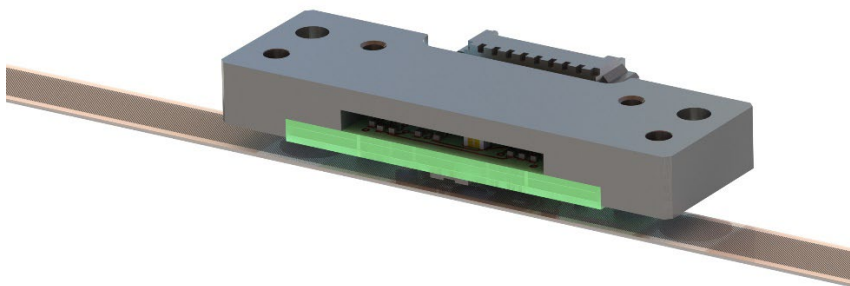


Incremental Encoder Kit

Linear, optical reflective

0.8µm resolution



PWB encoders GmbH
Am Goldberg 2
D-99817 Eisenach
Germany
Phone: +49 3691 72580-0

info@pwb-encoders.com
www.pwb-encoders.com

Description

The EBG Head Kit is an optical encoder system. It's a reflective kit encoder that can be fixed quickly and easily on different length of code strips and on different mounting situations. The encoder is developed for incremental positioning and linear speed control. There are two different sizes of code strips available. Customized code strip lengths can be made on request.

Features

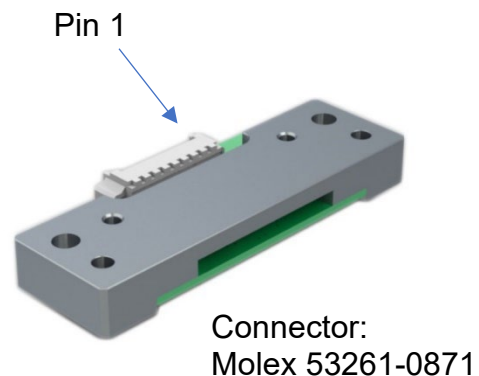
- Incremental encoder
- Channels: A+, A-, B+, B-, I+, I-
- Interface: TTL, RS422 (3,3V level)
- Resolution: 0,8µm
- Output frequency: up to 12 MHz
- Power supply: 5 VDC
- Small size: 40.0 mm x 17.0 mm x 5.5mm
- Bearing free
- Operating temperature: -20°C to +85°C
- Compliant EU-directive 2011/65/EU (RoHS)

Applications

- Motor feedback
- Hollow-shaft, torque motor systems

Pin Description

Pin	Signal	Cable color
1	A+	Red
2	A-	Green
3	B+	Blue
4	B-	Purple
5	I+	Brown
6	I-	Yellow
7	GND	Orange
8	VCC	Black



Recommended operating conditions

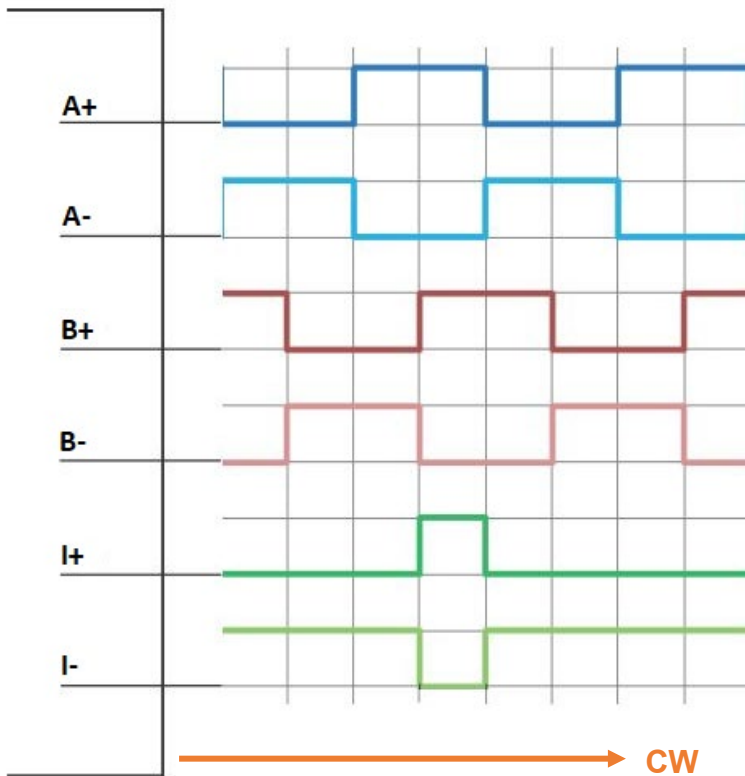
Parameter	Symbol	Min.	Typ	Max.	Unit	Notes
Supply voltage	U _B	4.75	5.0	5.25	V _{DC}	
Supply current	I _{UB}	50	70	90	mA	no Load
Startup time	t _{St}		20		ms	
Signals ABI						
Output current	I _{out}			±20	mA	per channel
Short circuit current	I _{out-max}			±35	mA	per channel
High level output voltage	V _{oH}	2.4		3.3	V _{DC}	R _L =120Ω
Low level output voltage	V _{oL}	0.0		0.7	V _{DC}	R _L =120Ω
Rise / Fall time	t _r		20		ns	
Latency	t _L		2.4	5.0	µs	
Output frequency	f _{out}			12	MHz	
Mechanic						
Pitch wide	T		80		µm	native resolution
Linear speed	v			9.5	m/s	
Radial misalignment				±0.15	mm	
Air gap		0.6	0.75	0.9	mm	
Environment						
Operating temperature	T _A	-20	25	85	°C	
Storage temperature	T _S	-40		85	°C	
Humidity exposure				90	%RH	not condensing
System						
Relative Accuracy				± 0.2	µm	Code strip
Absolute Accuracy				± 1	µm	Code strip

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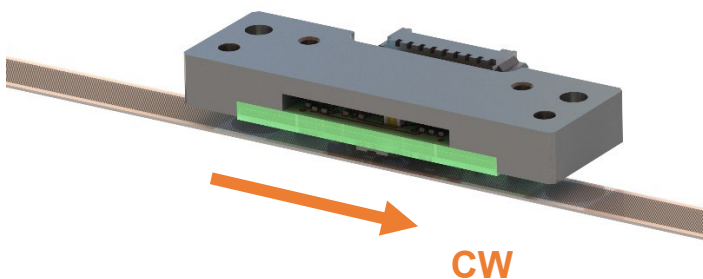
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Output signals:



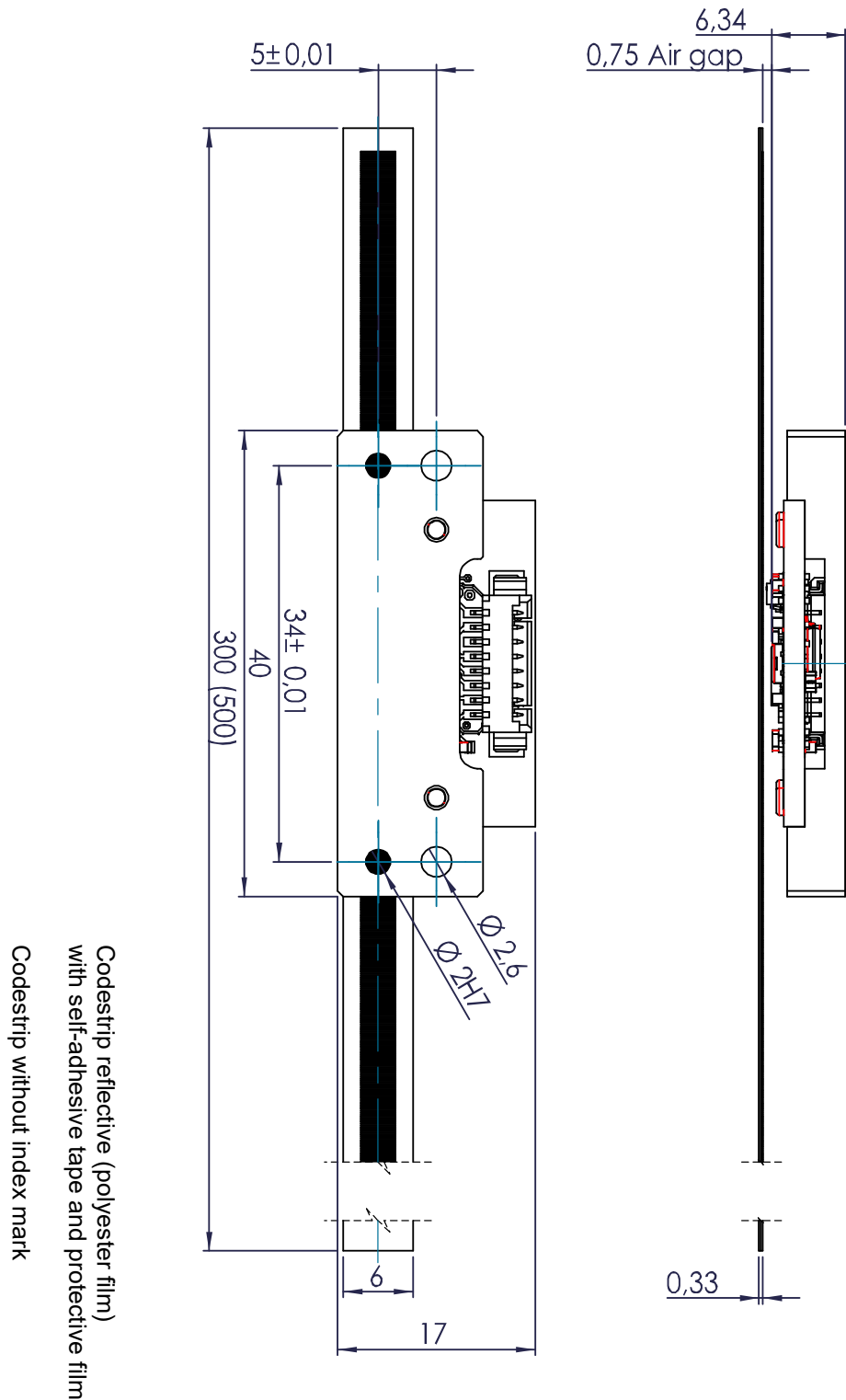
Direction of movement



ESD Warning: Normal handling precautions should be taken to avoid static discharge damage to the sensor.

Mechanical Dimensions: Type 300/500

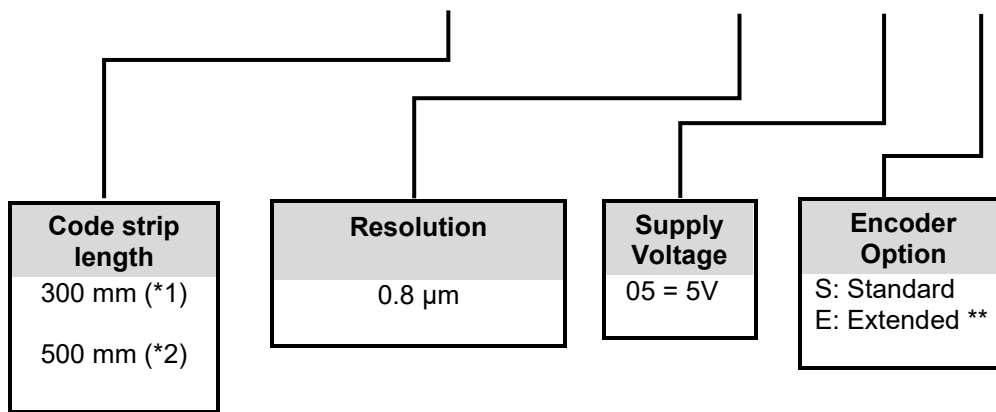
300mm / 500mm code strip length



Ordering Information

Ordering Code:

EBG Head Linear 300 – ABI – 0.8 – 05 – S



* 1 = Code strip without index
2 = Code strip with index (index in the middle of the code strip)

** Customer specific version – feel free to ask us for special solution.

Necessary accessories

Description	Picture	Item number
Accessory-Set: Cable 300mm, 2 screws M2.5x8, 2 cylindrical pins 2x6 (DIN 6325)		108546