

## Preliminary Hotsheet

# 18SA

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



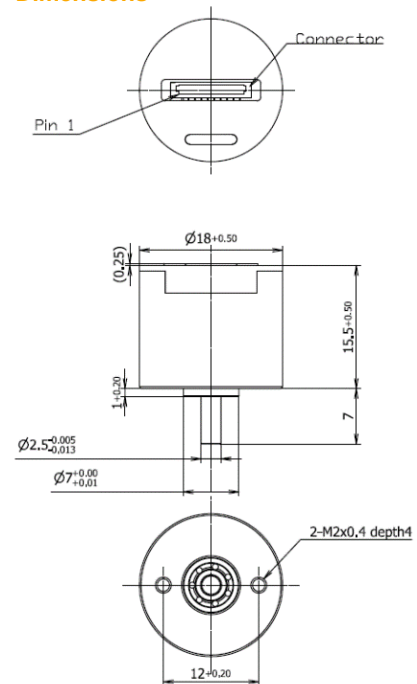
### Applications

- 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.

18SA\_Hotsheet001  
May 12, 2020

Headquarter Switzerland:  
Angst+Pfister Sensors and Power AG

Thurgauerstrasse 66  
CH-8050 Zurich  
Phone +41 44 877 35 00  
sensorsandpower@angst-pfister.com

Office Germany:  
Angst+Pfister Sensors and Power  
Deutschland GmbH  
Edisonstraße 16  
D-85716 Unterschleißheim  
Phone +49 89 374 288 87 0  
sensorsandpower.de@angst-pfister.com



## We are here for you. Addresses and Contacts.

### Sales Germany & Austria

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Kurt Stritzelberger  
Phone +49 89 374 288 87 22  
kurt.stritzelberger@angst-pfister.com

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Phone +49 89 374 288 87 26  
gerhard.vetter@angst-pfister.com

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Peter Felder  
Phone +41 44 877 35 05  
peter.felder@angst-pfister.com

### Sales Switzerland & Liechtenstein

Postcode 3000 – 9999

Basil Frei  
Phone +41 44 877 35 18  
basil.frei@angst-pfister.com

Postcode 1000 – 2999

Christian Mohrenstecher  
Phone +41 76 444 57 93  
christian.mohrenstecher@angst-pfister.com

### Sales International Key Accounts

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Phone +49 89 374 288 87 24  
thomas.clausen@angst-pfister.com

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Phone +49 89 374 288 87 67  
adriano.pittarelli@angst-pfister.com

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Phone +41 44 877 35 06  
sebastiano.leggio@angst-pfister.com

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Eric Letsch  
Phone +41 44 877 35 14  
eric.letsch@angst-pfister.com

Accelerometers  
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Christoph Kleye  
Phone +49 89 374 288 87 61  
christoph.kleye@angst-pfister.com

Drive technology  
CH Postcode 5000 – 9999 / DE

Roman Homa  
Phone +41 76 444 00 86  
roman.homa@angst-pfister.com

Drive technology  
CH Postcode 1000 – 4999 / AT / IT / FR

Christian Mohrenstecher  
Phone +41 76 444 57 93  
christian.mohrenstecher@angst-pfister.com

Harald Thomas  
Phone +49 89 374 288 87 23  
harald.thomas@angst-pfister.com