Product overview

MWS075

Compact measuring wheel encoder with high flexibility and easy installation

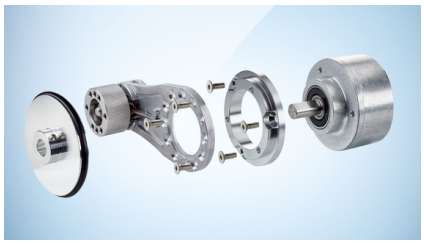
SICK
Sensor Intelligence.

Advantages

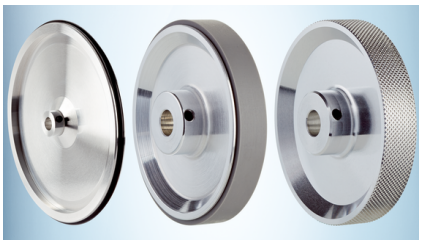
MWS075 modular measuring wheel system

The MWS075 is characterized by a high degree of modularity, which makes it possible to select a suitable communication interface and measuring wheel for different applications. With a compact axle spacing of just 63 cm, it is easy to integrate. Depending on requirements, the MWS075 can be ordered as a system or as individual components for subsequent assembly. During installation, the spring force can be adjusted reliably and easily – without additional tools. Thanks to the constant spring tensioning force and the compensation of unevenness on the measuring surface of up to ± 3 mm, the MWS075 solves numerous speed or positioning tasks without allowing slippage to occur. A patented anti-overstress system prevents the spring from being overstressed – for a long service life.

Whether IO-Link, EtherNet/IP™ or incremental interface – the MWS075 offers numerous options.



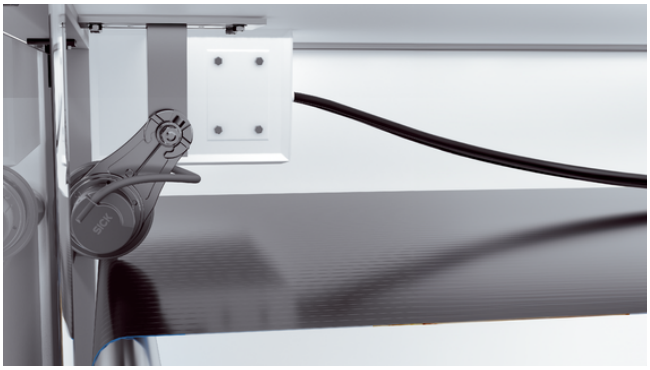
The mechanics of the MWS075 can be easily assembled along with a suitable encoder and measuring wheel.



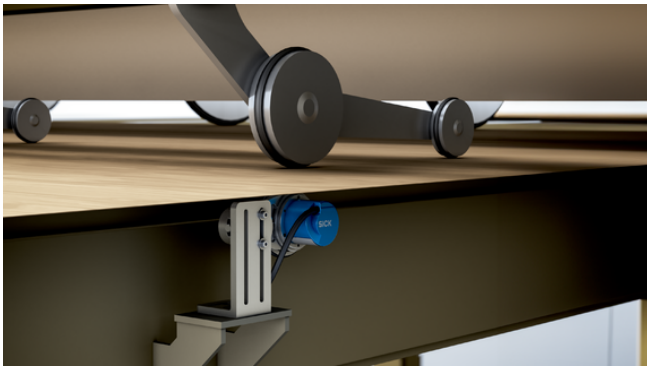
Different measuring wheel options – with different measuring wheel surfaces and scopes – prevent material damage and effectively reduce slippage.

Quick mounting and easy integration

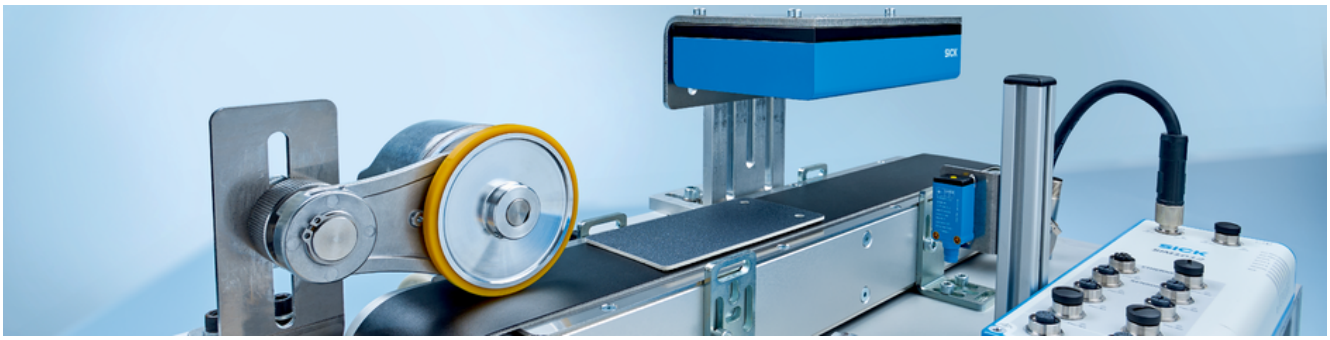
The MWS075 can be installed in the application and commissioned in just a few simple steps. The spring force is set by pressing it against the surface to be measured. The MWS075 can be mounted in different positions: from below or above, and clockwise or counterclockwise. Thanks to the intelligent design, the spring is kept at a constant 14 N and compensates for inaccuracies on the measuring surface of ± 3 mm. The MWS075 measures accurately and reliably without damaging the spring or the surface to be measured.



Monitoring the roll material of films with contact pressure from above. Monitoring the roll material of films with contact pressure from above.
<a href=https://www.sick.com/de/de/catalog/konsumgueter/nahrungsmittel-getraenke-hygiene-und-pflegeprodukte/primaerverpackung/bestimmung-der-abrollgeschwindigkeit-von-verpackungsmaterial/c/p661321?tab=overview target="_blank">Find out more

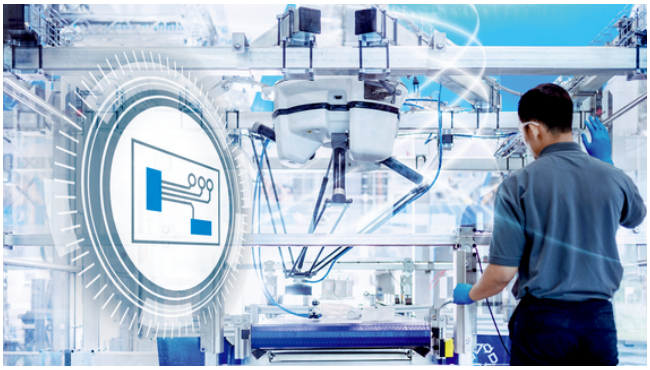


Positioning of laminate with contact pressure from below.
<a href=https://www.sick.com/de/de/catalog/maschinen-und-antriebstechnik/maschinen/holz/ueberwachung-der-foerdergeschwindigkeit/c/p518978?category=g585130&tab=overview target="_blank">Find out more



Customized solutions for linear measurement of continuous material and piece goods

When processing web material, the MWS075 records speed or position measurements while directly contacting the surface. These roll-to-roll or roll-to-cut processes, in the battery production or packaging industry for example, can be solved using measuring wheel encoders or by non-contact means with the SPEETEC. To precisely control the various materials, SICK offers additional sensors that optimize processes such as web edge control or the detection of print and cut marks.



Monitor the condition of machines
Application solutions from SICK reliably control upstream and downstream process steps. Automated machine processes that are as well coordinated as possible improve process quality and increase machine efficiency.
<a href=https://www.sick.com/web-control target="_blank">Find out more

Non-contact motion sensors
The <a href=https://www.sick.com/de/de/catalog/produkte/motion-control-sensoren/beruehrungslose-bewegungssensoren/speetec-1d/c/g550876 target="_blank">SPEETEC with laser class 1 measures the length, position or speed of various objects or surfaces without contact.

Technical data overview

Resolution in pulses/mm	0.05 ... 1,310.72 (depends on variant)
Spring deflection spring arm	± 3 mm
Measuring wheel circumference	200 mm / 300 mm (depends on variant)
Measuring wheel surface	O-ring NBR70 Vulcanized PU Smooth polyurethan (depends on variant)
Programmable	✓ / – (depends on variant)
Communication interface	Incremental SSI CANopen IO-Link EtherCAT® EtherNet/IP™ PROFINET (depends on variant)
Communication Interface detail	TTL / HTL / HTL / Push pull / TTL / RS-422 / IO-Link V1.1 / CoE (CAN over EtherCAT®) (depends on variant)
Connection type	Male connector, M12 Cable Cable, with male connector, M12 Cable, with male connector, M23 Female connector, M12
Supply voltage	4.5 V ... 32 V (depends on variant)
Operating temperature range	–40 °C ... +100 °C [1] –30 °C ... +100 °C [2] –40 °C ... +100 °C

[1] Stationary position of the cable.

[2] Flexible position of the cable.

Product description

The MWS075 measuring wheel encoder from SICK precisely measures dynamic linear surface movements using direct contact. It is customizable and supports all available encoder interfaces and measuring wheel interfaces, thereby allowing it to be seamlessly integrated into the application environment. The intelligent design combines compactness with flexibility and measurement accuracy. A manually adjustable contact pressure ensures precise and repeatable measurements of speed and position. The rugged spring arm has a spring travel of ± 5 mm and a maximum contact pressure of 15 N. The patented spring travel limiter protects the MWS075 from overload. The measuring wheel encoder enables accurate measurement results, system longevity, and reliability in a variety of industrial sectors.

At a glance

- Contact pressure manually adjustable in one step from 0 to 15 N
- All available encoder interfaces can be selected
- Compact axle spacing: 63.5 mm
- Maximum spring travel: 14 mm, mechanically protected
- Flexible encoder mounting on both sides, in 30° increments
- Variety of measuring wheel surfaces and circumferences available

Your benefits

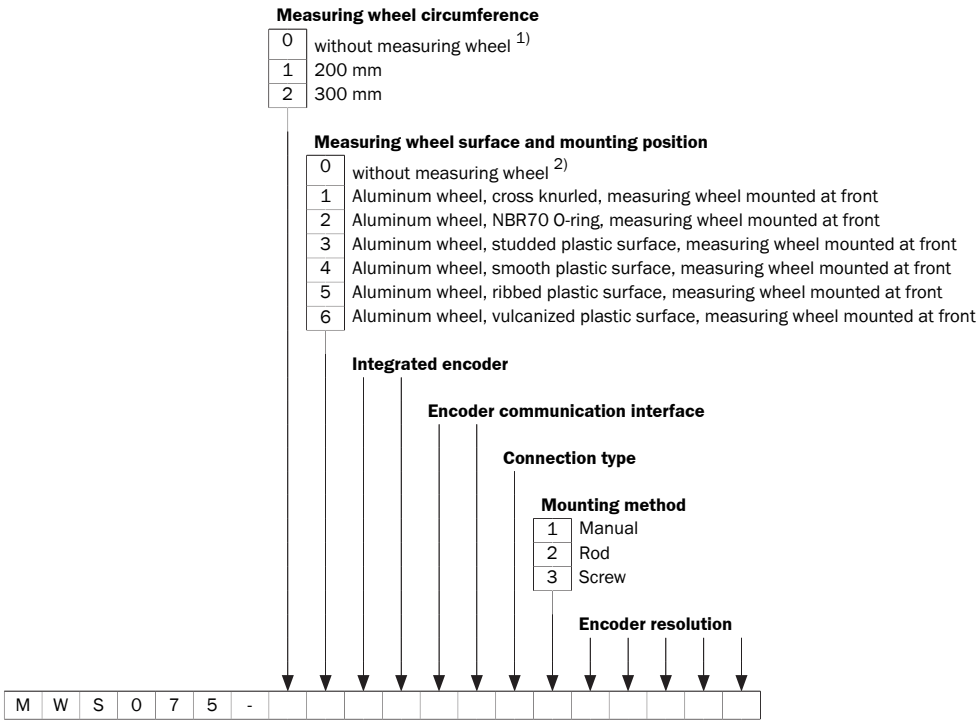
- Compact, space-saving measuring wheel system with low installation depth
- Spring travel and uniform contact pressure to compensate for unevenness on the measurement surface
- Time saving through simple installation and fast commissioning
- Versatile solution for linear measuring tasks thanks to different measuring wheel surfaces and adjustable contact pressure
- Spring travel limitation prevents system failures by protecting the spring from overload
- Individual combinations thanks to a wide selection of encoders and interfaces

Fields of application

- Direct measurement of position, speed and path of linear movements, e.g. for endless material
- Laser and inkjet printers for labels, packaging and bottles
- Process control of piece goods
- Wood industry
- Volumetric measuring and weighing systems
- Packaging machines
- Conveyor belt systems
- Shuttle system

Type code

Other models and accessories ➜ www.sick.com/MWS075



1) Not in combination with "Measuring wheel surface and mounting position" 0 and "Attached encoder" 00.

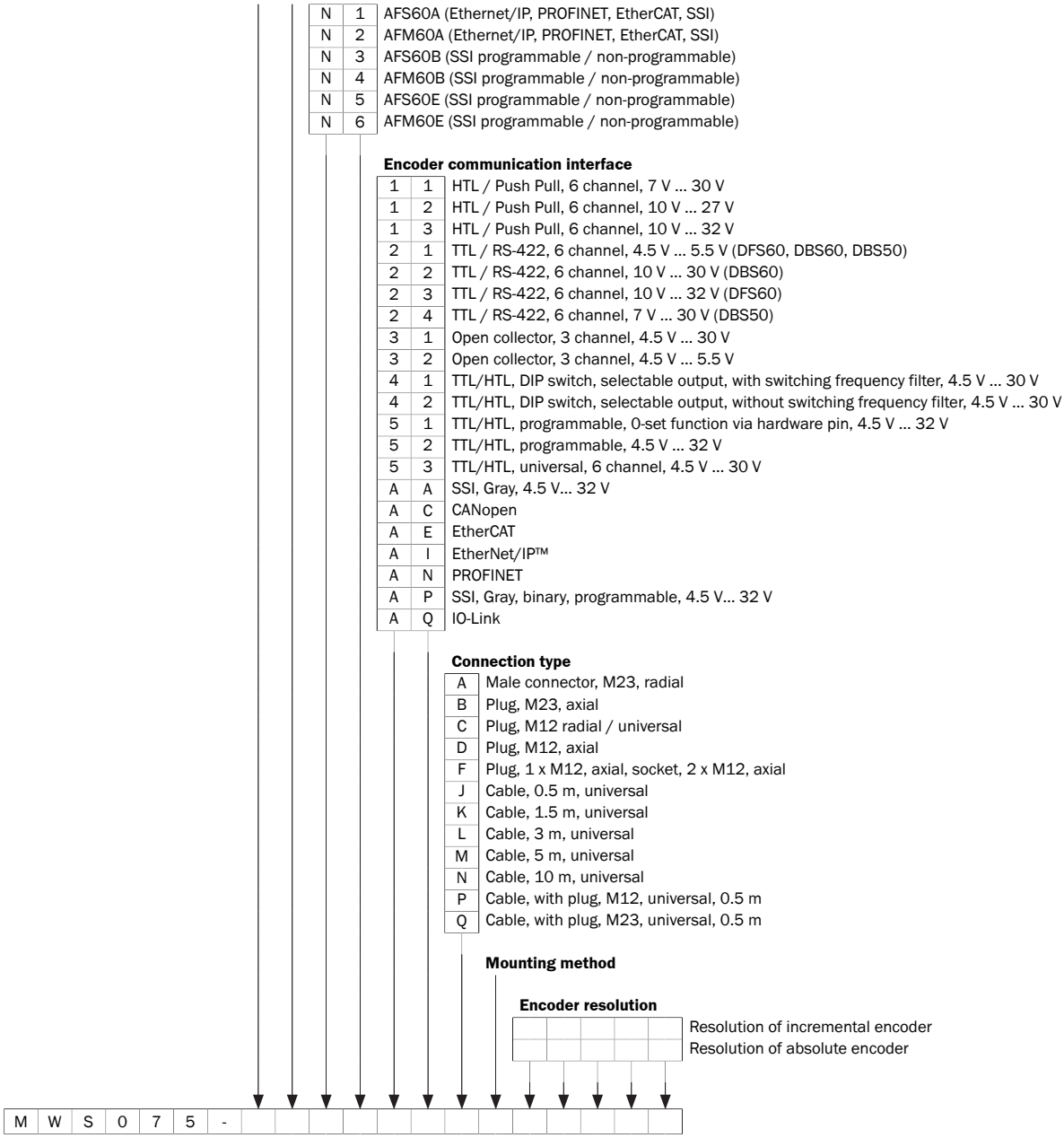
2) Not in combination with "Measuring wheel circumference" 0 and "Attached encoder" 00.

Measuring wheel circumference

Measuring wheel surface and mounting position

Integrated encoder

A	1	DBS60E (HTL, TTL, HTL/TTL), pulses per revolution 0 ... 5000
A	2	DBS60B (HTL, TTL, HTL/TTL), pulses per revolution 5,001 ... 10,000
B	1	DFS60E (HTL, TTL), pulses per revolution 0 ... 2,048
B	2	DFS60B (HTL, TTL, programmable), pulses per revolution 0 ... 10,000
B	3	DFS60A (HTL, TTL, programmable), pulses per revolution 0 ... 65,536
C	1	DBS50 (HTL, TTL), pulses per revolution 0 ... 2048
D	1	DUS60 (HTL, TTL, programmable), pulses per revolution 0 ... 2,400
E	1	DLS40 (HTL, TTL), pulses per revolution 0 ... 1024
M	1	AHS36A (IO-Link, CANopen, SSI)
M	2	AHM36A (IO-Link, CANopen, SSI)
M	3	AHS36B (IO-Link, CANopen, SSI)
M	4	AHM36B (IO-Link, CANopen, SSI)


N 1 AFS60A (Ethernet/IP, PROFINET, EtherCAT, SSI)
N 2 AFM60A (Ethernet/IP, PROFINET, EtherCAT, SSI)
N 3 AFS60B (SSI programmable / non-programmable)
N 4 AFM60B (SSI programmable / non-programmable)
N 5 AFS60E (SSI programmable / non-programmable)
N 6 AFM60E (SSI programmable / non-programmable)
Encoder communication interface
1 1 HTL / Push Pull, 6 channel, 7 V ... 30 V
1 2 HTL / Push Pull, 6 channel, 10 V ... 27 V
1 3 HTL / Push Pull, 6 channel, 10 V ... 32 V
2 1 TTL / RS-422, 6 channel, 4.5 V ... 5.5 V (DFS60, DBS60, DBS50)
2 2 TTL / RS-422, 6 channel, 10 V ... 30 V (DBS60)
2 3 TTL / RS-422, 6 channel, 10 V ... 32 V (DFS60)
2 4 TTL / RS-422, 6 channel, 7 V ... 30 V (DBS50)
3 1 Open collector, 3 channel, 4.5 V ... 30 V
3 2 Open collector, 3 channel, 4.5 V ... 5.5 V
4 1 TTL/HTL, DIP switch, selectable output, with switching frequency filter, 4.5 V ... 30 V
4 2 TTL/HTL, DIP switch, selectable output, without switching frequency filter, 4.5 V ... 30 V
5 1 TTL/HTL, programmable, 0-set function via hardware pin, 4.5 V ... 32 V
5 2 TTL/HTL, programmable, 4.5 V ... 32 V
5 3 TTL/HTL, universal, 6 channel, 4.5 V ... 30 V
A A SSI, Gray, 4.5 V... 32 V
A C CANopen
A E EtherCAT
A I EtherNet/IP™
A N PROFINET
A P SSI, Gray, binary, programmable, 4.5 V... 32 V
A Q IO-Link
Connection type
A Male connector, M23, radial
B Plug, M23, axial
C Plug, M12 radial / universal
D Plug, M12, axial
F Plug, 1 x M12, axial, socket, 2 x M12, axial
J Cable, 0.5 m, universal
K Cable, 1.5 m, universal
L Cable, 3 m, universal
M Cable, 5 m, universal
N Cable, 10 m, universal
P Cable, with plug, M12, universal, 0.5 m
Q Cable, with plug, M23, universal, 0.5 m
Mounting method
Encoder resolution
Resolution of incremental encoder
Resolution of absolute encoder
M W S 0 7 5 -

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