# PRECIZIKA METROLOGY

TAILOR-MADE ENCODER KITS

AR SERIES

AR79

This is a high-resolution, singleturn absolute encoder kit with a 22 Bit BiSS-C interface. The encoder consists of several optical reflectance sensors arranged at an angle of 180 degrees to each other.

This allows to eliminate mechanical errors in the application, such as the runout of the measured shaft, by using subsequent electronics.
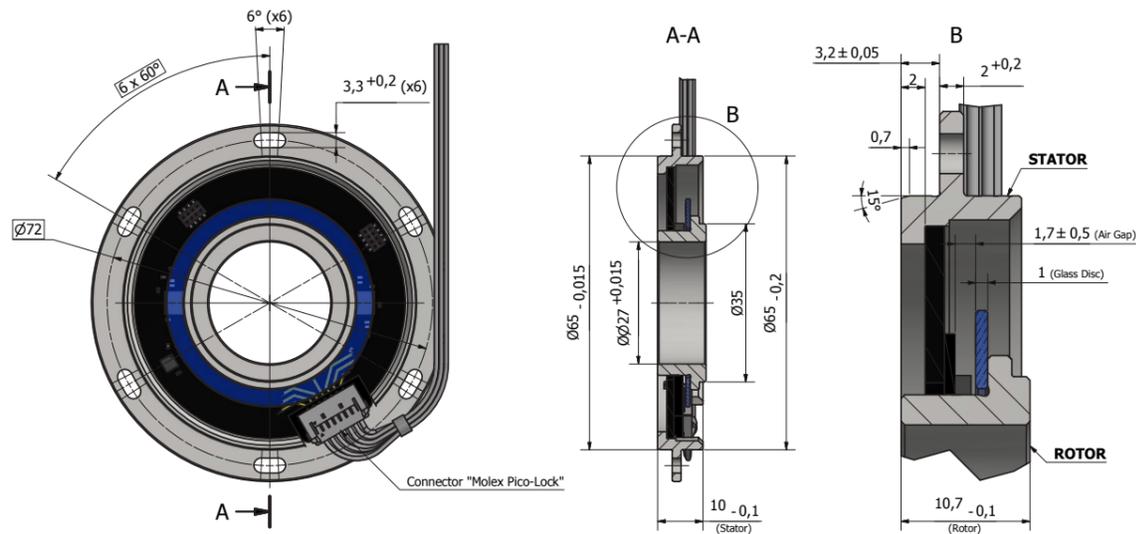
MECHANICAL DATA

Maximum shaft speed	20000 rpm
Permissible axial motion of measured shaft	±0.03 mm
Permissible radial runout of measured shaft	±0.03 mm
Rotor moment of inertia	< 30 x 10⁻⁶ kgm²
Protection (IEC 529)	IP00
Max. weight	0.05 kg
Operating temperature	-40...+100 °C
Storage temperature	-40...+100 °C
Maximum humidity (non-condensing)	98 %

ELECTRICAL DATA

Resolution	22 bit
Output code	Binary
Data interface	BiSS C
Periods number of signals 1Vpp	512
Accuracy*	± 10 arc. sec
Supply voltage	+5V ± 5%;
Supply current	80 - 220 mA
Start up time	13 ms
Scan ratio of T	40 - 60 %
Time lag	80 ns
Monoflop time	timeout + T/2 us
Rise and fall time	4 - 15 ns
Analog signals	~1Vpp (512 ppr)
Cutoff frequency	< 240 kHz
Amplitude output voltage	0.6 - 1.2 V
Maximum output current	22 mA
Light source	LED

*Expected at optimum installation, additional deviations due to mounting and inaccuracy of the measured shaft are not taken into account.

Note: Maximum working rotation speed (with proper encoder counting) is limited by maximum operating frequency and maximum mechanical rotation speed.
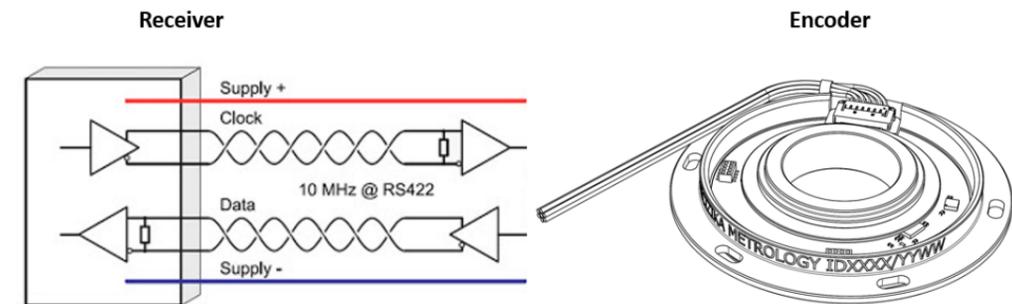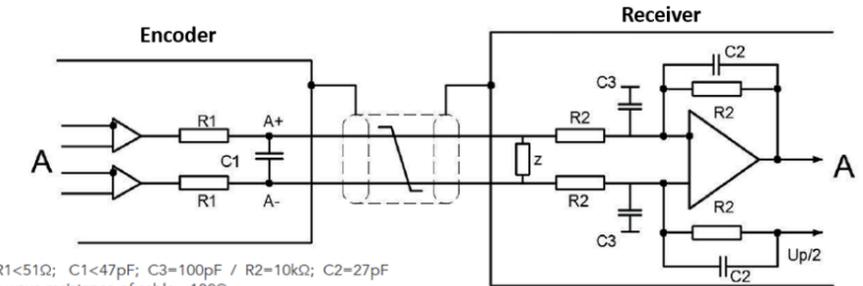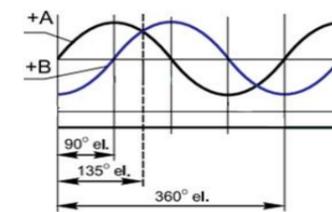
INTERFACE

DATA TRANSFER BISS-C
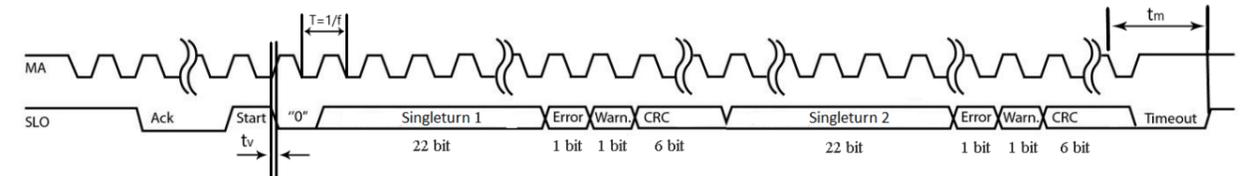
DESCRIPTION	DATA
T$_{timeout}$	0.075 us - 24 us
Clock frequency	62.4 kHz - 20 MHz

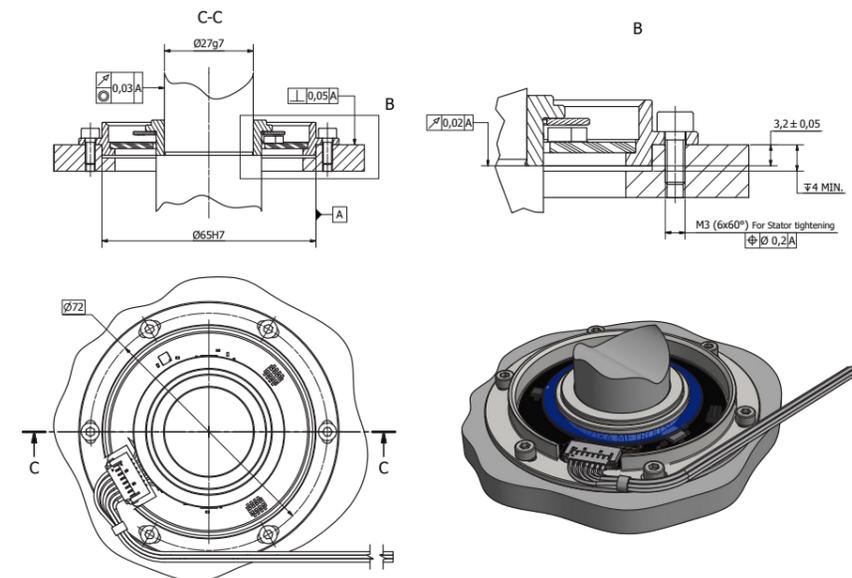### TYPICAL OPERATING CIRCUIT FOR BISS-C

SINE-WAVE VOLTAGE SIGNAL

R1<51Ω; C1<47pF; C3=100pF / R2=10kΩ; C2=27pF
z-wave resistance of cable ≈120Ω
The channels B and R are the same as A

MECHANICAL DIMENSION