Digital Absolute Position Transducers

Elife Absolute Position Transducers are designed in order to ensure maximum accuracy in position detection and for easy mounting in the motor housing.

The main **key features** of our Digital Absolute Position Transducers:

- Differential Digital Communication to avoid that the position detection to be susceptible to interference.

- **High Tolerance** to mounting gap between the Elife-sensor and the Magnet: ±0.5mm respect to the Nominal Distance.

- Absolute Angle Position via SSI Communication: Angle Position Data is continuously updated at a frequency of 1 MHz.

- **Stable** - less than one degree of error - **in a wide-range of Operating Temperature** (from -40 to 125°C.).

- Precise Incremental ABZ Quadrature Encoder: Different resolutions available, up to 1024 pulses per revolution.

- PWM Output: Duty Cycle proportional to the Absolute Angle Position (Frequency: 1 KHz, Resolution: 14bit).

- Compatible with common magnets in use: from 40 to 60mT of magnetic field applied to the sensor.

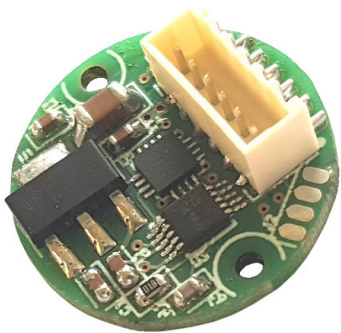- Available in different sizes - e.g: **20mm, 30mm** of diameter - to easy mounting in the motor housing.[1]

☑ **Absolute Encoder**   ☑ **SSI Communication and PWM Output**

☑ **Incremental ABZ Quadrature Encoder**   ☑ **Stable in a Wide-Range of Operating Temperature**

Elife Digital Transducer

SSI Version

1 **SCLK+**
2 **SCLK-**
3 **DATA-**
4 **DATA+**
5 **VCC**
6 **GND**

Table 1: Description of Elife Absolute Position Transducers

	CHARACTERISTIC	NOMINAL VALUE
General	DC Supply Voltage	From 4.5 to 45 V
	Refresh Rate	1 Mhz
	Accurancy[a]	0.7°
	Magnetic Working Range	From 40 to 60 mT
	Operating Temperature	From -40 to +125 °C
SSI	Data Length	16 Bit
	Effective Resolution	14 Bit
	SSI Clock	up to 25 MHz
	Dead Time	40 μs
Incremental Encoder	Pulses per Revolution	up to 1024[b]
	ABZ Update Rate	16 MHz
PWM Output	PWM Frequency	1 KHz
	PWM Resolution	14 bit

[a] INL at room temperature over the full mangetic field range.

[b] Pulses per Revolution can be configured to a desired value (factory programming)

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[1]The mechanical dimensions can be developed in according to the customer needs and depends of the type of Digital Transducer chosen.