



# AFS/AFM60 PROFINET

Intelligent, powerful, precise

**ABSOLUTE ENCODERS**

**SICK**  
Sensor Intelligence.



### Technical data overview

<b>Encoder design</b>	Multiturn / Singleturn (depending on type)						
<b>Shaft type</b>	Solid shaft, Servo flange Solid shaft, face mount flange Blind hollow shaft						
<b>Shaft diameter</b>	<table border="0"> <tr> <td>Solid shaft, Servo flange</td> <td>6 mm</td> </tr> <tr> <td>Solid shaft, face mount flange</td> <td>10 mm</td> </tr> <tr> <td>Blind hollow shaft</td> <td>12 mm 8 mm 3/8" 10 mm 1/2" 14 mm 15 mm 1/4" 5/8"</td> </tr> </table>	Solid shaft, Servo flange	6 mm	Solid shaft, face mount flange	10 mm	Blind hollow shaft	12 mm 8 mm 3/8" 10 mm 1/2" 14 mm 15 mm 1/4" 5/8"
Solid shaft, Servo flange	6 mm						
Solid shaft, face mount flange	10 mm						
Blind hollow shaft	12 mm 8 mm 3/8" 10 mm 1/2" 14 mm 15 mm 1/4" 5/8"						
<b>Connection type</b>	Male connector, 1x, M12, 4-pin, axial Female connector, 2x, M12, 4-pin, axial						
<b>Communication interface</b>	PROFINET						
<b>Number of steps per revolution (max. resolution)</b>	262,144 (18 bit)						
<b>Max. resolution (number of steps per revolution x number of revolutions)</b>	18 bit x 12 bit (262,144 x 4,096)						
<b>Programmable/configurable</b>	Over PLC-Engineering-Tool						

### Product description

Intelligent diagnostic functions and rapid data transfer: High-resolution AFS/AFM60 PROFINET absolute encoders represent high-precision measurement of absolute position and speed in the area of industrial automation. Comprehensive functions for diagnosing parameters such as temperature or operating time and early error detection increase network reliability. Various configuration options, such as modification of resolution, rotational direction or unit of speed measurement simplify installation and enable customized adjustment to each application. Their compact design makes AFS/AFM60 PROFINET absolute encoders suitable for use in applications with tight space available. Embedded switch technology ensures maximum system and equipment availability and thus contributes to increased productivity.

### At a glance

- High-resolution 30-bit absolute encoder (18-bit singleturn and 12-bit multiturn)
- Face mount flange, servo flange and blind hollow shaft
- Connection type: 3 x M12 axial male connector
- PROFINET-IO-RT interface
- Less than 5 ms data update time
- Round axis functionality
- Alarms, warnings and diagnostics functions for speed, position, temperature, operating time, etc.
- Status display via 5 LEDs

### Your benefits

- Increased productivity as a result of intelligent diagnostics functions and rapid data transfer
- Increase in network reliability due to early error detection
- Simple installation with various configuration options
- Flexible, easy setup and high resolutions for various applications with binary, integer and "decimal point" values based on round axis functionality
- Maximum system availability through embedded switch technology
- Compact and cost-efficient design

### Fields of application

- Measurement of absolute position and speed in various machines and systems in the area of industrial automation as well as production and process technology, for example:
- Storage systems
- Packaging machines
- Hydraulic presses
- Printing machines
- Robots
- Rotary tables

### Ordering information

Other models and accessories → [www.sick.com/AFS\\_AFM60\\_PROFINET](http://www.sick.com/AFS_AFM60_PROFINET)

- **Mechanical design:** Solid shaft, Servo flange
- **Mechanical design:** Solid shaft Servo flange 6 mm x 10 mm
- **Connection type:** male connector, 1x, M12, 4-pin, axial (A-coded.), Female connector, 2x, M12, 4-pin, axial (D-coded.)
- **Programmable/configurable:** ✓

Singleturn or multiturn version	Type	Part no.
Multiturn	AFM60A-S1NB018x12	1059040
Singleturn	AFS60A-S1N-B262144	1059051

- **Mechanical design:** Solid shaft, face mount flange
- **Mechanical design:** Solid shaft face mount flange 10 mm x 19 mm
- **Connection type:** male connector, 1x, M12, 4-pin, axial (A-coded.), Female connector, 2x, M12, 4-pin, axial (D-coded.)
- **Programmable/configurable:** ✓

Singleturn or multiturn version	Type	Part no.
Multiturn	AFM60A-S4NB018x12	1059039
Singleturn	AFS60A-S4N-B262144	1059050

- **Mechanical design:** blind hollow shaft
- **Connection type:** male connector, 1x, M12, 4-pin, axial (A-coded.), Female connector, 2x, M12, 4-pin, axial (D-coded.)
- **Programmable/configurable:** ✓

Singleturn or multiturn version	Mechanical design	Type	Part no.
Multiturn	Blind hollow shaft 1/2"	AFM60A-BFNB018x12	1059033
Singleturn	Blind hollow shaft 1/2"	AFS60A-BFNB262144	1059045
Multiturn	Blind hollow shaft 1/4"	AFM60A-BKNB018x12	1059029
Singleturn	Blind hollow shaft 1/4"	AFS60A-BKNB262144	1059041
Multiturn	Blind hollow shaft 10 mm	AFM60A-BDNB018x12	1059035
Singleturn	Blind hollow shaft 10 mm	AFS60A-BDNB262144	1059047
Multiturn	Blind hollow shaft 12 mm	AFM60A-BENB018x12	1059034
Singleturn	Blind hollow shaft 12 mm	AFS60A-BENB262144	1059046
Multiturn	Blind hollow shaft 14 mm	AFM60A-BGNB018x12	1059032
Singleturn	Blind hollow shaft 14 mm	AFS60A-BGNB262144	1059044
Multiturn	Blind hollow shaft 15 mm	AFM60A-BHNB018x12	1059031
Singleturn	Blind hollow shaft 15 mm	AFS60A-BHNB262144	1059043

Singleturn or multiturn version	Mechanical design	Type	Part no.
Multiturn	Blind hollow shaft 3/8"	AFM60A-BC-NB018x12	1059036
Singleturn	Blind hollow shaft 3/8"	AFS60A-BC-NB262144	1059048
	Blind hollow shaft 5/8"	AFS60A-BJNB262144	1059042
Multiturn	Blind hollow shaft 8 mm	AFM60A-BBNB018x12	1059038
Singleturn	Blind hollow shaft 8 mm	AFS60A-BBNB262144	1059049

- **Specialty:** Sales Kit

Singleturn or multiturn version	Scope of delivery	Type	Part no.
Multiturn	1 x AFM60A-BDNB018x12 (1059035), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFM60A-BDNB Sales-Kit 01	1059362

Singleturn or multiturn version	Scope of delivery	Type	Part no.
	1 x AFM60A-BDNB018x12 (1059035), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-BDNB Sales-Kit 02	1059375
	1 x AFM60A-BDNB018x12 (1059035), 2 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFM60A-BDNB Sales-Kit 03	1059386
	1 x AFM60A-BDNB018x12 (1059035), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-BDNB Sales-Kit 04	1059434
	1 x AFM60A-BENB018x12 (1059034), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFM60A-BENB Sales-Kit 01	1059363
	1 x AFM60A-BENB018x12 (1059034), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-BENB Sales-Kit 02	1059376
	1 x AFM60A-BENB018x12 (1059034), 2 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFM60A-BENB Sales-Kit 03	1059387
	1 x AFM60A-BENB018x12 (1059034), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-BENB Sales-Kit 04	1059437
	1 x AFM60A-BHNB018x12 (1059031), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFM60A-BHNB Sales-Kit 01	1059364
	1 x AFM60A-BHNB018x12 (1059031), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-BHNB Sales-Kit 02	1059377
	1 x AFM60A-BHNB018x12 (1059031), 2 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFM60A-BHNB Sales-Kit 03	1059388
	1 x AFM60A-BHNB018x12 (1059031), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-BHNB Sales-Kit 04	1059439
	1 x AFM60A-S1NB018x12 (1059040), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFM60A-S1NB Sales-Kit 01	1059360
		AFM60A-S1NB Sales-Kit 03	1059384
	1 x AFM60A-S1NB018x12 (1059040), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-S1NB Sales-Kit 02	1059372
	1 x AFM60A-S1NB018x12 (1059040), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-S1NB Sales-Kit 04	1059431
	1 x AFM60A-S4NB018x12 (1059039), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFM60A-S4NB Sales-Kit 01	1059361
	1 x AFM60A-S4NB018x12 (1059039), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-S4NB Sales-Kit 02	1059373
	1 x AFM60A-S4NB018x12 (1059039), 2 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFM60A-S4NB Sales-Kit 03	1059385
	1 x AFM60A-S4NB018x12 (1059039), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFM60A-S4NB Sales-Kit 04	1059433
		AFM60A-S4NB Sales-Kit S05	1071721

Singleturn or multiturn version	Scope of delivery	Type	Part no.
Singleturn	1 x AFS60A-BDNB262144 (1059047), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-BDNB Sales-Kit 01	1059357
	1 x AFS60A-BDNB262144 (1059047), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-BDNB Sales-Kit 02	1059368
	1 x AFS60A-BDNB262144 (1059047), 2 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-BDNB Sales-Kit 03	1059381
	1 x AFS60A-BDNB262144 (1059047), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-BDNB Sales-Kit 04	1059428
	1 x AFS60A-BENB262144 (1059046), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-BENB Sales-Kit 01	1059358
	1 x AFS60A-BENB262144 (1059046), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-BENB Sales-Kit 02	1059369
	1 x AFS60A-BENB262144 (1059046), 2 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-BENB Sales-Kit 03	1059382
	1 x AFS60A-BENB262144 (1059046), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-BENB Sales-Kit 04	1059429
	1 x AFS60A-BHNB262144 (1059043), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-BHNB Sales-Kit 01	1059359
	1 x AFS60A-BHNB262144 (1059043), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-BHNB Sales-Kit 02	1059370
	1 x AFS60A-BHNB262144 (1059043), 2 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-BHNB Sales-Kit 03	1059383
	1 x AFS60A-BHNB262144 (1059043), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-BHNB Sales-Kit 04	1059430
	1 x AFS60A-S1NB262144 (1059051), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-S1NB Sales-Kit 01	1059352
	1 x AFS60A-S1NB262144 (1059051), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-S1NB Sales-Kit 02	1059365
	1 x AFS60A-S1NB262144 (1059051), 2 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-S1NB Sales-Kit 03	1059379
	1 x AFS60A-S1NB262144 (1059051), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-S1NB Sales-Kit 04	1059426
	1 x AFS60A-S4NB262144 (1059050), 1 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-S4NB Sales-Kit 01	1059356
	1 x AFS60A-S4NB262144 (1059050), 1 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-S4NB Sales-Kit 02	1059366
	1 x AFS60A-S4NB262144 (1059050), 2 x STE-1204-WZ (6048262), 1 x DOS-1204-W (6007303)	AFS60A-S4NB Sales-Kit 03	1059380
	1 x AFS60A-S4NB262144 (1059050), 2 x STL-1204-W05MZ90 (6048257), 1 x YG2A14-050UB3XLEAX (2095767)	AFS60A-S4NB Sales-Kit 04	1059427





## 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.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)