

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: $\pm 0.5\text{mm}$ 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

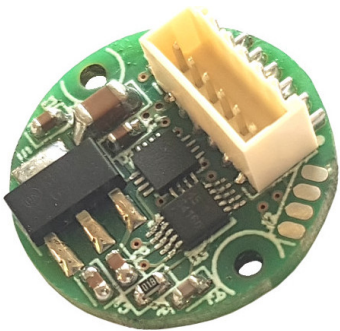
✓ **Absolute Encoder**

✓ **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
	Accuracy ^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 magnetic field range.

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



www.elifeinternational.com

+39.0565.944121 info@elifeinternational.com

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