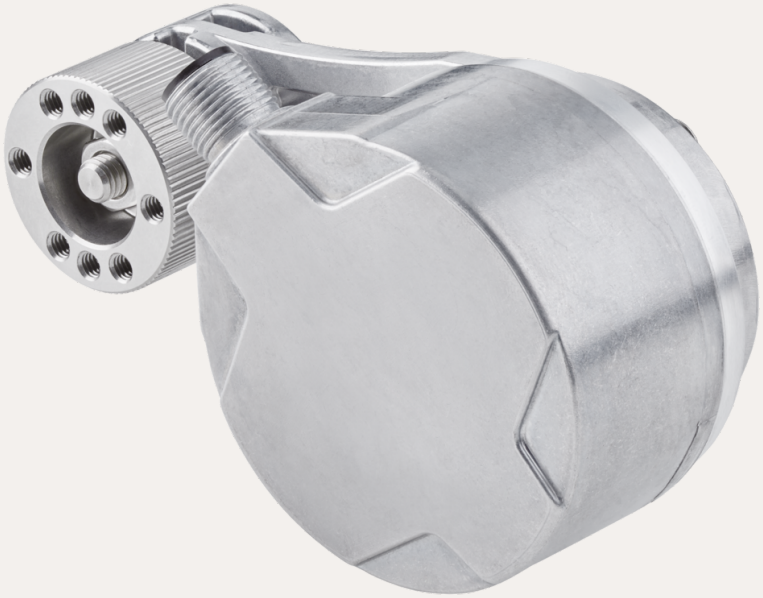
SICK.COM



DATA SHEET

MWS075-00D142C102400

MWS075
Measuring wheel encoders

SICK Sensor Intelligence



Illustration may differ

MEASURING WHEEL ENCODERS

MWS075-00D142C102400

ORDERING INFORMATION

Type	part no.
MWS075-00D142C102400	1146358

Further device versions and accessories at www.sick.com/MWS075

DETAILED TECHNICAL DATA

PERFORMANCE

Pulses per revolution	2,400
Measuring increment (resolution in mm/pulse)	[1]
Repeatability	< 0.1 mm [2]

[1] Value based on measuring wheel circumference. The measuring wheel circumference depends on manufacturing tolerances, wear and tear, the selected spring tensioning force, and the behavior of the measurement wheel surface at different temperatures and on different measurement surfaces. To obtain the most accurate measurement results, we recommend performing a reference run for positioning tasks so that application-specific measuring wheel characteristics can be taken into account.

[2] Value is based on the mechanics. Backlash of the measuring wheel mechanics, is at a minimum. This enables a precise and repeatable measurement results.

INTERFACES

Communication interface	Incremental
Communication Interface detail	TTL / HTL

ELECTRONICS

Connection type	Male connector, M12, 8-pin, universal [1]
Supply voltage	4.75 V ... 30 V
Reverse polarity protection	✓
Short-circuit protection of the outputs	✓

[1] The universal connection is rotatable so that it is possible to position the conector in the radial or axial direction.

MECHANICS

Start up torque	1.2 Ncm

[1] One cycle corresponds to an upward and downward movement of ± 3 mm from the recommended pretension position.

[2] When mounted from below, the encoder weight during spring pretensioning must be taken into account.

Operating torque	1.1 Ncm
Operating speed	1,500 min^{-1}
Bearing lifetime	3.6×10^{9} revolutions
Maximum travel/deflection of spring arm	14 N with 14 mm spring travel
Recommended pretension	15 N At 10 mm deflection
Max. permissible working area for the spring (continuous operation)	± 3 mm
Recommended spring deflection	2 mm ... 13 mm
Service life of spring element	> 1.4 million cycles [1]
Mounting position relative to the measuring object	Preferably from above, from below possible [2]
Moment of inertia of the rotor	33 gcm^2
Mounted encoder	DUS60, DUS60E-S4KC0AAA, 1084487
Flange plates	BEF-FA-36-49-MWS075, 2145869
Mounted mechanic	BEF-MWS075-ARM, 2145180

[1] One cycle corresponds to an upward and downward movement of ± 3 mm from the recommended pretension position.

[2] When mounted from below, the encoder weight during spring pretensioning must be taken into account.

AMBIENT DATA

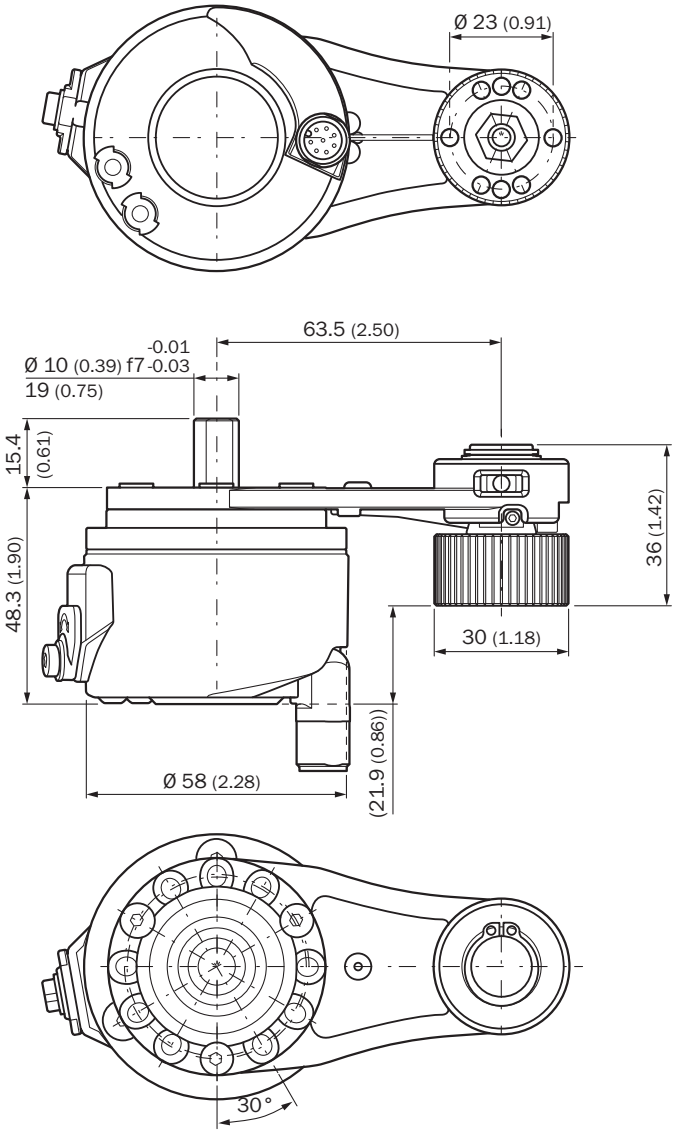
EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP65 [1]
Operating temperature range	–30 °C ... +90 °C
Storage temperature range	–40 °C ... +75 °C, without package

[1] When the mating connector is installed and the DIP switch door is sealed with the encoder housing.

CERTIFICATES

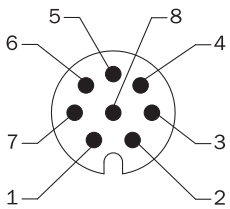
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓

DIMENSIONAL DRAWING



Dimensions in mm (inch)

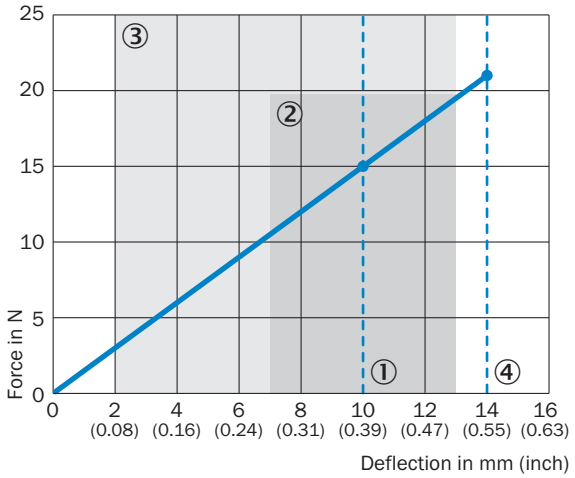
ANSCHLUSSBELEGUNG VIEW OF M12 MALE DEVICE CONNECTOR ON ENCODER



Wire colors (cable connection)	Male connector M12, 4-pin	Male connector M12, 8-pin	Output function				Explanation
			A	B	C	D	
Brown	-	1	A-	CW-	A-	A-	Signal
White	4	2	A	CW	A	A	Signal
Black	-	3	B-	CCW-	Direction-	B-	Signal
Pink	2	4	B	CCW	Direction	Fault (M12, 4-pin)B (M12, 8-	Signal

Wire colors (cable connection)	Male connector M12, 4-pin	Male connector M12, 8-pin	Output function				Explanation
			A	B	C	D	
						pin and cable connection)	
Yellow	-	5	Z-	Fault-	Fault-	Fault-	Signal
Violet	-	6	Z	Fault	Fault	Fault	Signal
Blue	3	7	GND	GND	GND	GND	Ground connection
Red	1	8	U_s	U_s	U_s	U_s	Supply voltage
-	-	-	Case	Case	Case	Case	Earth fault protection
Shielding	-	-	Shielding	Shielding	Shielding	Shielding	Shielding

DIAGRAMS FORCE DEFLECTION CHART WITH WORKING RANGE



① Proposed Pre-tension: 10 mm
② Allowed operating travel (continuous operation) +/- 3 mm
③ Proposed spring deflection: 2 - 13 mm
④ Maximum spring travel: 14 mm

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1146358

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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