	Solder Lugs		
05	+/-10%xV			

### SPECIFICATIONS

#### MECHANICAL

Operating Force	0.5N
Mechanical Angle of Movement	63° (31.5° from centre)
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 (Centring)	Friction clutch

#### ENVIRONMENTAL

Operating Temperature	-20°C to 70°C / -13°F to 158°F
Storage Temperature	-40°C to 70°C / -40°F to 158°F
Sealing (IP)	Not sealed. For internal applications only.

#### MATERIALS

Body	Mineral filled nylon - Black
Lever	Acetyl - Black
Handle	Aluminium - Silver anodised
Screening Plates	Mild Steel - Zinc plated

#### ELECTRICAL SENSOR

Sensor	Hall effect
Output at Centre	V/2 +/- (5% x Gain)
Power Supply	5V +/- 0.5V Transient free
Reverse Polarity Max	-10VDC
Oversvoltage Max	20VDC
Output Voltage	0V to 5V (See gain options)
Output Impedance	10 Ω
Current Consumption Typ	13mA
Typ	Greater than 100K

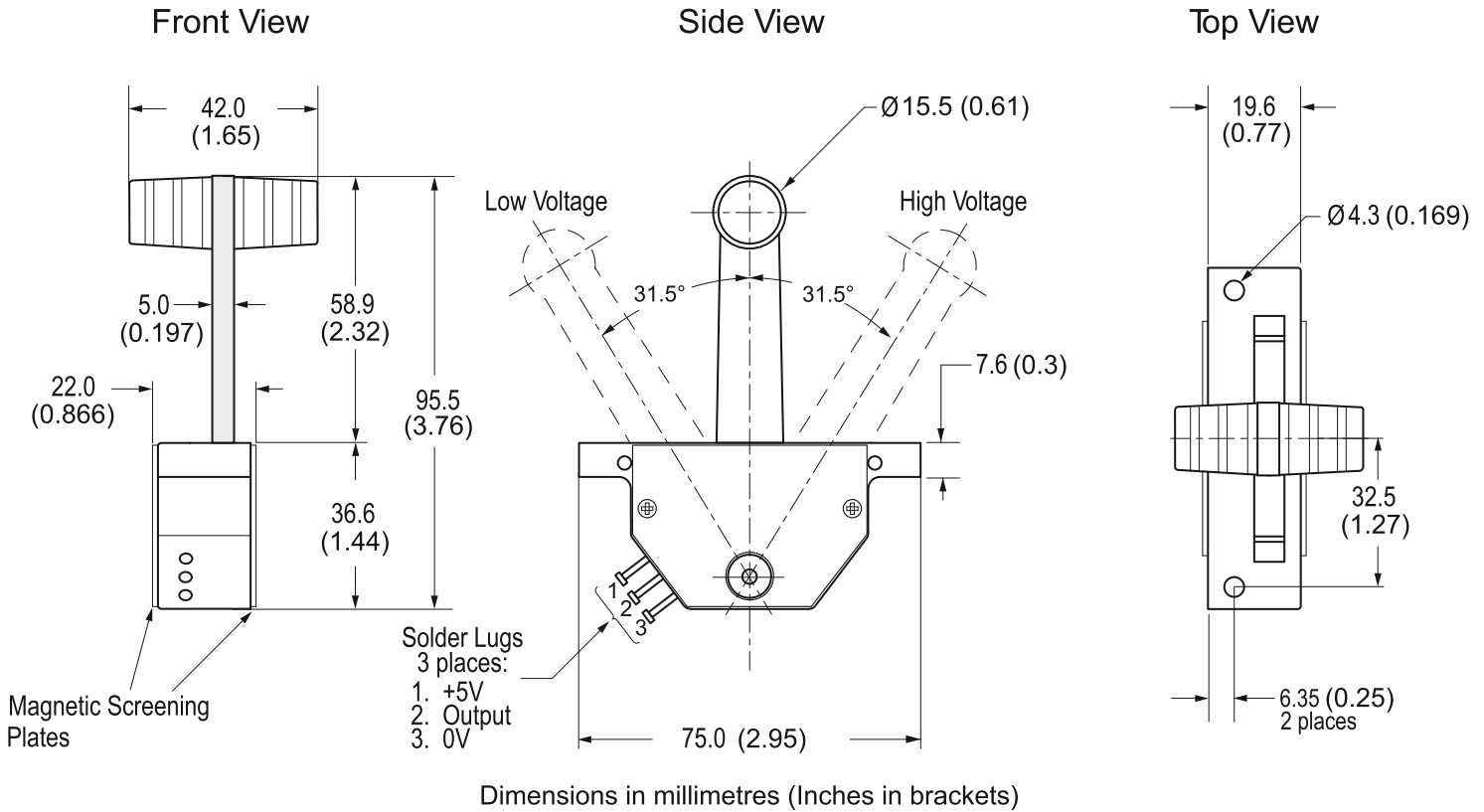
#### NOTES:

- All values are nominal.
- All specifications shown are based on a standard configuration and are provided for guidance only.
- Please refer to Apem for assistance on how to achieve the best performance from your chosen configuration.
- The company reserves the right to change specifications without notice.

# SN series

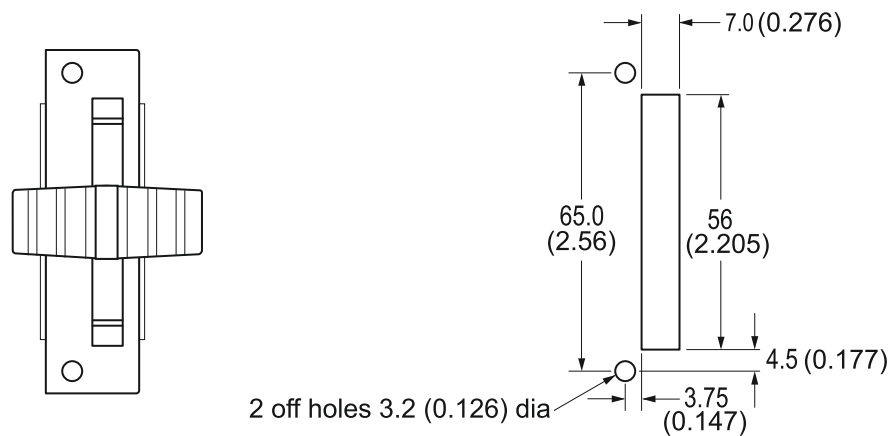
## Hall effect T-bar fader

### DIMENSIONAL DRAWING



### MOUNTING INSTALLATION

#### Installation Dimensions



Note: Handle halves un-screw to allow lever to pass through the slot in panel.

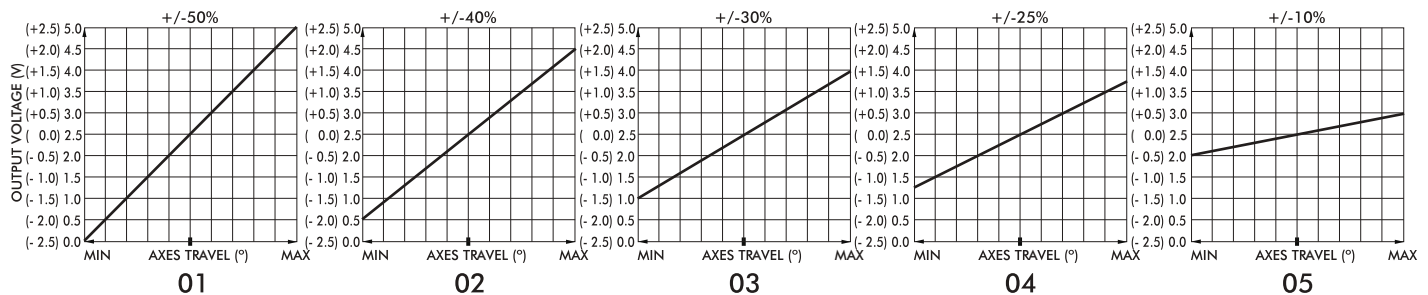
Dimensions in millimetres (Inches in brackets)

# SN series

## Hall effect T-bar fader

### CONFIGURATION OPTIONS

#### GAIN OPTIONS



#### MECHANISM

The SN series utilises high quality ball bearings at the pivot point of its lever and uses a PTFE friction clutch assembly to create the 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 +/-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 the 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 practise when incorporating the SN series into their products. Care should be taken to decouple 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) an SN series specified with +/- 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 centre 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 3 solder post connections.

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

PIN 1 (UPPER) 5V  
PIN 2 (MIDDLE) Output  
PIN 3 (LOWER) 0V

