

# ABSOLUTE ROTARY ENCODER

## "Magnetic Measurement"

**ARS S 58**  
**SSI OUTPUT**



### GENERAL SPECIFICATIONS

- Absolute measurement by magnetic principle
- 58 mm body diameter
- 6 mm, 8 mm, 10 mm, 12 mm or 14 mm shaft diameter options
- 12 bit angular resolution
- 3000 RPM operating speed
- SSI interface
- High sensitivity
- IP54 protection class



ARS S 58 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

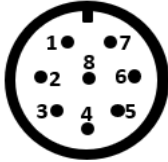
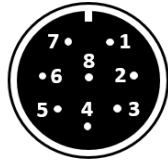
- Wind Applications / Power Plants
- Marine or Utility Vehicle Applications
- Press or Wood and Stone Processing Machinery
- Construction Machinery
- Cranes
- Offshore Applications
- Commercial Solar Plants
- Filling Plants
- Food & Beverage Applications
- Oil & Gas - Pipe Handling and Cranes



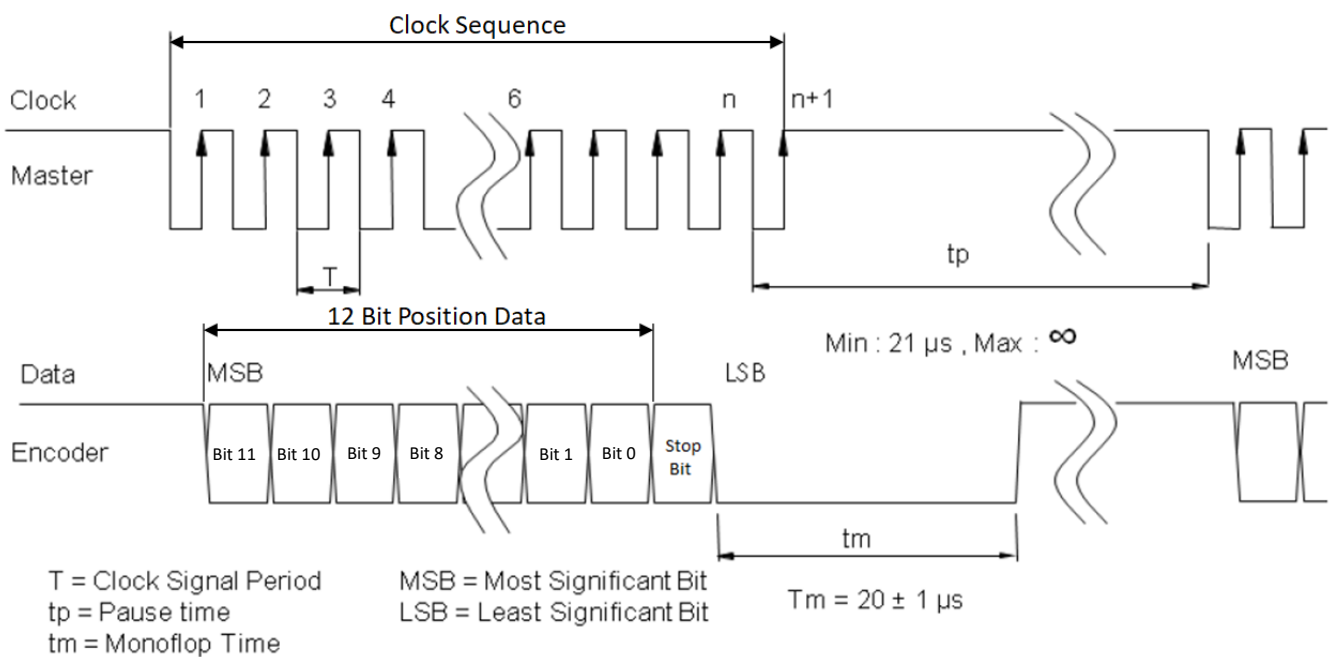
### TECHNICAL SPECIFICATIONS

|                                 |                                                                                                                                                                     |                                    |                                          |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------------|
| <b>Measuring Range</b>          | 0° ... 360°                                                                                                                                                         | <b>Overvoltage Protection</b>      | 26 V                                     |
| <b>Max. Operating Speed</b>     | 3000 RPM                                                                                                                                                            | <b>No-load current consumption</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<br>(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] +<br>[1 Stop Bit] - LSB                                                                                                               | <b>Monoflop time (tm)</b>          | 20 µs                                    |
| <b>Max. Cable Length</b>        | 13m @2 MHz, 44m @1 MHz, 85m<br>@600 kHz, 300m @200 kHz, 750m<br>@80 kHz<br>It is recommended to use twisted<br>pair cables which comply with the<br>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<br>Shaft: stainless Steel |

## ELECTRICAL CONNECTION

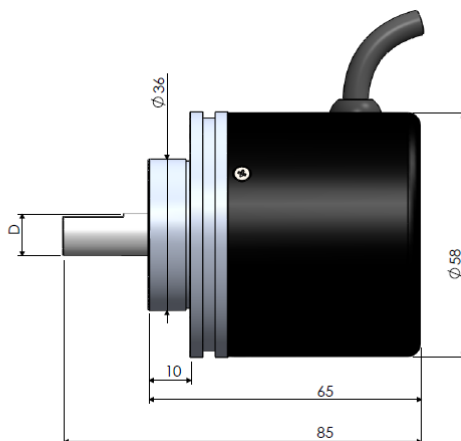
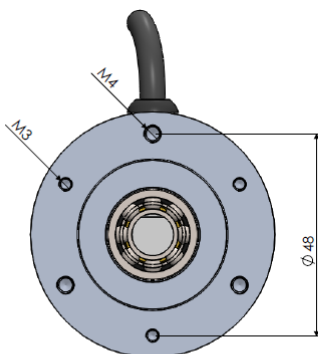
|  |  |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| SIGNAL                                                                            | CABLE COLOR                                                                       | M16-8 PIN MALE CONNECTOR<br>PIN NO                                                | M16-8 PIN FEMALE CONNECTOR<br>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



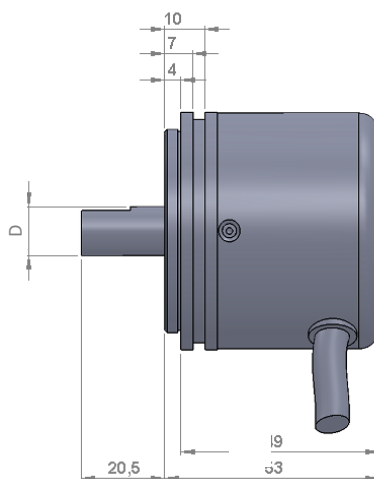
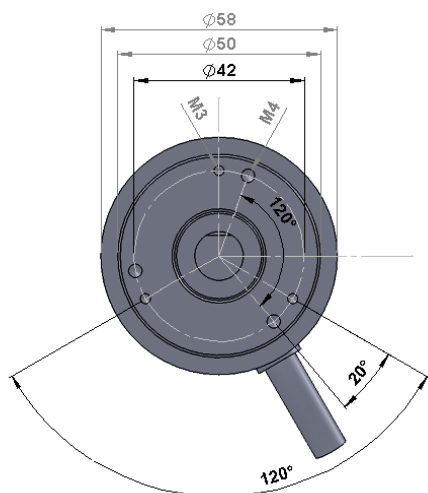
## MECHANICAL DIMENSIONS (in mm)

### Clamping Flange



| ØD | 6 | 8 | 10 | 12 | 14 |
|----|---|---|----|----|----|
|----|---|---|----|----|----|

## Synchro Flange

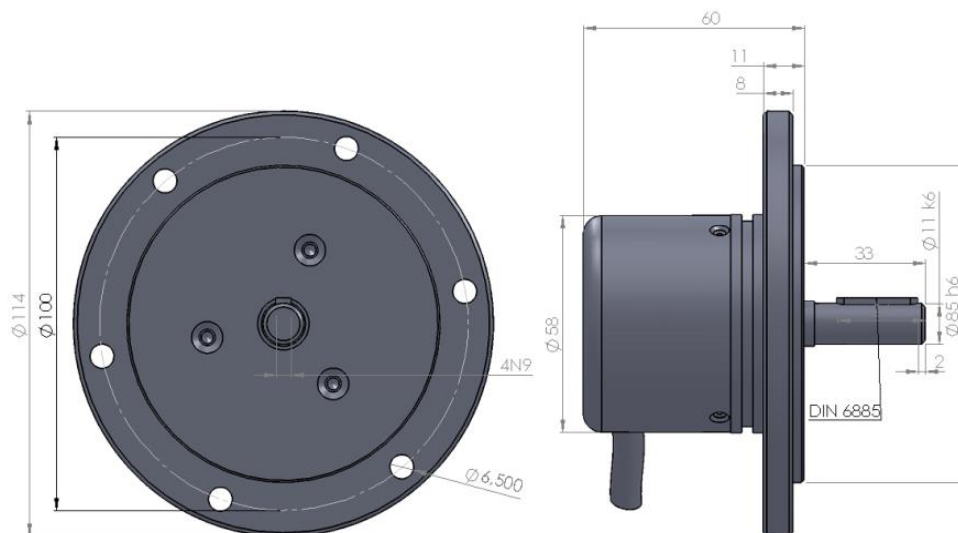


| ØD | 6 | 8 | 10 | 12 | 14 |
|----|---|---|----|----|----|
|----|---|---|----|----|----|

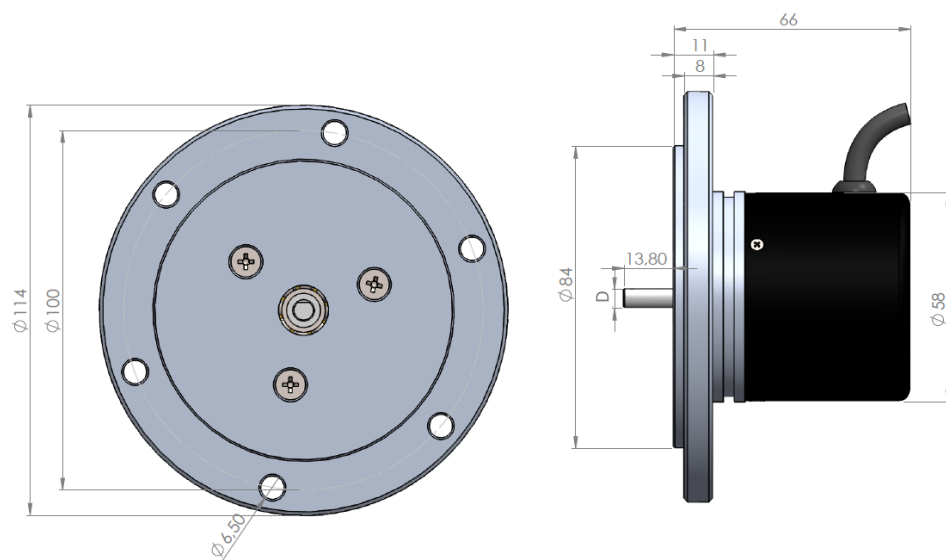
## Tacho Flange

### Wedge Shaft Model

\*In the wedge model, the shaft diameter is produced as only 11 mm.

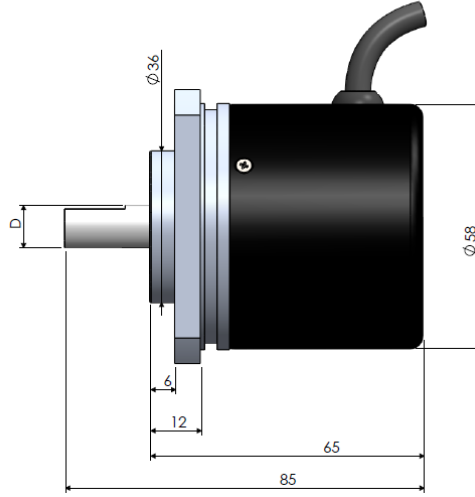
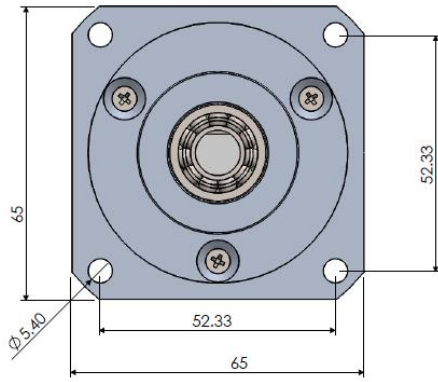


### Standard Shaft Model



| ØD | 6 | 8 | 10 | 12 | 14 |
|----|---|---|----|----|----|
|----|---|---|----|----|----|

## Square Flange



| ØD | 6 | 8 | 10 | 12 | 14 |
|----|---|---|----|----|----|
|----|---|---|----|----|----|

## ORDER CODE

|                     |                                  |                                     |                                    |                                          |                             |                                                                                                                              |                                                                                                                        |                                                                                                                                         |                                                                                             |
|---------------------|----------------------------------|-------------------------------------|------------------------------------|------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Model</b><br>ARS |                                  | <b>Body Diameter</b><br>058 : 58 mm |                                    | <b>Output Signal</b><br>SSI : SSI Output |                             | <b>Electrical Connection <sup>(1)</sup></b><br>3M : 3 m (standard)<br>5M : 5 m<br>10M : 10 m<br>S117M : M16/8 pin male conn. |                                                                                                                        | <b>Shaft Diameter</b><br>6 : 6 mm<br>8 : 8 mm<br>10 : 10 mm<br>12 : 12 mm<br>14 : 14 mm<br>11K4 : 11 mm wedge<br>(only for tach flange) |                                                                                             |
| ARS                 | X                                | XXX                                 | XXXX                               | XXX                                      | X                           | X                                                                                                                            | XX                                                                                                                     | XX                                                                                                                                      | X                                                                                           |
|                     | <b>Shaft Type</b><br>S : Shafted |                                     | <b>Resolution</b><br>0012 : 12 Bit |                                          | <b>Encoding</b><br>G : Gray |                                                                                                                              | <b>Kablo or Connector Direction<sup>(2)</sup></b><br>A : From backside<br>Y : From side<br>AS : From backside + spiral |                                                                                                                                         | <b>Flange Type <sup>(3)</sup></b><br>C : Clamping<br>S : Synchro<br>T : Tacho<br>K : Square |

- (1) The cable length can be selected to desired length, provided that minimum 1.5 meters. Optionally, different socket models can be requested.
- (2) The M16 connector can be from side or backside.  
The cable output can be selected from backside, side or backside+spiral.
- (3) 6, 8, 10, 12 or 14 mm standard shaft or 11K4 wedge shaft can be selected in model with tachometer flange.  
In other flange models, 6, 8, 10, 12 or 14 mm standard shafts can be selected.

\* Please contact for non-standard (special production) product requests.

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

## Atek Elektronik Sensör Teknolojileri Sanayi ve Ticaret A.Ş.



Gebze OSB, 800. Sokak, No:814 Gebze/KOCAELİ/TÜRKİYE



Tel: +90 262 673 76 00



Fax: +90 262 673 76 08



[www.ateksensor.com](http://www.ateksensor.com)



[info@ateksensor.com](mailto:info@ateksensor.com)