

# ABSOLUTE ROTARY ENCODER

## “Magnetic Measurement, Semi Hollow Shaft”

**ARS B 50**  
**SSI OUTPUT**



### GENERAL SPECIFICATIONS

- Absolute measurement by magnetic principle
- 50 mm body diameter
- 6 mm, 8 mm, 10 mm or 12 mm semi hollow shaft options
- 12 bit angular resolution
- 3000 RPM operating speed
- SSI interface
- High sensitivity
- IP54 protection class



ARS B 50 series rotary encoders measure by magnetic principle and work absolutely. They have SSI interface. They offer high sensitivity due their high 12 bit resolution at 4096 different positions for 360°. Optionally, different shaft types, cable length or socket model can be requested.

### APPLICATION FIELDS

- Wind Applications / Power Plants
- Marine or Utility Vehicle Applications
- Press or Wood and Stone Processing Machinery
- Construction Machinery
- Cranes



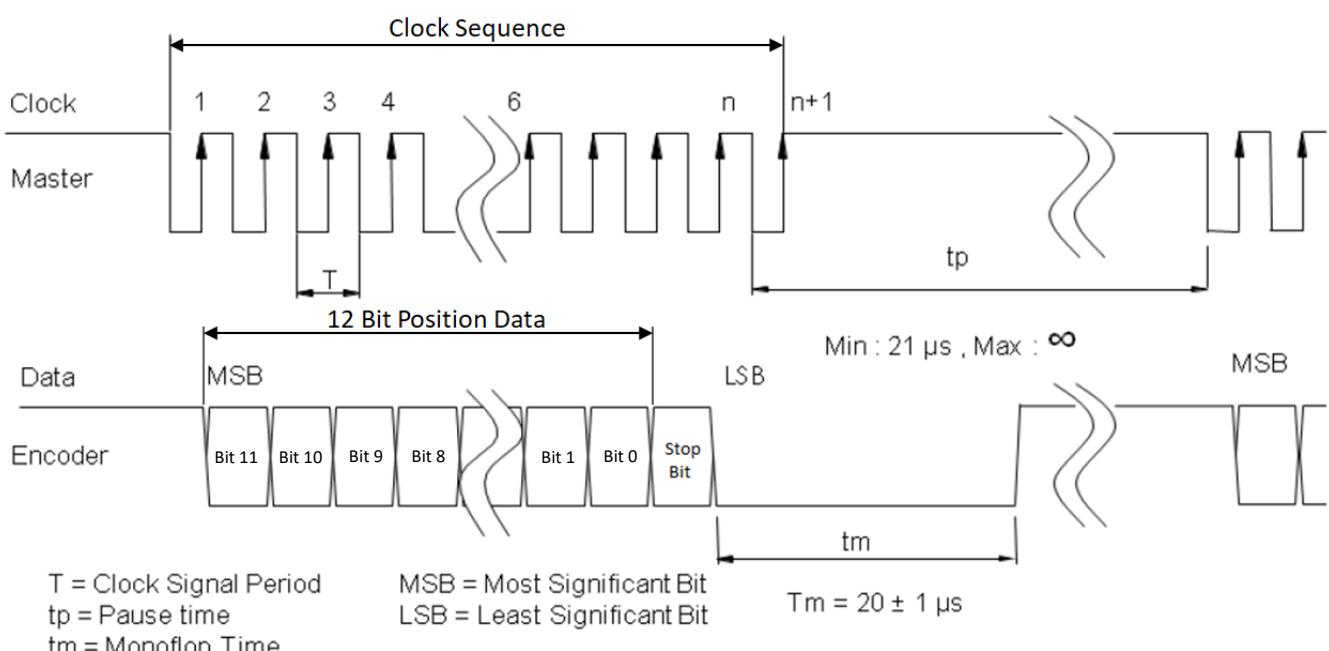
### TECHNICAL SPECIFICATIONS

<b>Measuring Range</b>	0° ... 360°	<b>Overvoltage Protection</b>	26 V
<b>Max. Operating Speed</b>	3000 RPM	<b>No-load current</b>	<60mA (24V DC)
<b>Measuring Type</b>	Magnetic	<b>Initializing time</b>	<250 ms (after power on)
<b>Output Signal (protocol)</b>	SSI 13 bit (12 bit data + 1 stop bit)	<b>Ohmic load at outputs</b>	120 ohm
<b>Encoding</b>	Gray	<b>Physical interface</b>	RS-422
<b>Data update rate</b>	500 Hz (2 ms)	<b>Max clock rate</b>	2 MHz
<b>Frame Format</b>	MSB First - [12 Bit Position] + [1 Stop Bit] - LSB	<b>Monoflop time (tm)</b>	20 µs
<b>Max. Cable Length</b>	13m @2 MHz, 44m @1 MHz, 85m @600 kHz, 300m @200 kHz, 750m @80 kHz It is recommended to use twisted pair cables which comply with the RS422 Standard.	<b>Operating Temperature</b>	-40...+85 °C
<b>Resolution</b>	12 bit	<b>Storage Temperature</b>	-40...+85 °C
<b>Accuracy</b>	≤ ± %0.25	<b>IP Protection Class</b>	IP54
<b>Supply Voltage</b>	5 - 24 VDC	<b>Weight</b>	~180 gr
		<b>Material</b>	Body: Aluminum Shaft: Stainless Steel

## ELECTRICAL CONNECTION

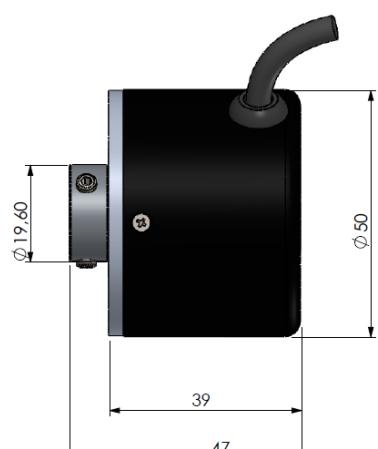
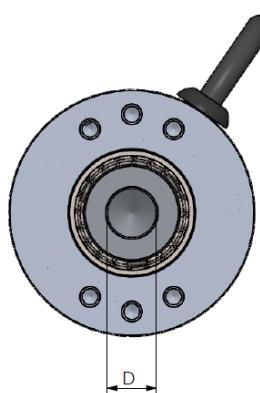
SIGNAL	CABLE COLOR	M16-8 PIN MALE CONNECTOR PIN NO	M16-8 PIN FEMALE CONNECTOR PIN NO
+V	Red	1	1
GND	Black	2	2
Data +	Yellow	3	3
Data -	Green	4	4
Clock +	White	5	5
Clock -	Brown	6	6

## SSI TIMING DIAGRAM



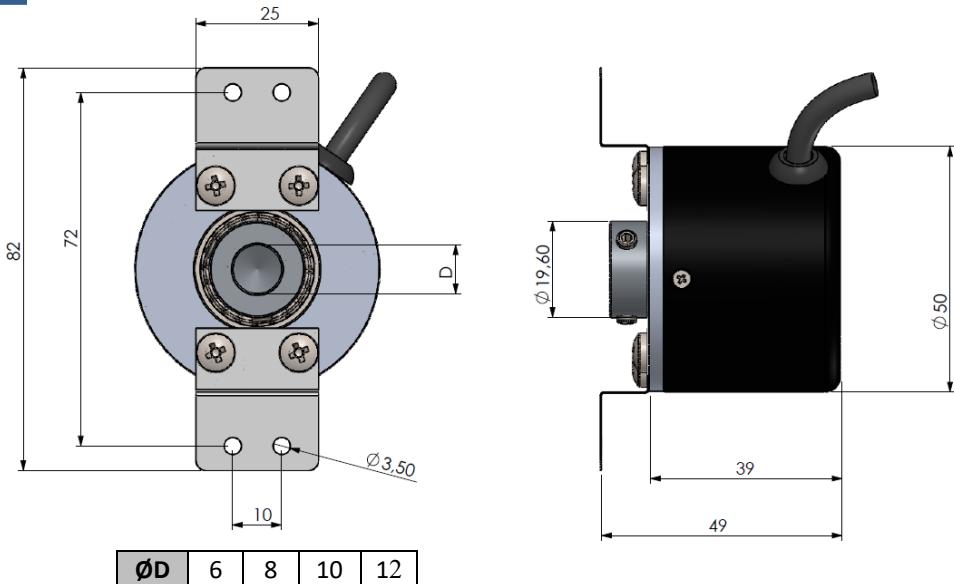
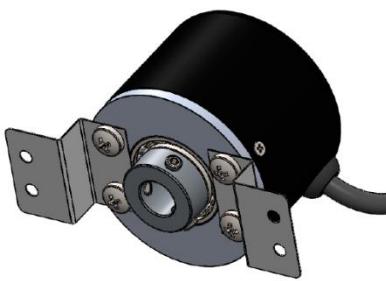
## MECHANICAL DIMENSIONS (mm)

### Encoder Dimensions

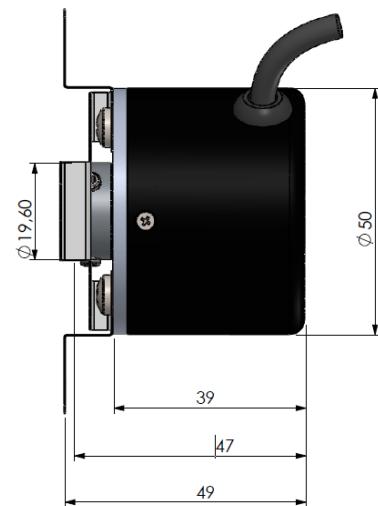
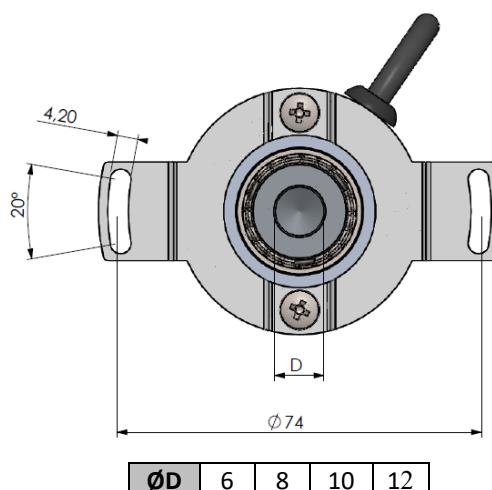
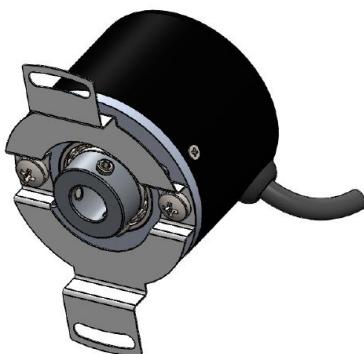


**ØD** 6 8 10 12

## FZ Flange



## FC Flange



## PRODUCT CODE

Model	Body Diameter	Output Signal	Electrical Connection <sup>(1)</sup>	Hollow Diameter
ARS	050 : 50 mm	SSI : SSI Output	3M : 3 m 5M : 5 m 10M : 10 m S117M : M16/8 pin male conn.	6 : 6 mm 8 : 8 mm 10 : 10 mm 12 : 12 mm
- X -	- XXX -	- XXXX -	- XXX -	- XX -
Shaft Type	Resolution	Encoding	Cable Direction <sup>(2)</sup>	Flange Type
B : Semi Hollow Shaft	0012 : 12 Bit	G : Gray	A : From backside Y : From side AS : From backside + spiral	FZ : Z Type FC : Circular

(1) The cable length can be selected to desired length, provided that minimum 1.5 meters. The M16 connector can only be backside. Optionally, different connector models can be requested.

(2) Cable direction can be selected from backside or side. PG7 gland is used when the cable direction is from the rear, PG7 gland is not used when the cable direction is from the back.

### Optional Products

K6C2 10M S21(F) Pur Flex cable 3x2x0.34mm<sup>2</sup> + M16/8 pin female connector (extension cable with connector)

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