

## Preliminary Hotsheet

# 18SA

## 10 to 16-Bits Absolute Encoder with Incremental outputs



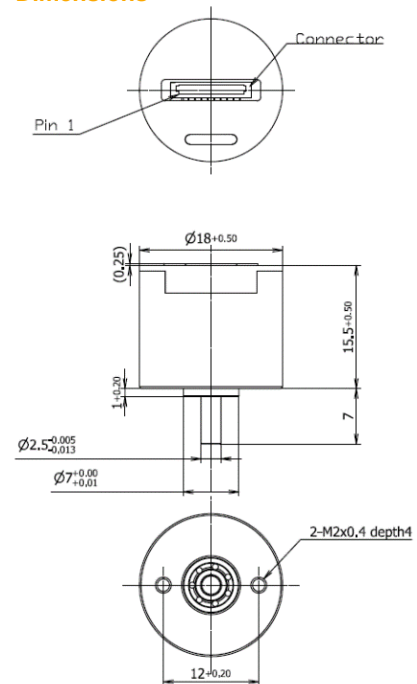
### Applications

- Robotic Automation and Engineering
- Factory Automation and Drone
- Medical and Dentistry Devices & Equipment
- High Accuracy Portable and Handheld Devices
- Miniature Motor /Servo motor / Linear Actuator

### Features

- **Small size shaft type** Rotary Encoder (outer Dia.  $\Phi 18$ )
- Max 18bits **Absolute signal** and **Incremental signal with UVW & ABI**
- 3-wire or 2-wire **SSI interface Protocol** for Absolute output
- **UVW pinouts is 120° phase difference** that can be used motor control
- **Magnetic type**, suitable for heavy duty applications

### Dimensions



### Wiring characteristics

Pin	Name	Signal
1	VCC	Supply VCC input
2	GND	Supply Ground
3	M0	SPI Chip select (Absolute mode)
4	M1	SPI Data Input / SSI NSL pin (Absolute mode)/ V commutation Output (UVW mode)
5	M2	SPI/SSI Clock Input (Absolute mode)/ U commutation Output (UVW mode)
6	M3	SPI/SSI Data Out (Absolute mode)/ W commutation Output (UVW mode)
7	A	A (incremental mode)
8	B	B (Incremental mode)
9	I	I (Incremental mode)
10	MSEL	Mode Selection

### Encoder Specifications

<b>Absolute outputs</b>	<b>10 to 18 bit</b>
<b>Incremental outputs</b>	ABI: <b>1 to 10000 P/R</b> UVW: 1 to 32 pole-pairs * *Cannot work with Absolute outputs
<b>Supply Voltage</b>	DC 4.5 to 5.5V (Ripple 100mV(P-P))
<b>Operating Temperature</b>	-10°C to 85°C
<b>Maximum shaft load</b>	4.9N (Thrust) / 2.94N (Radial)
<b>Mechanical Speed</b>	6000 min <sup>-1</sup> max
<b>Weight</b>	20g max
<b>Outline Diameter</b>	$\Phi 18 \times L15.5$ mm shaft Dia. $\Phi 2.5 \times L7$ mm (Same size at 18S series)

Note (1) To output signals other than ABI correctly, it is necessary to apply the specified voltage to M0 and MSEL correctly.

Please refer to the specifications for details.

(2) Due to the output signals will be programed in Nemicon, we can not accept to change the specification after shipping.

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