


ARS 60: Absolute Encoders Singleturn. Modular Design for tailor-made solutions.



- Excellent price/performance ratio
- Long LED lifetime as a result of automatic light regulation
- Maximum reliability as a result of opto-ASICs with Chip-on-Board technology
- Interchangeable collets for hollow shaft diameters from 6 to 15 mm and 1/4, 3/8, 1/2 inch.

Whether with face mount flange, servo flange, blind or through hollow shaft with connector or cable outlet, SSI or Parallel interface – ARS 60 absolute singleturn encoders will meet virtually any application profile.

	<p>Number of steps 2 to 32,768</p>
<p>Absolute Encoder Singleturn</p>	




CoreTech technology permits tailor-made solutions for every application, due to its modular design. ARS 60 absolute encoders singleturn are available with any desired number of steps between 2 und 32,768. Further highlights of this generation of encoders:

Thanks to this wide variety of products, there are numerous possible uses, for example in:

- Simple zero adjustment by pressing a button located under a cap on the rear of the encoder or remotely via a signal line.

- machine tools
- textile machines
- woodworking machines
- packaging machines

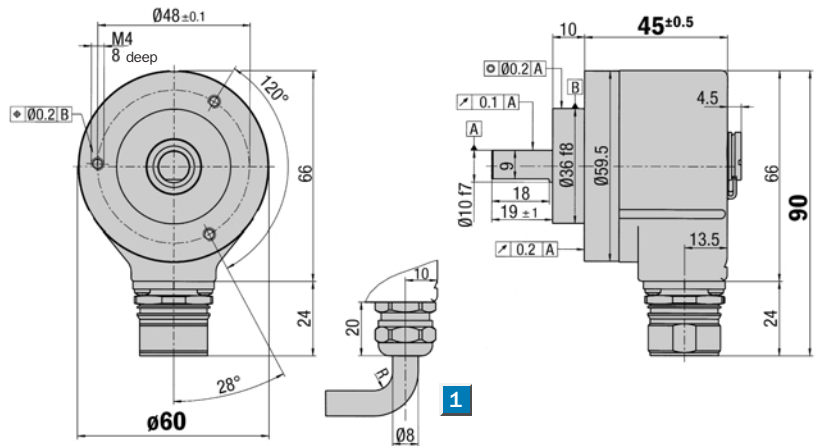
CoreTech[®]
by **SICK** | **STEGMANN**

 **Number of steps**
2 to 32,768

Absolute Encoder Singleturn

- Connector or cable outlet
- Protection class up to IP 66
- Electrical Interfaces
SSI or Parallel
- Zero adjustment directly on
the encoder or via a remote line

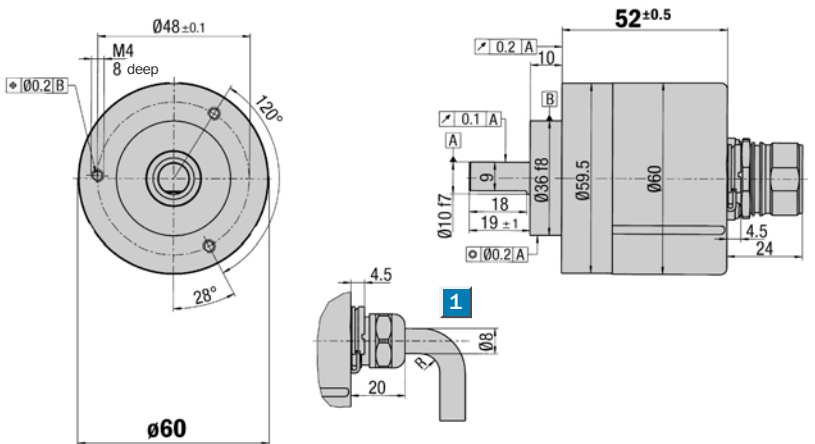
Dimensional drawing face mount flange radial exit



1 R = bending radius min. 40 mm

General tolerances according to DIN ISO 2768-mk

Dimensional drawing face mount flange axial exit

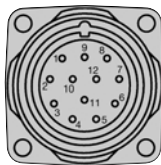


1 R = bending radius min. 40 mm

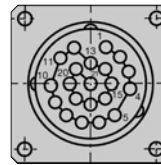
General tolerances according to DIN ISO 2768-mk



PIN and wire allocation see page 18



View of the connector M23 fitted to the encoder body SSI

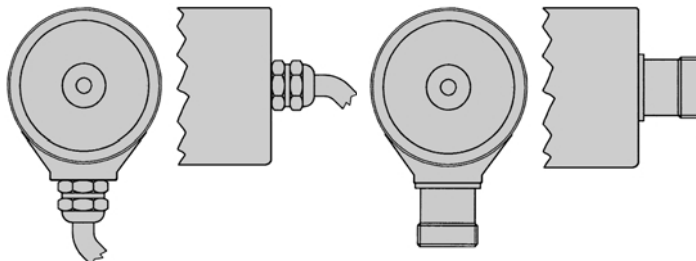


View of the connector M23 fitted to the encoder body Single, Parallel

Accessories
Connection systems
Mounting systems
Adaptor modules

Connection type

Radial cable	Axial cable	Radial connector	Axial connector
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Technical Data acc. to DIN 32878		ARS 60 face mount flange	Flange type											
			face m.											
Solid shaft	10 mm													
Number of steps per revolution	00002 ... 32,768, see ordering information													
Electrical interfaces	SSI or Parallel													
Mass ¹⁾	Approx. 0.3 kg													
Moment of inertia of the rotor	54 gcm ²													
Code direction ²⁾	CW													
Measurement range	1 revolution													
Measuring step	360°/number of steps													
Repeatability	0.005°													
Error limits														
binary number of steps	0.035°													
non-binary number of steps	0.046°													
Measuring step deviation														
binary number of steps	0.005°													
non-binary number of steps	0.016°													
Measured value backlash	0.005°													
Response threshold	0.003°													
Max. angular acceleration	5 x 10 ⁵ rad/s ²													
Max. operating speed														
with shaft seal	6,000 min ⁻¹													
without shaft seal ³⁾	10,000 min ⁻¹													
Operating torque	Typ. 0.3 Ncm													
Start up torque	Typ. 0.4 Ncm													
Permissible shaft loading														
radial	20 N													
axial	10 N													
Bearing lifetime	3.6 x 10 ⁹ revolutions													
Working temperature range	- 20 ... + 85 °C													
Storage temperature range	- 40 ... + 100 °C													
Permissible relative humidity ⁴⁾	90 %													
EMC ⁵⁾														
Resistance														
to shocks ⁶⁾	50/11 g/ms													
to vibration ⁷⁾	20/10 ... 2000 g/Hz													
Protection class acc. IEC 60529														
connector outlet ⁸⁾	IP 65													
cable outlet	IP 66													
Operating voltage range (U_s)	10 ... 32 V													
Operating current														
SSI	Typ. 60 mA													
Parallel	Typ. 90 mA													
Switching level of the control inputs														
	Logic H = 0.7 x U _s													
	Logic L = 0 V ... 0.3 x U _s													
Operation of zero-set ⁹⁾	≥ 100 ms													
Initialisation time after power on	40 ms													

¹⁾ For an encoder with connector outlet

²⁾ Increasing when viewing the clockwise rotating shaft

³⁾ If the shaft seal has been removed by the customer

⁴⁾ Condensation not permitted

⁵⁾ To DIN EN 61000-6-2 and DIN EN 61000-6-3

⁶⁾ To DIN EN 60068-2-27

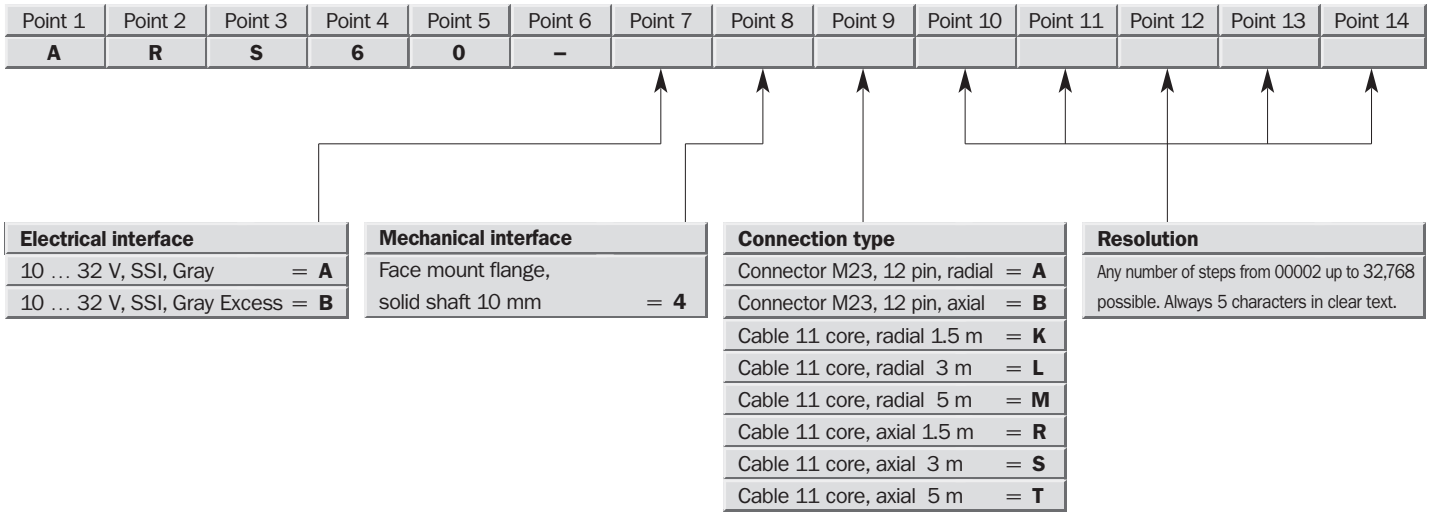
⁷⁾ To DIN EN 60068-2-6

⁸⁾ With mating connector fitted

⁹⁾ Only with shaft stationary (note initialisation time)

Order information SSI interface

Absolute Encoder Singleturn ARS 60 SSI, face mount flange, solid shaft 10 mm



Order example: Absolute Encoder Singleturn ARS 60 SSI

10 ... 32 V, SSI, Gray; face mount flange; connector M23, 12 pin, radial; number of steps: 8,192

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
A	R	S	6	0	-	A	4	A	0	8	1	9	2

Please enter your individual encoder here

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
A	R	S	6	0	-								

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
A	R	S	6	0	-								

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
A	R	S	6	0	-								

Order information Parallel interface

Absolute Encoder Singleturn ARS 60 Parallel, face mount flange, solid shaft 10 mm

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
A	R	S	6	0	-								

Electrical interface	
10 ... 32 V, parallel, Gray	= F
10 ... 32 V, parallel, Gray Exc.	= G
10 ... 32 V, parallel, BIN	= H
10 ... 32 V, parallel, BCD	= J

Mechanical interface	
Face mount flange, solid shaft 10 mm	= 4

Connection type	
Connector M23, 21 pin, radial	= A
Connector M23, 21 pin, axial	= B
Cable 22 core, radial 1.5 m	= K
Cable 22 core, radial 3 m	= L
Cable 22 core, radial 5 m	= M
Cable 22 core, axial 1.5 m	= R
Cable 22 core, axial 3 m	= S
Cable 22 core, axial 5 m	= T

Resolution	
Any number of steps from 00002 up to 32,768 possible, with the following electrical interfaces:	
10 ... 32 V, parallel, Gray	
10 ... 32 V, parallel, Gray Excess	
10 ... 32 V, parallel, BIN	
Number of steps from 00002 up to 07999 possible, with the electrical interface:	
10 ... 32 V, parallel, BCD	
Always 5 characters in clear text.	

Order example: Absolute Encoder Singleturn ARS 60 Parallel

10 ... 32 V, Parallel, Gray; face mount flange; connector M23, 21 pin, radial; number of steps: 8,192

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
A	R	S	6	0	-	F	4	A	0	8	1	9	2

Please enter your individual encoder here

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
A	R	S	6	0	-								

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
A	R	S	6	0	-								

Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Point 10	Point 11	Point 12	Point 13	Point 14
A	R	S	6	0	-								