

# Encoders

## Magnetic Encoders

For combination with:  
Stepper Motor: AM1020

### Series AE 30B19

		AE 30B19	
Lines per revolution	N	10	
Signal output, square wave		2 channels	
Supply voltage	V <sub>CC</sub>	4,5 ... 5,5	V DC
Current consumption, typical (V <sub>CC</sub> = 5 V DC)	I <sub>CC</sub>	5	mA
Pulse width	P	180 ±45	°e
Phase shift, channel A to B	Φ	90 ±45	°e
Logic state width	S	90 ±45	°e
Cycle	C	360 ±30	°e
Signal rise/fall time, typical	tr / tf	5 / 0,2	µs
Frequency range <sup>1)</sup>	f	up to 7,2	kHz
Inertia of code disc	J	9	·10 <sup>-9</sup> kgm <sup>2</sup>
Operating temperature range		-20 ... +85	°C

<sup>1)</sup> Velocity (rpm) = f (Hz) x 60/N

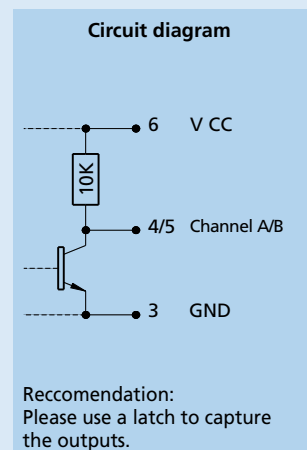
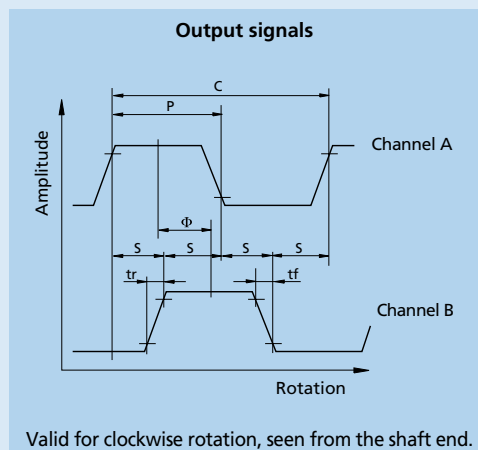
#### Features / Output signals / Circuit diagram

These incremental shaft encoders are designed for indication and control of shaft velocity and direction of rotation as well as for position verification.

Solid state Hall sensors and a low inertia magnetic disc provide two channels with 90° phase shift.

The supply voltages for the encoder and the stepper motor as well as the two channel output signals are interfaced through a individual lead wires with 125 mm in length with an 8-pin connector.

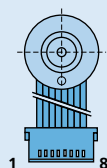
Details for the stepper motors and suitable reduction gearheads are on the corresponding data sheets.



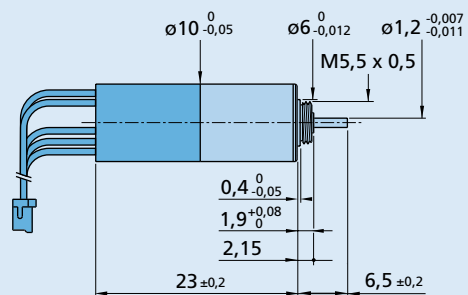
#### Cable connection

Pin	Function	Colour
1	Motor Phase A +	black
2	Motor Phase B -	orange
3	GND	green
4	Channel B	red
5	Channel A	violet
6	Vcc	yellow
7	Motor Phase A -	white
8	Motor Phase B +	blue

Connector type: JST#08ZR-3H  
Receptacle type: (not supplied)  
Top entry: B8B-ZR  
Side entry: S8B-ZR



Individual lead wires,  
AWG30, length 125 mm.



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