

Measuring the speed and position with the greatest possible precision



Photo: Wieland Werke AG

0

Motor feedback systems

Commutation, position and speed measurement with the corresponding number of interfaces used to require three sensors. Today SICK motor feedback systems offer these functions in one single device. A consistent mechanical interface allows for a high level of

flexibility. SICK motor feedback systems have also set the standards for electrical interfaces such as HIPERFACE® and HIPERFACE DSL®. SICK motor feedback systems meet important requirements such as temperature resistance, high resolution, multiturn design with a

mechanical gear box and a high level of electromagnetic immunity. The motor feedback systems certified according to SIL2 permit implementation of the machine directive as per EN ISO 13849.



Motor feedback systems

Solutions for electrical drive engineering	426
Speed and position measurement with ultimate precision	428

Solutions for electrical drive engineering

Innovation & partnership

Progress means innovation and innovations lead to the development of new products and technologies.

This has been demonstrated by SICK for decades with its range of motor feedback systems and interfaces.

It goes without saying for us that close partnerships are essential for success. The mutual development of solutions for creating successful projects and offering you the best possible service are equally important to us. This forms the basis for long-term and sustainable partnerships.

Flexibility

SICK offers you a product portfolio which combines various technologies into a minimum of mechanisms. Do you require various performance levels? We can deliver!

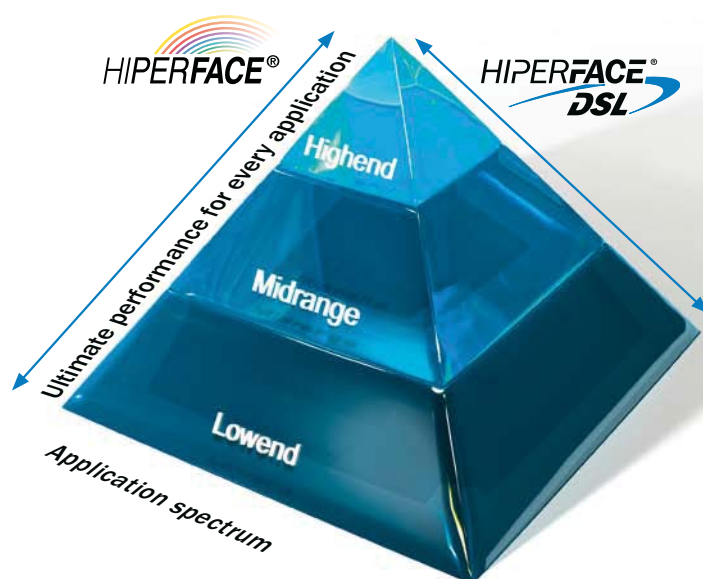
SICK's motor feedback systems additionally optimize your products, reduce system costs and offer you the flexibility you need to succeed in today's marketplace.



Safety

SICK's certified safety motor feedback systems are available in a broad range of performance levels, enabling individual selection in order to fulfill market requirements.

These safety components represent the state-of-the-art and facilitate easier certification of systems compared to non-certified products. With SICK you always have a competent partner at your side.





The wide range of available technologies covering everything from compact servo drives through to powerful direct drives are ideal for creating bespoke solutions. A mechanical interface to the customer's equipment serves to minimize variances on-site across a broad spectrum of technologies.

In addition to its comprehensive product portfolio, technology leader SICK also ensures for continuous development in the field of drive engineering. Building on SSI and HIPERFACE®, HIPERFACE® DSL represents the next stage of evolution in terms of drive engineering.

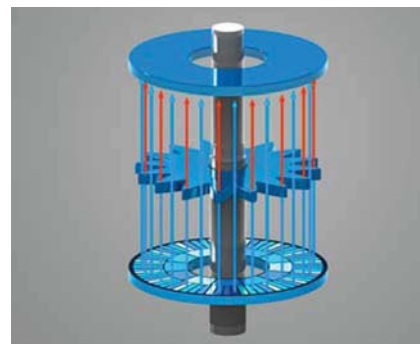
0

Speed and position measurement with ultimate precision

Motor feedback systems from SICK fulfill important requirements such as temperature resistance, high resolution, electronic type labeling, multi-turn designs with mechanical gear mechanisms, high stability and last but not least, small dimensions enabling short motor lengths.



Capacitive technologies ...



... for low-end applications

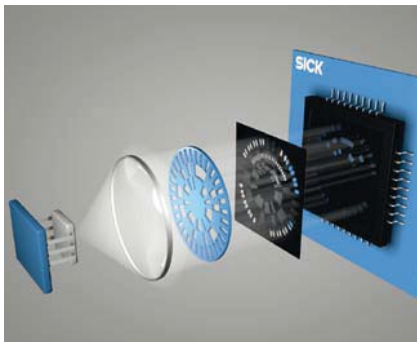
- Bearingless encoder systems
- Rugged technology

Example uses:

SEK/SEL34
SEK/SEL37
SEK90 to 260



Optical technologies ...



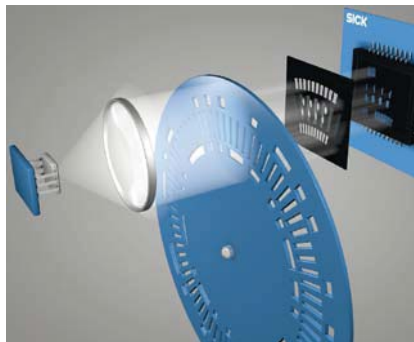
... for midrange applications

- Sensing centrally to rotary axis
- High resolution combined with compact housing design

Example uses:

SKS/SKM36
EKS/EKM36

Optical technologies ...



... for high-end applications

- Ultimate resolution
- Rugged, metal code disk

Example uses:

SRS/SRM50
SFS/SFM60

Multi-turn technologies ...



... for all performance classes

- Maximum reliability through geared technology

Used for all multi-turns

Perfect rotary and linear path measurement



P

Encoders

Paths, position, angle – an encoder is the first choice when it comes to precise position detection in industrial automation. The same goes for revolutions and rpm, speed and acceleration.

High-resolution optical systems and very robust magnetic systems complement one another perfectly and permit exact position detection in all kinds of applications. Rotary encoders are divided into

incremental and absolute encoders. Wire draw encoders and linear encoders with material measure are available in the area of linear measuring technology.



Encoders

Selection guide encoders 432



Incremental encoders 436

DFS60	436
DBS36	438
DFV60 measuring wheel encoder	440



Absolute encoders 442

ATM60 PROFIBUS	442
ATM60 CANopen	444
ATM60 DeviceNet	446
AFS/AFM60 SSI	448
AFS/AFM60 EtherNet/IP	450
AFS/AFM60 EtherCAT	452
AFS/AFM60 PROFINET	454
A3M60 PROFIBUS	456



Wire draw encoders 458

EcoLine	458
HighLine	459



Linear encoders. 461

KH53.	461
TTK70	463

Selection guide encoders

	Incremental encoders			Absolute encoders single turn	Absolute encoders multiturn			Wire draw encoders		Linear encoders with measuring element or magnetic tape	
	DBS36	DFS60	DFV60	AFS60	A3M60	AFM60	ATM60	EcoLine	HighLine	KH53	TTK70
Task											
Incremental detection of position or speed	■	■	■					■	■		
Absolute position detection				■	■	■	■	■	■	■	■
Interface											
TTL/HTL	■	■	■					■	■		
Analog								■	■		
HIPERFACE®								■	■		■
SSI				■		■		■	■	■	■
PROFIBUS					■		■	■	■	■	
CANOpen							■	■	■		
DeviceNet							■	■	■		
EtherNet/IP				■		■		■	■		
PROFINET				■		■		■	■		
EtherCAT				■		■		■	■		
Page	436	438	440	448 ff.	456 ff.	448 ff.	442 ff.	458	459	461	463

Selection guide absolute and incremental encoders

	Incremental encoders			Absolute encoders singleturn	Absolute encoders multiturn		
	DBS36	DFS60	DFV60	AFS60	A3M60	AFM60	ATM60
Number of revolutions							
No absolute measurement	■	■	■				
1 revolution absolute				■			
≥ 2 revolutions absolute					■	■	■
Resolution							
≤ 2500 pulses/steps	■	■	■	■	■	■	■
≤ 8192 pulses/steps		■	■	■	■	■	■
> 8192 pulses/steps		■		■	■	■	■
> 32,768 pulses/steps		■		■		■	
Programming by customer (line count/zero pulse)	■	■	■	■	■	■	■
Space for installation							
Ø ≤ 36 mm	■						
Ø ≤ 40 mm	■						
Ø ≤ 50 mm	■						
Ø ≤ 60 mm	■	■		■	■	■	■
Ø ≤ 90 mm	■	■		■	■	■	■
Flange / shaft type							
Face mount flange	■	■		■	■	■	■
Servo flange		■		■	■	■	■
Blind hollow shaft	■	■		■	■	■	■
Through hollow shaft		■		■	■	■	■
Special requirements							
Position above measuring wheel			■				
Page	436	438	440	448 ff.	456 ff.	448 ff.	442 ff.

Selection guide wire draw and linear encoders

	Wire draw encoders		Linear encoders with measuring element or magnetic tape	
	EcoLine	HighLine	KH53	TTK70
Path measurement				
Incremental	■	■		
Absolute	■	■	■	■
Number of measuring cycles				
≤ 1,000,000	■	■		
Unlimited			■	■
Measurement length				
≤ 5 m	■	■	■	■
≤ 10 m	■	■	■	
≤ 50 m		■	■	
≤ 548 m			■	
≤ 1700 m			■	
Resolution				
≤ 1 µm				■
≤ 0.05 mm	■	■		■
≤ 0.1 mm	■	■	■	■
Installation size				
Small	■			■
Medium		■		
Large		■	■	
Page	458	459	461	463





At a glance

- Compact installation depth
- High resolution up to 16 bits
- Optionally programmable: Output voltage, zero pulse position, zero pulse width and number of pulses
- Connection: Radial or axial cable outlet, M23 or M12 connector, axial or radial
- Electrical interfaces: 5V & 24V TTL/RS-422, 24 V HTL/push pull
- Mechanical interfaces: face mount or servo flange, blind or through hollow shaft
- Remote zero set possible

Your benefits

- Reduced storage costs and downtime due to customer-specific programming
- Variety of different mechanical and electrical interfaces enable the encoder to be optimally adjusted to fit the installation situation
- Excellent concentricity even at high speeds
- High resolution of up to 16 bits ensures precise measurements
- Permanent and safe operation due to a high enclosure rating, temperature resistance and a long bearing lifetime
- Programmability via the PGT-08 programming software and the PGT-10-S display programming tool allow the encoder to be adapted flexibly and quickly according to customer needs
- Programmable zero pulse position simplifies installation

→ www.mysick.com/en/DFS60

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.










Ordering information

Other models available at www.mysick.com/en/DFS60

- **Electrical interface:** TTL/HTL programmable
- **Connection type:** connector M12, 8-pin, radial
- **Range of pulses per revolution:** 65,536

Mechanical interface	Shaft diameter	Model name	Part no.
Blind hollow shaft	12 mm	DFS60A-BEPC65536	1036816
	15 mm	DFS60A-BHPC65536	1036819
	10 mm	DFS60A-BDPC65536	1036815
	1/2 "	DFS60A-BFPC65536	1036817
Solid shaft, servo flange	6 mm	DFS60A-S1PC65536	1036761
Solid shaft, face mount flange	10 mm	DFS60A-S4PC65536	1036726
Through hollow shaft	10 mm	DFS60A-TDPC65536	1036955
	12 mm	DFS60A-TEPC65536	1036956
	1/2 "	DFS60A-TFPC65536	1036957
	15 mm	DFS60A-THPC65536	1036959

Accessories

	Accessory category	Brief description	Model name	Part no.
	Mounting brackets/plates	Mounting bracket for encoder with face mount flange	BEF-WF-36	2029164
	Programming and configuration tools	Programming Tool USB, for programmable SICK encoders AFS60, AFM60, DFS60, VFS60, DFV60 and wire draw encoders with programmable encoders.	PGT-08-S	1036616
		Display Programming Tool for programmable SICK incremental encoders DFS60, VFS60, DFV60 and wire draw encoders with DFS60. Compact dimensions, low weight and intuitive to use.	PGT-10-S	1052967
	Other mounting accessories	Measuring wheel, smooth for solid shaft 10 mm, circumference 200 mm, diameter 63.66 mm	BEF-MR-010020	5312988
		Servo clamps, small, for servo flange (clamping claws, mounting eccentric)	BEF-WK-SF	2029166
	Plug connectors and cables	Mating connector M12, 8-pin, straight, fitted with cable 5 m, 8-wire	DOL-1208-G05MAC1	6032867
		Female connector M12, straight, shielded	DOS-1208-GA01	6045001
		Programming cable incremental for Programming Tools PGT-08-S and PGT10-S	DSL-2D08-G0M5AC3	2046579
	Shaft adaptation	Bellows coupling, shaft diameter 6 mm / 6 mm	KUP-0606-B	5312981
		Bellows coupling, shaft diameter 6 mm / 10 mm	KUP-0610-B	5312982



At a glance

- Connection with universal cable outlet
- Versions with blind hollow shaft or face mount flange with solid shaft
- Face mount flange with 3 mounting hole patterns and servo groove
- Hollow shaft with universal stator coupling
- Compact diameter of 37 mm
- Electrical interfaces: TTL/RS-422, HTL/push pull and Open Collector NPN
- Available PPR: 100 to 2,500
- Temperature range: -20 °C ... +85 °C
- Enclosure rating: IP 65

Your benefits

- The universal cable outlet allows use in tight spaces and makes flexible cable routing possible
- Face mount flange with various mounting hole patterns provides flexibility when mounting in new or existing applications
- Face mount flange with servo groove makes mounting with servo clamps possible
- The DBS36E's universal stator coupling ensures easy device replacement without changing the application
- The high flexibility of the encoders' mechanical interface and the available accessories make it possible to use one design in many applications
- Compatibility with the DDS36E series makes it easy to replace this series in existing applications

→ www.mysick.com/en/DBS36

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information





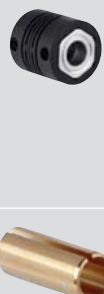
Other models available at www.mysick.com/en/DBS36

- **Connection type:** cable, 8-pin, universal, 1.5 m

Mechanical interface	Shaft diameter	Electrical interface	Range of pulses per revolution	Model name	Part no.
Solid shaft, face mount flange	6 mm	TTL/RS422	100	DBS36E-S3AK00100	1060535
			360	DBS36E-S3AK00360	1060536
			500	DBS36E-S3AK00500	1060538
			1,000	DBS36E-S3AK01000	1060539
			1,024	DBS36E-S3AK01024	1060144
			2,048	DBS36E-S3AK02048	1058602
		HTL/push pull	100	DBS36E-S3EK00100	1060540
			360	DBS36E-S3EK00360	1060541
			500	DBS36E-S3EK00500	1060543
			1,000	DBS36E-S3EK01000	1060544
			1,024	DBS36E-S3EK01024	1060545
			2,048	DBS36E-S3EK02048	1059907

Mechanical interface	Shaft diameter	Electrical interface	Range of pulses per revolution	Model name	Part no.
Blind hollow shaft	8 mm	TTL/RS422	100	DBS36E-BBAK00100	1060524
			360	DBS36E-BBAK00360	1060525
			1,000	DBS36E-BBAK01000	1060528
			1,024	DBS36E-BBAK01024	1060147
			2,048	DBS36E-BBAK02048	1058603
		HTL/push pull	100	DBS36E-BBEK00100	1060529
			360	DBS36E-BBEK00360	1060530
			500	DBS36E-BBEK00500	1060532
			1,000	DBS36E-BBEK01000	1060533
			1,024	DBS36E-BBEK01024	1060534
			2,048	DBS36E-BBEK02048	1059910

Accessories

	Accessory category	Brief description	Model name	Part no.
	Other mounting accessories	Servo clamp	BEF-WK-RESOL	2039082
	Plug connectors and cables	Female connector M12, 8-pin, straight, shielded	DOS-1208-GA01	6045001
		Male connector, M12, 8-pin, straight, shielded	STE-1208-GA01	6044892
		Cable, by the meter, 4 x 2 x 0,15 mm ² , shielded, ø 5,6 mm	LTG-2308-MWENC	6027529
	Shaft adaptation	Beam coupling, shaft diameter 6 mm / 6 mm, max. shaft offset: radially +/- 0,3 mm, axially +/- 0,3 mm, angle +/- 3 degrees; max. speed 10.000 rpm, -10 to +80 degrees Celsius, torsional spring stiffness of 38 Nm/rad	KUP-0606-MS	2066285
		Beam coupling, shaft diameter 6 mm / 8 mm, max. shaft offset: radially +/- 0,3 mm, axially +/- 0,3 mm, angle +/- 3 degrees; max. speed 10.000 rpm, -10 to +80 degrees Celsius, torsional spring stiffness of 38 Nm/rad	KUP-0608-MS	2066130
		Beam coupling, shaft diameter 6 mm / 10 mm, max. shaft offset: radially +/- 0,3 mm, axially +/- 0,3 mm, angle +/- 3 degrees; max. speed 10.000 rpm, -10 to +80 degrees Celsius, torsional spring stiffness of 38 Nm/rad	KUP-0610-MS	2066298
		Collet for blind hollow shaft, shaft diameter 6 mm, outer diameter 8 mm, collet 6 mm	SPZ-006-DD36-A	2056390
		Collet for blind hollow shaft, shaft diameter 5 mm, outer diameter 8 mm, collet 5 mm	SPZ-005-AD-A	2066991



At a glance

- Rotatable spring arm for universal use
- 300 mm wheel circumference with o-ring made from NBR70
- Mounting arm and measurement wheels made from aluminum
- Programmable output voltage, zero pulse position, zero pulse width and number of pulses
- Connection: radial M12 connector outlet or radial/axial cable outlet
- Electrical interfaces: 5V & 24V TTL/RS-422, 24 V HTL/push pull
- Remote zero setting possible

Your benefits

- Universal-use spring arm ensures fast and simple mounting
- The high level of spring tension enables use in harsh environmental conditions
- Reduced storage costs and downtime due to programmability
- Connector-in cable outlet in radial or axial direction enables customer-specific cable solutions
- Excellent concentricity even at high speeds
- Permanent and safe operation due to a high enclosure rating, temperature resistance and a long bearing lifetime
- Programmability via the PGT-08 programming software and the PGT-10-S display programming tool allow the encoder to be adapted flexibly and quickly according to customer needs
- Programmable zero pulse position simplifies installation

→ www.mysick.com/en/DFV60_measuring_wheel_encoder

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.








Ordering information

Other models available at www.mysick.com/en/DFV60_measuring_wheel_encoder

- **Mechanical interface:** 2 measuring wheels, 'O' ring surface
- **Electrical interface:** TTL/HTL programmable
- **Range of pulses per revolution:** 65,536

Connection type	Model name	Part no.
Connector, M12, 8-pin, radial	DFV60A-22PC65536	1051309
Cable, universal, 1.5 m	DFV60A-22PK65536	1051331
Cable, universal, 3 m	DFV60A-22PL65536	1051334
Cable, universal, 5 m	DFV60A-22PM65536	1051337

Accessories

	Accessory category	Brief description	Model name	Part no.
	Mounting brackets/ plates	Spring arm/mounting arm	DFV60 spring arm	2056155
	Programming and configuration tools	Programming Tool USB, for programmable SICK encoders AFS60, AFM60, DFS60, VFS60, DFV60 and wire draw encoders with programmable encoders.	PGT-08-S	1036616
		Display Programming Tool for programmable SICK incremental encoders DFS60, VFS60, DFV60 and wire draw encoders with DFS60. Compact dimensions, low weight and intuitive to use.	PGT-10-S	1052967
	Other mounting accessories	Measuring wheel, O-ring for solid wheel 10 mm, diameter 95.7 mm, circumference 300 mm, contact surface 5 mm wide	BEF-MR-010030R	2049278
	Plug connectors and cables	Female connector M12, 8-pin, straight, pre-wired with 5 m cable 8-wire, 4 x 2 x 0.25 mm ² , screened, suitable for use in a drag chain	DOL-1208-G05MAC1	6032867
		Female connector M12, 8-pin, straight, screened, for field assembly	DOS-1208-GA	6028369
		Female connector M23, 12-pin, straight, screened	DOS-2312-G	6027538
		Programming cable incremental for Programming Tools PGT10-S	DSL-0D08-GoM5AC3	2061739
		Programming cable incremental for Programming Tools PGT-08-S and PGT10-S	DSL-2D08-G0M5AC3	2046579



At a glance

- Extremely rugged, tried-and-tested absolute multiturn encoder with a resolution of up to 26 bits
- Mechanical interface: face mount flange, servo flange, blind hollow shaft and extensive adapter accessories
- Zero-set and preset functions via hardware or software
- No battery required
- Electrical interface: PROFIBUS DP as per IEC61158 / RS 485, electrically isolated
- Electronically adjustable, configurable resolution
- Magnetic scanning

Your benefits

- Fewer variants are required since one freely programmable encoder offers all singleturn and multiturn resolutions
- Easy setup due to various connectivity options (3x PG, 3x M12)
- Less maintenance and a long service life reduce overall costs
- Application flexibility due to easily interchangeable collets for the blind hollow shaft
- Quick commissioning using the zero set/preset function either at the press of the button on the device or via software
- Increased productivity due to highly reliable shock and vibration resistance
- Worldwide availability and service ensure quick and reliable customer service

→ www.mysick.com/en/ATM60_PROFIBUS

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/ATM60_PROFIBUS







- **Electrical interface:** 10 V ... 32 V, Profibus
- **Connection type:** bus adaptor with cable screw fixings or connector
- **Number of steps:** ≤ 8,192
- **Resolution:** 8,192 x 8,192

Mechanical interface	Shaft diameter	Model name	Part no.
Solid shaft, face mount flange	10 mm, 19 mm	ATM60-P4H13X13	1030013
Solid shaft, servo flange	6 mm, 10 mm	ATM60-P1H13X13	1030014
Blind hollow shaft	15 mm ¹⁾	ATM60-PAH13X13	1030015

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.

Accessories

	Accessory category	Brief description	Model name	Part no.
	Adapters/distributors	Profibus adapter KA3, 3 x PG	AD-ATM60-KA3PR	2029225
		Profibus adapter SR3, 3 x PG	AD-ATM60-SR3PR	2031985
	Mounting brackets/plates	Mounting bracket for encoder with face mount flange	BEF-WF-36	2029164
	Other mounting accessories	Servo clamps, small, for servo flange (clamping claws, mounting eccentric)	BEF-WK-SF	2029166

	Accessory category	Brief description	Model name	Part no.
   	Plug connectors and cables	Female connector, M12, 4-pin, straight, 5 m, PVC, round connector M12 x 1, 4-pin	DOL-1204-G05M	6009866
		Female connector, M12, 5-pin, straight, 5 m, PROFIBUS, shielded	DOL-1205-G05MQ	6026006
		PROFIBUS cable, 2 x 0.34 mm, sold by the meter	LTG-2102-MW	6021355
		Male connector, M12, 5-pin, straight, 5 m, PROFIBUS, shielded	STL-1205-G05MQ	6026005
 	Shaft adaptation	Bellows coupling, shaft diameter 6 mm / 6 mm	KUP-0606-B	5312981
		Bellows coupling, shaft diameter 6 mm / 10 mm	KUP-0610-B	5312982
		Bellows coupling, shaft diameter 10 mm / 10 mm	KUP-1010-B	5312983
		Collet for hollow shaft diameter 6 mm	SPZ-006-AD-A	2029174
		Collet for hollow shaft diameter 8 mm	SPZ-008-AD-A	2029176
		Collet for hollow shaft diameter 10 mm	SPZ-010-AD-A	2029178
		Collet for hollow shaft diameter 12 mm	SPZ-012-AD-A	2029179
		Collet for hollow shaft diameter 14 mm	SPZ-014-AD-A	2048863
		Collet for hollow shaft diameter 1/4"	SPZ-1E4-AD-A	2029175
		Collet for hollow shaft diameter 3/8"	SPZ-3E8-AD-A	2029177
		Collet for hollow shaft diameter 1/2"	SPZ-1E2-AD-A	2029180



At a glance

- Extremely rugged, tried-and-tested absolute multiturn encoder with a resolution of up to 26 bits
- Mechanical interface: face mount, servo flange, blind hollow shaft, adapter accessories
- Zero-set and preset functions via hardware/software
- No battery
- Electrical interface: CAN specification 2.0B, electrically isolated; DS 301, V4.01, DSP 406, V2.0, Class 2
- Electronically adjustable, configurable resolution
- Network status info via duo LED
- Magnetic scanning

Your benefits

- Fewer variants are required since one freely programmable encoder offers all singleturn and multiturn resolutions
- Easy setup due to electrical connection adapters (1 to 3x PG, 2x M12)
- Less maintenance and a long service life reduce overall costs
- Application flexibility due to easily interchangeable collets for the blind hollow shaft
- Quick commissioning using the zero set/preset function either at the press of the button on the device or via software
- Increased productivity due to highly reliable shock and vibration resistance
- Worldwide availability and service ensure quick and reliable customer service

→ www.mysick.com/en/ATM60_CANopen

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/ATM60_CANopen







- **Electrical interface:** 10 V ... 32 V, CANopen
- **Connection type:** bus adaptor with cable screw fixings or connector
- **Number of steps:** ≤ 8,192
- **Resolution:** 8,192 x 8,192

Mechanical interface	Shaft diameter	Model name	Part no.
Solid shaft, face mount flange	10 mm, 19 mm	ATM60-C4H13X13	1030024
Solid shaft, servo flange	6 mm, 10 mm	ATM60-C1H13X13	1030025
Blind hollow shaft	15 mm ¹⁾	ATM60-CAH13X13	1030026

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.

Accessories

	Accessory category	Brief description	Model name	Part no.
	Adapters/distributors	CANopen adapter	AD-ATM60-KR1CO	2029230
			AD-ATM60-KR2CO	2029231
			AD-ATM60-KR3CO	2029232
			AD-ATM60-SR1CO	2031686
			AD-ATM60-SR2CO	2020935
	Mounting brackets/plates	Mounting bracket for encoder with face mount flange	BEF-WF-36	2029164
	Other mounting accessories	Servo clamps, small, for servo flange (clamping claws, mounting eccentric)	BEF-WK-SF	2029166

	Accessory category	Brief description	Model name	Part no.
	Plug connectors and cables	Female connector, M12, 5-pin, straight, shielded, mating connector M12, 5-pin, straight	DOS-1205-GA	6027534
		Connection cable, M12, 5-pin, connector straight/socket straight, 6 m, CAN/CANopen, shielded	DSL-1205-G06MK	6028327
		Cable, by the meter, DeviceNet/CANopen, 2x 0.34 mm² + 2x 0.25 mm², twisted pair	LTG-2804-MW	6028328
		Male connector, M12, 5-pin, straight, shielded, male connector, M12, 5-pin, straight	STE-1205-GA	6027533
	Shaft adaptation	Bellows coupling, shaft diameter 6 mm / 6 mm	KUP-0606-B	5312981
		Bellows coupling, shaft diameter 6 mm / 10 mm	KUP-0610-B	5312982
		Bellows coupling, shaft diameter 10 mm / 10 mm	KUP-1010-B	5312983
		Collet for hollow shaft diameter 6 mm	SPZ-006-AD-A	2029174
		Collet for hollow shaft diameter 8 mm	SPZ-008-AD-A	2029176
		Collet for hollow shaft diameter 10 mm	SPZ-010-AD-A	2029178
		Collet for hollow shaft diameter 12 mm	SPZ-012-AD-A	2029179
		Collet for hollow shaft diameter 14 mm	SPZ-014-AD-A	2048863
		Collet for hollow shaft diameter 1/4"	SPZ-1E4-AD-A	2029175
		Collet for hollow shaft diameter 3/8"	SPZ-3E8-AD-A	2029177
		Collet for hollow shaft diameter 1/2"	SPZ-1E2-AD-A	2029180



At a glance

- Extremely rugged, tried-and-tested absolute multiturn encoder with a resolution of up to 26 bits
- Mechanical interface: face mount, servo flange, blind hollow shaft and adapter accessories
- Zero set and preset functions via hardware/software
- No battery
- Electrical interface: CAN/DeviceNet specification 2.0B, electrically isolated; device profile: Generic [0]
- Electronically adjustable, configurable resolution
- Network status info via duo LED
- Magnetic scanning

Your benefits

- Fewer variants are required since one freely programmable encoder offers all singleturn and multiturn resolutions
- Easy setup due to electrical connection adapters (1 to 2x PG, 1 to 2x M12)
- Less maintenance and a long service life reduce overall costs
- Application flexibility due to easily interchangeable collets for the blind hollow shaft
- Quick commissioning using the zero set/preset function either at the press of the button on the device or via software
- Increased productivity due to highly reliable shock and vibration resistance
- Worldwide availability and service ensure quick and reliable customer service

→ www.mysick.com/en/ATM60_DeviceNet

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/ATM60_DeviceNet







- **Electrical interface:** 10 V ... 32 V, DeviceNet
- **Connection type:** bus adaptor with cable screw fixings or connector
- **Number of steps:** ≤ 8,192
- **Resolution:** 8,192 x 8,192

Mechanical interface	Shaft diameter	Model name	Part no.
Solid shaft, face mount flange	10 mm, 19 mm	ATM60-D4H13X13	1030017
Solid shaft, servo flange	6 mm, 10 mm	ATM60-D1H13X13	1030018
Blind hollow shaft	15 mm ¹⁾	ATM60-DAH13X13	1030019

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.

Accessories

	Accessory category	Brief description	Model name	Part no.
	Adapters/distributors	DeviceNet adapter	AD-ATM60-KR1DN	2029228
			AD-ATM60-KR2DN	2029229
			AD-ATM60-SR1DN	2029226
			AD-ATM60-SR2DN	2029227
	Mounting brackets/plates	Mounting bracket for encoder with face mount flange	BEF-WF-36	2029164
	Other mounting accessories	Servo clamps, small, for servo flange (clamping claws, mounting eccentric)	BEF-WK-SF	2029166

	Accessory category	Brief description	Model name	Part no.
	Plug connectors and cables	Female connector, M12, 5-pin, straight, shielded, mating connector M12, 5-pin, straight	DOS-1205-GA	6027534
		Connection cable, M12, 5-pin, connector straight/ socket straight, 6 m, CAN/CANopen, shielded	DSL-1205-G06MK	6028327
		Cable, by the meter, DeviceNet/CANopen, 2x 0.34 mm² + 2x 0.25 mm², twisted pair	LTG-2804-MW	6028328
		Male connector, M12, 5-pin, straight, shielded, male connector, M12, 5-pin, straight	STE-1205-GA	6027533
 	Shaft adaptation	Bellows coupling, shaft diameter 6 mm / 6 mm	KUP-0606-B	5312981
		Bellows coupling, shaft diameter 6 mm / 10 mm	KUP-0610-B	5312982
		Bellows coupling, shaft diameter 10 mm / 10 mm	KUP-1010-B	5312983
		Collet for hollow shaft diameter 6 mm	SPZ-006-AD-A	2029174
		Collet for hollow shaft diameter 8 mm	SPZ-008-AD-A	2029176
		Collet for hollow shaft diameter 10 mm	SPZ-010-AD-A	2029178
		Collet for hollow shaft diameter 12 mm	SPZ-012-AD-A	2029179
		Collet for hollow shaft diameter 14 mm	SPZ-014-AD-A	2048863
		Collet for hollow shaft diameter 1/4"	SPZ-1E4-AD-A	2029175
		Collet for hollow shaft diameter 3/8"	SPZ-3E8-AD-A	2029177
		Collet for hollow shaft diameter 1/2"	SPZ-1E2-AD-A	2029180



At a glance

- High-resolution absolute encoders with up to 30 bits (AFM60) or up to 18 bits (AFS60)
- Face mount flange, servo flange, blind or through hollow shaft
- SSI, SSI + Incremental or SSI + Sin/Cos interface
- Programmable resolution and offset (dependent on type)
- Connection system: M12, M23 connector or cable outlet
- Enclosure rating: IP 67 (housing), IP 65 (shaft)
- Operating temperature: -30 °C to +100 °C (depends on type)

Your benefits

- Programmability of the encoders means less storage, greater machine availability and easy installation
- Precise positioning due to high resolutions
- Large selection of mechanical interfaces and electrical contacting possibilities: Suitable for all applications
- Suitable for applications with limited space requirements (extremely short installation depth of 30 mm)
- Very good rotation accuracy due to increased bearing distance
- One programming tool and software with automatic encoder detection for AFS60/AFM60/DFS60

→ www.mysick.com/en/AFS_AFM60_SSI

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.







Ordering information

Other models available at www.mysick.com/en/AFS_AFM60_SSI

- **Electrical interface:** 4.5 V ... 32 V, SSI/Gray, programmable
- **Connection type:** connector M12, 8-pin, radial
- **Number of steps:** ≤ 32,768

Mechanical interface	Shaft diameter	Resolution	Model name	Part no.
Solid shaft, servo flange	6 mm x 10 mm	32,768 x 4,096	AFM60B-S1PC032768	1037514
Solid shaft, face mount flange	10 mm x 19 mm		AFM60B-S4PC032768	1037504
Blind hollow shaft	10 mm		AFM60B-BDPC032768	1051111
	12 mm		AFM60B-BEPC032768	1051112
	15 mm		AFM60B-BHPC032768	1053813
Through hollow shaft	10 mm		AFM60B-TDPC032768	1051096
	12 mm		AFM60B-TEPC032768	1038903
	15 mm		AFM60B-THPC032768	1053067
Solid shaft, servo flange	6 mm x 10 mm	32,768 x 1	AFS60B-S1PC032768	1037494
Solid shaft, face mount flange	10 mm x 19 mm		AFS60B-S4PC032768	1037484
Blind hollow shaft	10 mm		AFS60B-BDPC032768	1051052
	12 mm		AFS60B-BEPC032768	1037927
	15 mm		AFS60B-BHPC032768	1039024
Through hollow shaft	10 mm		AFS60B-TDPC032768	1051069
	12 mm		AFS60B-TEPC032768	1037941
	15 mm		AFS60B-THPC032768	1051522

Accessories

	Accessory category	Brief description	Model name	Part no.
	Mounting brackets/plates	Mounting bracket for encoder with face mount flange	BEF-WF-36	2029164
	Programming and configuration tools	Programming Tool USB, for programmable SICK encoders AFS60, AFM60, DFS60, VFS60, DFV60 and wire draw encoders with programmable encoders	PGT-08-S	1036616
	Plug connectors and cables	Cable connector female JST inc. sealing, 3 m cable 8-core, 4 x 2 x 0.15 mm ² , with screening, cable diameter 5.6 mm	DOL-0J08-G03MAA6	2048591
		Cable socket, 8-pin straight, fitted with 8-core cable 2 m, 4 x 2 x 0.25 mm ² , shielded, carrier-capable (on adapter)	DOL-1208-G02MAC1	6032866
		Cable socket, 8-pin straight, fitted with 8-core cable 5 m, 4 x 2 x 0.25 mm ² , shielded, carrier-capable (on adapter)	DOL-1208-G05MAC1	6032867
		Female connector M12, 8-pin, straight, shielded	DOS-1208-GA01	6045001
		Adapter cable absolute SSI – PGT-08-S consists of male 9-pin SUB-D connector and M12 8-pin inline cable connector, pre-assembled using 8-core cable, 4 x 2 x 0.08 mm ² , screened, cable length 0.5 m	DSL-2D08-G0M5AC2	2048439
	Shaft adaptation	Bellows coupling, shaft diameter 6 mm / 6 mm	KUP-0606-B	5312981
		Bellows coupling, shaft diameter 6 mm / 10 mm	KUP-0610-B	5312982



At a glance

- 30 bit (AFM60), 18 bit (AFS60) multi-functional absolute encoders
- Device Level Ring
- Extensive diagnostics: Min/max values for temperature, position, speed. Operating hours counter, display of flags, alarms and warnings using e.g. a fault header (32 bit)
- Status display via 5 duo LEDs
- Rotary axis function
- IP address via DHCP / DEC switches
- Ethernet/IP interface (extended profile 0x22)

Your benefits

- DLR functionality for reliability with simple maintenance, fewer cables and lower installation costs, simple adaptation to existing network topologies
- Lower installation costs due to fewer external switches
- High level of productivity thanks to superior diagnostics with 32-bit fault header, fast communication and high level of redundancy
- Optimal machine availability thanks to early warning and fault detection system
- Simple setting for various applications thanks to rotary axis function
- Simple installation due to user-friendly on-board configuration assembly
- Industrial-application design for use in particularly cramped space conditions

→ www.mysick.com/en/AFS_AFM60_EtherNet_IP

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.









Ordering information

Other models available at www.mysick.com/en/AFS_AFM60_EtherNet_IP

- **Electrical interface:** EtherNet/IP
- **Connection type:** 3 x connector M12, 4-pin, axial
- **Number of steps:** ≤ 262,144

Mechanical interface	Shaft diameter	Resolution	Model name	Part no.
Blind hollow shaft	10 mm	262,144 x 4,096	AFM60A-BDIB018X12	1055325
	12 mm		AFM60A-BEIB018X12	1055326
	15 mm		AFM60A-BHIB018X12	1055328
Solid shaft, servo flange	6 mm x 10 mm		AFM60A-S1IB018X12	1055331
Solid shaft, face mount flange	10 mm x 19 mm		AFM60A-S4IB018X12	1055334
Blind hollow shaft	10 mm	262,144 x 1	AFS60A-BDIB262144	1055356
	12 mm		AFS60A-BEIB262144	1055358
	15 mm		AFS60A-BHIB262144	1055360
Solid shaft, servo flange	6 mm x 10 mm		AFS60A-S1IB262144	1055362
Solid shaft, face mount flange	10 mm x 19 mm		AFS60A-S4IB262144	1055364

Accessories

	Accessory category	Brief description	Model name	Part no.
	Mounting brackets/plates	Mounting bracket for encoder with face mount flange	BEF-WF-36	2029164
	Other mounting accessories	Servo clamps, small, for servo flange (clamping claws, mounting eccentric)	BEF-WK-SF	2029166
	Plug connectors and cables	Round screw system M12 angled connector female on open end with cable 5 m	DOL-1204-W05MC	6025904
		Angled connector female M12, 4-pin, power supply	DOS-1204-W	6007303
		Cabinet through M12, 4 pin, D-coded on RJ45 jack, input jack 90 °, IP 65 / 65	Passage jack Ethernet RJ45	6048180
		Male connector M12, angled	STE-1204-WE	6048152
		Round screw system M12 connector angled to open end, shielded with cable 5 m	STL-1204-W05ME90	6047913
	Shaft adaptation	Bellows coupling, shaft diameter 6 mm / 6 mm	KUP-0606-B	5312981
		Bellows coupling, shaft diameter 6 mm / 10 mm	KUP-0610-B	5312982
		Bellows coupling, shaft diameter 10 mm / 10 mm	KUP-1010-B	5312983



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 plug
- EtherCAT-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

→ www.mysick.com/en/AFS_AFM60_EtherCAT

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.








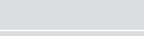


Ordering information

Other models available at www.mysick.com/en/AFS_AFM60_EtherCAT

- **Electrical interface:** EtherCAT
- **Connection type:** 3 x connector M12, 4-pin, axial
- **Number of steps:** ≤ 262,144
- **Resolution:** 262,144 x 4,096

Mechanical interface	Shaft diameter	Model name	Part no.
Blind hollow shaft	12 mm	AFM60A-BEEB018X12	1059056
	10 mm	AFM60A-BDEB018X12	1059057
	15 mm	AFM60A-BHEB018X12	1059053
Solid shaft, servo flange	6 mm	AFM60A-S1EB018X12	1059061
Solid shaft, face mount flange	10 mm	AFM60A-S4EB018X12	1059060
Blind hollow shaft	10 mm	AFS60A-BDEB262144	1059068
	12 mm	AFS60A-BEEB262144	1059067
	15 mm	AFS60A-BHEB262144	1059064
Solid shaft, servo flange	6 mm	AFS60A-S1EB262144	1059072
Solid shaft, face mount flange	10 mm	AFS60A-S4EB262144	1059071

Accessories

	Accessory category	Brief description	Model name	Part no.
	Mounting brackets/plates	Mounting bracket for encoder with face mount flange	BEF-WF-36	2029164
	Other mounting accessories	Servo clamps, small, for servo flange (clamping claws, mounting eccentric)	BEF-WK-SF	2029166
	Plug connectors and cables	Round screw system M12 angled connector female on open end with cable 5 m	DOL-1204-W05MC	6025904
		Angled connector female M12, 4-pin, power supply	DOS-1204-W	6007303
		Cabinet through M12, 4 pin, D-coded on RJ45 jack, input jack 90 °, IP 65 / 65	Passage jack Ethernet RJ45	6048180
		Male connector M12, angled	STE-1204-WZ	6048262
		Round screw system M12 connector angled to open end, shielded with cable 5 m	STL-1204-W05MZ90	6048257
	Shaft adaptation	Bellows coupling, shaft diameter 6 mm / 6 mm	KUP-0606-B	5312981
		Bellows coupling, shaft diameter 6 mm / 10 mm	KUP-0610-B	5312982
		Bellows coupling, shaft diameter 10 mm / 10 mm	KUP-1010-B	5312983



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 plug
- 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

→ www.mysick.com/en/AFS_AFM60_PROFINET

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.











Ordering information

Other models available at www.mysick.com/en/AFS_AFM60_PROFINET

- **Electrical interface:** PROFINET
- **Connection type:** 3 x connector M12, 4-pin, axial
- **Number of steps:** ≤ 262,144
- **Resolution:** 262,144 x 4,096

Mechanical interface	Shaft diameter	Model name	Part no.
Blind hollow shaft	12 mm	AFM60A-BENB018X12	1059034
	10 mm	AFM60A-BDNB018X12	1059035
	15 mm	AFM60A-BHNB01812	1059031
Solid shaft, servo flange	6 mm	AFM60A-S1NB018X12	1059040
Solid shaft, face mount flange	10 mm	AFM60A-S4NB018X12	1059039
Blind hollow shaft	10 mm	AFS60A-BDNB262144	1059047
	12 mm	AFS60A-BENB262144	1059046
	15 mm	AFS60A-BHNB262144	1059043
Solid shaft, servo flange	6 mm	AFS60A-S1NB262144	1059051
Solid shaft, face mount flange	10 mm	AFS60A-S4NB262144	1059050

Accessories

	Accessory category	Brief description	Model name	Part no.
	Mounting brackets/plates	Mounting bracket for encoder with face mount flange	BEF-WF-36	2029164
	Other mounting accessories	Servo clamps, small, for servo flange (clamping claws, mounting eccentric)	BEF-WK-SF	2029166
	Plug connectors and cables	Round screw system M12 angled connector female on open end with cable 5 m	DOL-1204-W05MC	6025904
		Angled connector female M12, 4-pin, power supply	DOS-1204-W	6007303
		Cabinet through M12, 4 pin, D-coded on RJ45 jack, input jack 90 °, IP 65 / 65	Passage jack Ethernet RJ45	6048180
		Male connector M12, angled	STE-1204-WZ	6048262
		Round screw system M12 connector angled to open end, shielded with cable 5 m	STL-1204-W05MZ90	6048257
	Shaft adaptation	Bellows coupling, shaft diameter 6 mm / 6 mm	KUP-0606-B	5312981
		Bellows coupling, shaft diameter 6 mm / 10 mm	KUP-0610-B	5312982
		Bellows coupling, shaft diameter 10 mm / 10 mm	KUP-1010-B	5312983




At a glance

- Robust absolute multiturn encoder with up to 31 bits (14 bits singleturn and 17 bits multiturn)
- Face mount flange, servo flange or blind hollow shaft
- Compact design (<70 mm)
- Integrated PROFIBUS interface with DP V0, V1 and V2 functionality (dependent on type)
- Connection system: 3x M12 connectors
- Protection class up to IP67
- Operating temperature: -30 °C to +80 °C (dependent on type)

Your benefits

- High level of system reliability even in extreme environmental conditions
- Lower maintenance costs due to non-contact single and multiturn magnetic scanning
- Space-saving, cost-efficient design ensures easy integration into applications with limited space
- High level of productivity due to quick communication and position calculation
- Immune to contamination and condensation, making it ideal for harsh environmental conditions
- Very good price-performance ratio

www.mysick.com/en/A3M60_PROFIBUS
For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.










Ordering information

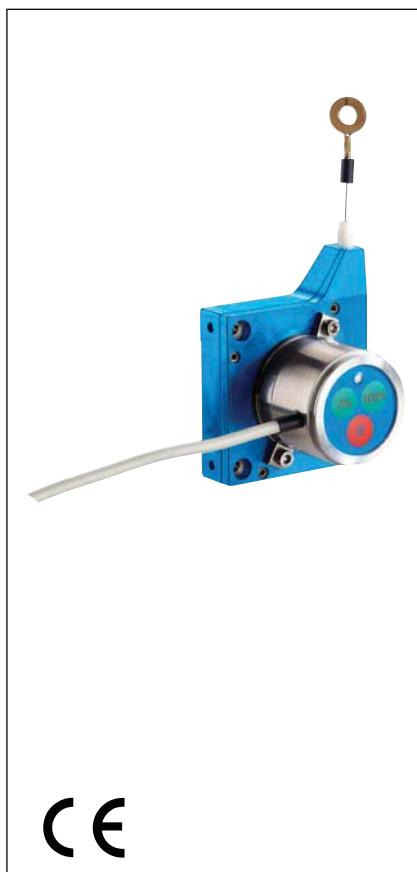
Other models available at www.mysick.com/en/A3M60_PROFIBUS

- **Electrical interface:** PROFIBUS
- **Connection type:** 3 x M12, 5-pin, axial
- **Number of steps:** ≤ 8,192
- **Resolution:** 8,192 x 8,192

Mechanical interface	Shaft diameter	Model name	Part no.
Solid shaft, face mount flange	10 mm x 19 mm	A3M60B-S4PB013X13	1038826
Solid shaft, servo flange	6 mm x 10 mm	A3M60B-S1PB013X13	1051018
Blind hollow shaft	8 mm	A3M60B-BBPB013X13	1051016
	10 mm	A3M60B-BDPB013X13	1038824
	12 mm	A3M60B-BEPB013X13	1038825
	15 mm	A3M60B-BHPB013X13	1051017
	3/8 “	A3M60B-BCPB013X13	1053327
	1/2 “	A3M60B-BFPB013X13	1053328
	14 mm	A3M60B-BGPB013X13	1051325
	5/8 “	A3M60B-BJPB013X13	1053329

Accessories

	Accessory category	Brief description	Model name	Part no.
	Mounting brackets/plates	Mounting bracket for encoder with face mount flange	BEF-WF-36	2029164
	Other mounting accessories	Servo clamps, small, for servo flange (clamping claws, mounting eccentric)	BEF-WK-SF	2029166
	Plug connectors and cables	Female connector M12, 5-pin, angled, pre-wired with 5 m cable 3 x 0.34 mm², screened	DOL-1202-W05MC	6042067
		PROFIBUS female connector M12, 5-pin, angled, pre-wired with 5 m bus cable 2-wire, 2 x 0.64 mm², screened, B-coding	DOL-1205-W05MQ	6041423
		PROFIBUS cable, 2 x 0.34 mm, sold by the meter	LTG-2102-MW	6021355
		PROFIBUS male connector M12, 5-pin, angled, pre-wired with 5 m cable 2-wire, 2 x 0.64 mm², screened, B-coding	STL-1205-W05MQ	6041426
	Shaft adaptation	Bellows coupling, shaft diameter 6 mm / 6 mm	KUP-0606-B	5312981
		Bellows coupling, shaft diameter 6 mm / 10 mm	KUP-0610-B	5312982
		Bellows coupling, shaft diameter 10 mm / 10 mm	KUP-1010-B	5312983



At a glance

- Measuring lengths of 1.25 m, 3 m, 5 m, and 10 m
- Various interfaces thanks to modular concept - all servo flange encoders can be mounted
- Analog interface with push-button teach available
- Very small housing (55 ... 190 mm)
- Slim housing with spring integrated in the measuring drum
- Light yet shock-proof and temperature-resistant plastic housing (Noryl)

Your benefits

- Space- and cost-saving design thanks to slim mechanics
- The absolute analog output allows for the use of a cost-effective interface card
- Easy to install thanks to pushbutton teach
- Numerous combinations of interfaces and measuring lengths
- Advanced programming options lead to a reduction in the amount of variants, save costs, and reduce storage

→ www.mysick.com/en/EcoLine

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/EcoLine

Measuring range	Electrical interface	Connection type	Model name	Part no.
0 m ... 1.25 m	4 mA ... 20 mA, Analog	Cable 3-pin, radial output 1.5 m	BCG05-K1KM01PP	6039745
	0 V ... 10 V, Analog	Cable 3-pin, radial output 1.5 m	BCG05-L1KM01PP	6039746
0 m ... 3 m	4 mA ... 20 mA, Analog	Cable 3-pin, radial output 1.5 m	BCG08-K1KM03PP	6039747
	0 V ... 10 V, Analog	Cable 3-pin, radial output 1.5 m	BCG08-L1KM03PP	6039748
0 m ... 5 m	4 mA ... 20 mA, Analog	Cable 3-pin, radial output 1.5 m	BCG13-K1KM05PP	6039749
	0 V ... 10 V, Analog	Cable 3-pin, radial output 1.5 m	BCG13-L1KM05PP	6039750
0 m ... 10 m	4 mA ... 20 mA, Analog	Connector M12, 5-pin, radial	BCG19-K1EM10PP	6048294
	0 V ... 10 V, Analog	Connector M12, 5-pin, radial	BCG19-L1EM10PP	6048295

Accessories

	Accessory category	Model name	Part no.
	Plug connectors and cables	DOS-1205-G	6009719
		STE-1205-G	6022083



At a glance

- Modular measuring system with a wide selection of interfaces/measuring lengths
- Measuring lengths: 2 m ... 50 m
- Very rugged system (dirt scraper, integrated brushes)
- High-quality winding mechanism and wire input
- Interfaces: - TTL/HTL - ANALOG, SSI, PROFIBUS, CANopen, DeviceNet, HIPERFACE®
- High enclosure rating
- Highly resistant to shock and vibrations
- High resolution possible

Your benefits

- Reliable solution in harsh environments
- Long service life due to rugged industrial housing
- Quick and easy installation without the need for precise linear guidance
- Low integration and maintenance costs
- Customization option reduces storage costs
- Teach-in function enables fast installation

→ www.mysick.com/en/HighLine

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.







Ordering information

Other models available at www.mysick.com/en/HighLine

Measuring range	Electrical interface	Connection type	Model name	Part no.
0 m ... 2 m	SSI	Connector M23, 12-pin, radial	BTF08-A1AM0240	1034299
0 m ... 5 m	SSI	Connector M23, 12-pin, radial	BTF13-A1AM0520	1034300
	CANopen®	Bus adapter with cable gland or connector	BTF13-C1HM0525	1034318
	DeviceNet		BTF13-D1HM0525	1034312
	PROFIBUS		BTF13-P1HM0525	1034306
0 m ... 10 m	SSI	Connector M23, 12-pin, radial	BTF13-A1AM1020	1034301
	CANopen®	Bus adapter with cable gland or connector	BTF13-C1HM1025	1034319
	DeviceNet		BTF13-D1HM1025	1034313
	PROFIBUS		BTF13-P1HM1025	1034307
0 m ... 20 m	PROFIBUS		BTF13-P1HM2025	1034308
0 m ... 30 m	PROFIBUS		BTF13-P1HM3025	1034309
0 m ... 50 m	PROFIBUS		BTF19-P1HM5017	1034310
0 m ... 2 m	10 V ... 32 V, TTL/RS422	Connector M23, 12-pin, radial	PRF08-C1AM0240	1034329
0 m ... 5 m	10 V ... 32 V, HTL/push pull	Connector M23, 12-pin, radial	PRF13-E1AM0520	1034336

Accessories

	Accessory category	Brief description	Model name	Part no.
	Terminal and alignment brackets	Holder for Item Profile	MRA-F080-R	6028632
			MRA-F180-R	6028631
	Wire draw mechanism	Wire draw BTF/PRF/MRA	Joint ball	5318683
		Wire draw brush	MRA-F080-B	6045341
			MRA-F130-B	6038562





At a glance

- Non-contact length measurement – maintenance-free, rugged, long lifetime
- High reproducibility (0.3 mm / 1 mm), high system resolution (0.1 mm)
- SSI and PROFIBUS interfaces
- Determination of absolute position
- Measuring lengths of up to 1,700 m possible
- Can be used in harsh environments
- High travel speeds of up to 6.6 m/s
- Distance tolerance between read head and measuring element: up to 55 mm ± 20 mm possible

Your benefits

- After installation, the system is immediately available and completely maintenance-free, which leads to time and cost savings.
- Reliable determination of position under harshest environmental conditions such as influences of dirt, dust, fog, shocks and vibrations
- Greater efficiency and better productivity
- Savings on time – no reference run necessary on initial operation due to absolute position measurement
- accurate positioning even with high mounting tolerances

→ www.mysick.com/en/KH53

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information


Other models available at www.mysick.com/en/KH53

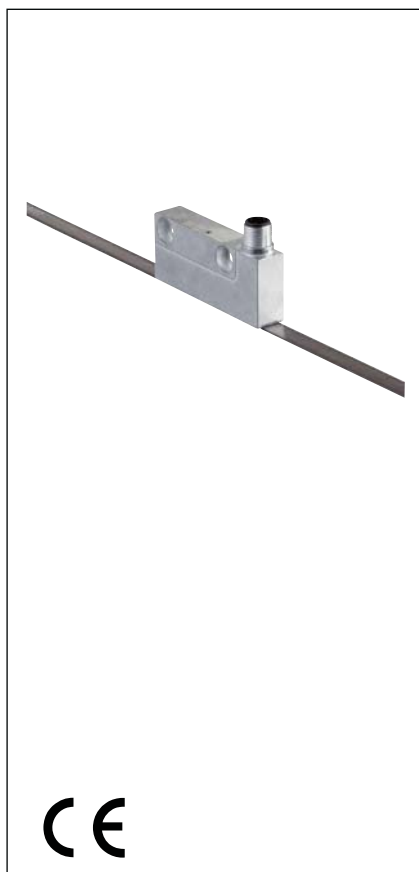
Measurement range	Electrical interface	System part	Model name	Part no.
0 m ... 38 m	SSI	Read head 38	KHK53-AXB00038	1030052
0 m ... 54 m		Read head 54	KHK53-AXB00054	1035443
0 m ... 254 m		Read head 354	KHK53-AXB00354	1030072
0 m ... 107 m	PROFIBUS	Read head 107	KHK53-PXF00107	1036164
0 m ... 548 m		Read head 548	KHK53-PXF00548	1036168
0 m ... 1,700 m		Read head 1700	KHK53-PXF01700	1036166

System part	Model name	Part no.
Measuring element up to 38 m	KHT53-XXX00038	1030055
	KHU53-XXX00038	1030056
Measuring element up to 54 m	KHT53-XXX00054	1035445
	KHU53-XXX00054	1035446
Measuring element up to 107 m	KHT53-XXX00107	1030065
	KHU53-XXX00107	1030066
Measuring element up to 354 m	KHT53-XXX00354	1030075
	KHU53-XXX00354	1030076
Measuring element up to 548 m	KHT53-XXX00548	1035451
	KHU53-XXX00548	1035452
Measuring element up to 1700 m	KHT53-XXX01700	1030085
	KHU53-XXX01700	1030086

System part	Model name	Part no.
Mounting gauge 38	KHM53-XXX00038	1030057
Mounting gauge 54	KHM53-XXX00054	1035447
Mounting gauge 107	KHM53-XXX00107	1030067
Mounting gauge 354	KHM53-XXX00354	1030077
Mounting gauge 548	KHM53-XXX00548	1035453
Mounting gauge 1700	KHM53-XXX01700	1030087

Accessories

	Accessory category	Brief description	Model name	Part no.
	Mounting brackets/plates	Mounting bracket	BEF-WK-KHT53	2029159
	Terminal and alignment brackets	Clamps	BEF-KHA-KHT53	2042468
	Programming and configuration tools	Programming Tool for encoders with SSI interface	PGT-01-S	1030111
	Plug connectors and cables	Female connector, M12, 4-pin, straight, 5 m, PVC, round connector M12 x 1, 4-pin	DOL-1204-G05M	6009866
		Female connector M12, 5-pin, straight, with 10 m cable 2-core, screened, for Profibus data cable	DOL-1205-G10MQ	6026008
		Connector M23 female, 12-pin, straight, 5 m cable 12 cores, 4 x 2 x 0.25 + 2 x 0.5 + 2 x 0.14 mm², SSI and programming, with screening, capable of being dragged, not salt water and UV resistant	DOL-2312-G05MMA1	2029202
		Connector M23 female, 12-pin, straight, 10 m cable 12 cores, 4 x 2 x 0.25 + 2 x 0.5 + 2 x 0.14 mm², SSI and programming, with screening, capable of being dragged, not salt water and UV resistant	DOL-2312-G10MMA1	2029203
		Bus-OUT, PROFIBUS plug, M12	PR-STE-1205-G	6021354
		M12 plug PROFIBUS terminating resistor	PR-STE-END	6021156
		Mating connector M23, 12-pin	STE-2312-G	6027537
		Male connector, 5-pin, straight, with 10 m cable 2-core, screened, for Profibus data cable	STL-1205-G10MQ	6026007



At a glance

- Non-contact determination of absolute position
- Small, compact read head
- Standard SSI interface, combined with SinCos output
- Measuring lengths of up to 4 m
- High level of accuracy ($\pm 10 \mu\text{m}$)
- High resolution ($1 \mu\text{m}$ with SSI)
- High travel speed of up to 10 m/s

Your benefits

- Small size, light weight and high measurement speed make it ideal for a variety of applications
- After installation, the system is immediately available and completely maintenance-free, which leads to time and cost savings
- Immune to environmental factors like contamination and condensation, ensuring increased reliability
- Real-time speed determination plus absolute positioning due to SinCos and SSI output

→ www.mysick.com/en/TTK70

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.



Ordering information

Other models available at www.mysick.com/en/TTK70

- **Measuring length:** 4,000 mm

Electrical interface	Resolution	System part	Model name	Part no.
4.5 V DC ... 30 V DC, SSI	$1 \mu\text{m}$	Read head	TTK70-AXA0-K02	1038033

Description	Magnetic strip length	Model name	Part no.
Magnetic tape with adhesive tape and cover band incl. ¹⁾	0.5 m	MVM-0M5-2MC-MKLB	6037415
	1 m	MVM-01M-2MC-MKLB	6037417
	2 m	MVM-02M-2MC-MKLB	6037419
	3 m	MVM-03M-2MC-MKLB	6037421
	4 m	MVM-04M-2MC-MKLB	6037423
	1.5 m	MVM-1M5-2MC-MKLB	6037418
	2.5 m	MVM-2M5-2MC-MKLB	6037420
	3.5 m	MVM-3M5-2MC-MKLB	6037422

¹⁾ Working temperature range $-20 \dots +70 \text{ }^{\circ}\text{C}$, storage temperature range $-30 \dots +80 \text{ }^{\circ}\text{C}$.

Accessories

	Accessory category	Brief description	Model name	Part no.
	Plug connectors and cables	Female connector, M12, 12-pin, angled, 2 m, PVC, shielded, drilled and twisted pair	DOL-1212-W02MAC1	6039824
		Female connector, M12, 12-pin, angled, 5 m, PVC, shielded, drilled and twisted pair	DOL-1212-W05MAC1	6039825