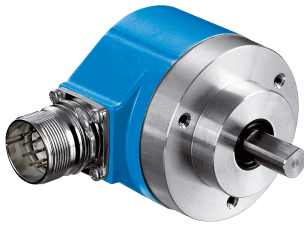# ARS60

Absolute encoder with SSI or parallel interface for numerous applications

SICK
Sensor Intelligence.

Technical data overview

Encoder design	Singleturn
Shaft type	Solid shaft, Servo flange Solid shaft, face mount flange Blind hollow shaft Through hollow shaft
Shaft diameter	
Solid shaft, Servo flange	6 mm With flat
Solid shaft, face mount flange	10 mm With flat
Blind hollow shaft	15 mm Front clamp [1]
Through hollow shaft	12 mm Front clamp [2]
Connection type	Male connector, M23, 12-pin, radial Male connector, M23, 12-pin, axial Cable, 11-wire, radial Cable, 11-wire, axial Male connector, M23, 21-pin, radial Male connector, M23, 21-pin, axial Cable, 22-wire, radial Cable, 22-wire, axial
Communication interface	SSI / parallel data world (depends on variant)
Number of steps per revolution (max. resolution)	
SSI	360 2,880 720 1,024 (10 bit) 1,892 2,048 (11 bit) 3,600 4,096 (12 bit) 5,000 7,200 8,129 8,192 (13 bit) 10,000 16,384 (14 bit) 18,000 21,600 32,767 32,768 (15 bit) 512 (9 bit) 256 (8 bit) 72 1,000 1,440 4,000 14,400 2,000 8,640 9,192 9,360 12,800 18,080 28,800 32,000

[1] Collets for 6, 8, 10, 12, 14 mm and 1/4", 3/8" and 1/2" as accessories, separate order item. For 15 mm shaft diameter collet is not needed.

[2] 12 mm requires the corresponding collet, this and other collets for 6, 8, 10 mm as well as 1/4", 3/8" and 1/2" need to be ordered separately as accessories.

[3] With mating connector fitted.

	32,400
	32,766
	500
	6,000
	7,400
	200
	4,320
	10
	1,576
	30,000
	8,196
	36
	1,638
	4,086
	9,000
	24,576
	28,672
	22,528
Parallel data world	800
	2,880
	9
	360
	256 (8 bit)
	1,024 (10 bit)
	512 (9 bit)
	2,000
	4,096 (12 bit)
	500
	5,000
	720
	8,192 (13 bit)
	32,768 (15 bit)
	2,048 (11 bit)
	3,600
	10,000
	32,767
	15
	16,384 (14 bit)
	64
	1,000
	7,200
	860
	2,500
	18,000
	8 (3 bit)
	12
	6,017
	1,440
	1,375
	18
	48
	24
	120
	34
	128 (7 bit)
	100
	180
	400
	454
	452
	8,100
	11,520
	1,360

[1] Collets for 6, 8, 10, 12, 14 mm and 1/4", 3/8" and 1/2" as accessories, separate order item. For 15 mm shaft diameter collet is not needed.

[2] 12 mm requires the corresponding collet, this and other collets for 6, 8, 10 mm as well as 1/4", 3/8" and 1/2" need to be ordered separately as accessories.

[3] With mating connector fitted.

	4,090 7,920 576 3,621 64 (6 bit) 2,534 4,000 14,400 10,240 19 200 72 232 8,000 7,999 40 16 (4 bit) 42 2,280 2,400 24,000 36 5,760 5,808 21,600 49 144 900 60 54 78 1,924 22,800
Max. resolution (number of steps per revolution x number of revolutions)	
Operating temperature range	–20 °C ... +85 °C
Enclosure rating	IP65 (IEC 60529) Male connector [3] IP66 (IEC 60529) Cable IP64 (IEC 60529) Male connector [3] IP64 (IEC 60529) Cable

[1] Collets for 6, 8, 10, 12, 14 mm and 1/4", 3/8" and 1/2" as accessories, separate order item. For 15 mm shaft diameter collet is not needed.

[2] 12 mm requires the corresponding collet, this and other collets for 6, 8, 10 mm as well as 1/4", 3/8" and 1/2" need to be ordered separately as accessories.

[3] With mating connector fitted.

Product description

The modular setup of its CoreTech technology enables the compact ARS60 absolute singleturn encoder to provide a customized solution for all applications. All common mechanical variants are available with any number of increments between 2 and 32,768 and are either equipped with an SSI or parallel output, making the ARS60 a universal solution for nearly any application requirements

At a glance

- Absolute singleturn encoder
- Resolution: up to 15 bits (32,768 increments)
- Electrical interface: SSI with gray code type or gray capped
- Electrical interface: Parallel with gray, gray capped, binary, BCD code type
- Zero-set function
- Mechanical interfaces: face mount flange, servo flange, blind and through hollow shaft
- Enclosure rating: Up to IP66

Your benefits

- Freely programmable resolution (up to 15 bits)
-
- Easy zero adjustment directly on the encoder by pressing a button or via sub cable (cable version)
-
- Suitable for all mounting methods thanks to the individual mechanical interfaces
-
- A versatile base model thanks to the easily exchangeable collets for the blind hollow shaft and through hollow shaft
-
- Versions with cable and M23 connector connection in axial and radial designs available
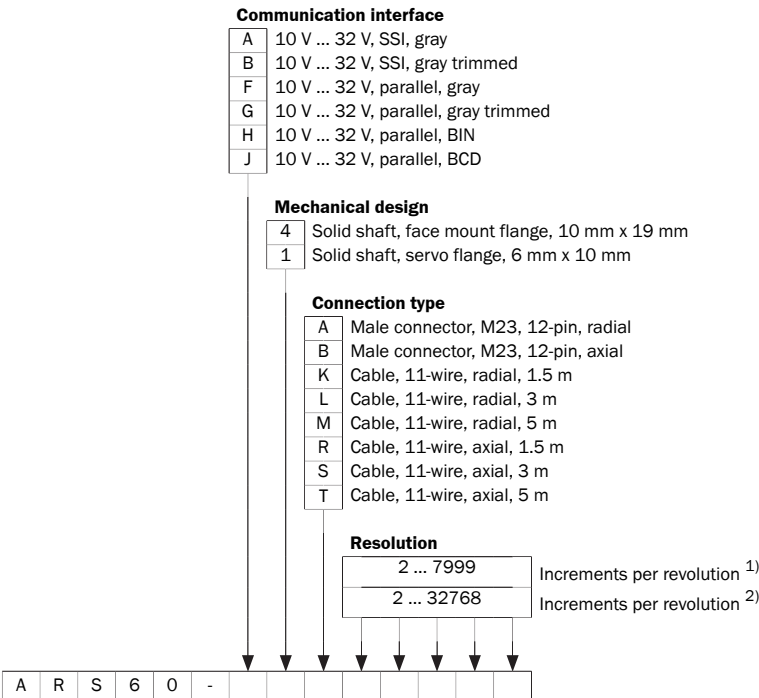
Fields of application

- Electronics and solar industries
- Textile machinery
- Packaging industry
- High-bay warehouses
- Woodworking machines
- Machine construction
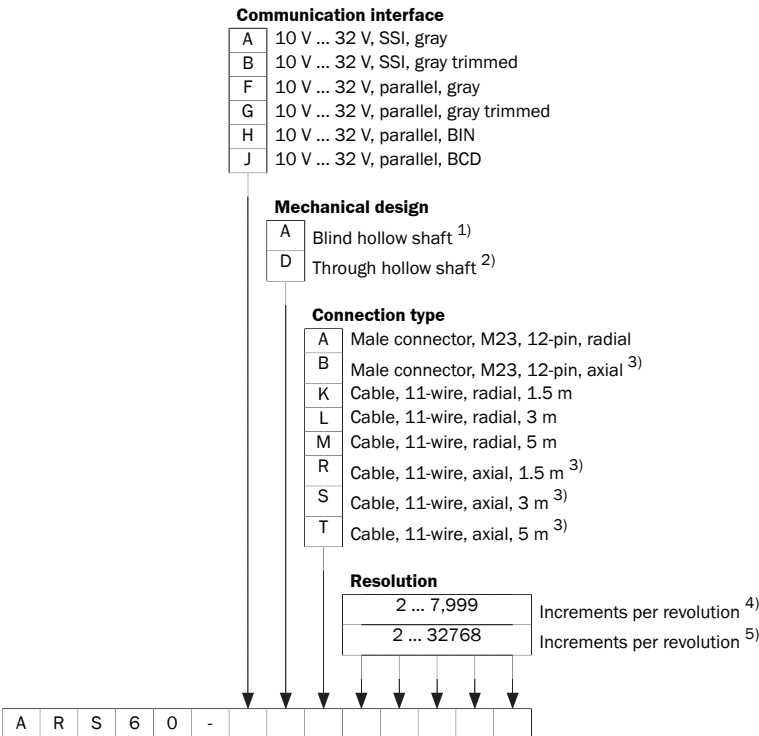- Automotive industry
- Material handling

Type code

Other models and accessories ➜ www.sick.com/ARS60

Solid shaft

Communication interface

A	10 V ... 32 V, SSI, gray
B	10 V ... 32 V, SSI, gray trimmed
F	10 V ... 32 V, parallel, gray
G	10 V ... 32 V, parallel, gray trimmed
H	10 V ... 32 V, parallel, BIN
J	10 V ... 32 V, parallel, BCD

Mechanical design

4	Solid shaft, face mount flange, 10 mm x 19 mm
1	Solid shaft, servo flange, 6 mm x 10 mm

Connection type

A	Male connector, M23, 12-pin, radial
B	Male connector, M23, 12-pin, axial
K	Cable, 11-wire, radial, 1.5 m
L	Cable, 11-wire, radial, 3 m
M	Cable, 11-wire, radial, 5 m
R	Cable, 11-wire, axial, 1.5 m
S	Cable, 11-wire, axial, 3 m
T	Cable, 11-wire, axial, 5 m

Resolution

2 ... 7999	Increments per revolution [1]
2 ... 32768	Increments per revolution [2]

A	R	S	6	0	-								

[1] Communication interface J: Increments per revolution 2 ... 7999 possible.

[2] Communication interface A, B, F, G and H: Increments per revolution 2 ... 32768 possible.

Hollow shaft

Communication interface

A	10 V ... 32 V, SSI, gray
B	10 V ... 32 V, SSI, gray trimmed
F	10 V ... 32 V, parallel, gray
G	10 V ... 32 V, parallel, gray trimmed
H	10 V ... 32 V, parallel, BIN
J	10 V ... 32 V, parallel, BCD

Mechanical design

A	Blind hollow shaft [1]
D	Through hollow shaft [2]

Connection type

A	Male connector, M23, 12-pin, radial
B	Male connector, M23, 12-pin, axial [3]
K	Cable, 11-wire, radial, 1.5 m
L	Cable, 11-wire, radial, 3 m
M	Cable, 11-wire, radial, 5 m
R	Cable, 11-wire, axial, 1.5 m [3]
S	Cable, 11-wire, axial, 3 m [3]
T	Cable, 11-wire, axial, 5 m [3]

Resolution

2 ... 7,999	Increments per revolution [4]
2 ... 32768	Increments per revolution [5]

A	R	S	6	0	-								

1) Order collets for 6, 8, 10, 12 and 14 mm as well as 1/4", 3/8" and 1/2" extra as accessories (see recommended accessories). No collets are necessary for 15 mm shaft diameter.

2) Order collets for 6, 8, 10 and 12 mm as well as 1/4", 3/8" and 1/2" extra as accessories (see recommended accessories). No collets are necessary for 15 mm shaft diameter.

3) Only for blind hollow shaft mechanical version.

4) Communication interface J: Increments per revolution 2 ... 7,999 possible.

5) Communication interface A, B, F, G and H: Increments per revolution 2 ... 32768 possible.

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

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