MASQ47-36PEKU1SA10

MAS

BEARINGLESS ENCODERS

SICK
Sensor Intelligence.

MASQ47-36PEKU1SA10 | MAS
BEARINGLESS ENCODERS

Illustration may differ

Ordering information

Type	Part no.
MASQ47-36PEKU1SA10	1113979

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

Detailed technical data

Features

Dimensions	47 mm x 47 mm x 10 mm
Measuring range	0° ... 360°
Resolution	12 bit
Linearity error, typ.	± 1°
Repeatability	< 0.3° [1]
Number of adjustable angles	32
Sampling rate	900 Hz
Switching output	3 x PNP or IO-Link mode 2 x PNP
Output function	Programmable (factory setting: normally open contact)
Electrical wiring	DC 5-wire
Working distance	1.5 mm ... 4 mm [2]
Magnetic misalignment	± 0.2 mm
Indication	
LED green	Static on: power on Flashing: IO-Link mode Flashing: Find me activated
LED yellow	Q1 (pin4) permanently on: contact closed Flashing: Find me activated Flashing: Magnet too far away
LED yellow 1	Q2 (pin2) permanently on: contact closed Flashing: Find me activated Flashing: Magnet too far away
LED yellow 2	Q3 (pin5) permanently on: contact closed Flashing: Find me activated Flashing: Magnet too far away

[1] Ub and Ta constant.

[2] This specification is measured with the magnets listed under accessories. The value may vary if other magnets are used.

Mechanics/electronics

Connection type	Cable, with male connector, M12, 5-pin, 1 m
Supply voltage	10 V DC … 30 V DC
Residual ripple	10 %
Voltage drop	≤ 2 V [1]
Current consumption	≤ 30 mA [2]
Continuous current I_a	≤ 200 mA [3]
Short-circuit protection	✓
Reverse polarity protection	✓
Power-up pulse protection	✓
Material, cable	PUR
Conductor cross-section	0.34 mm²
Cable diameter	4.8 mm
Housing material	Plastic (PPS)
Tightening torque	Typ. 1 Nm
Protection class	III
UL File No.	E181493
DC_{avg}	0 %

[1] At I_a max.

[2] Without load.

[3] Per output.

Interfaces

Communication interface	IO-Link
Communication Interface detail	V1.1, COM3 (230,4 kBaud)
Cycle time	≥ 1 ms
Process data length	4 Byte
Process data structure	See "Addendum to operating instructions document number 8024987"
Factory setting	Angle ranges: 0…120 Qint1 = Q1, 120…240 Qint2 = Q2, 240…359.9 Qint3 = Q3 Output: normally open contact Time delay: deactivated

Ambient data

|	
EMC	EN 61000-4-2 ESD: 4 kV CD / 8 kV AD EN 61000-4-3 HF radiated: 10 V_{eff} EN 61000-4-4 burst: 2 kV EN 61000-4-6 HF wire-bound: 10 V_{eff}
Enclosure rating	IP67 (EN 60529) [1] IP68 (EN 60529) [1]
Operating temperature range	–40 °C … +80 °C
Resistance to shocks	
	100 g, 6 shocks, 6 ms (EN 60068-2-27)
Continuous shock	40 g, 6 ms, 8,000 shocks (EN 60068-2-29)
Resistance to vibration	15 g, 5 Hz … 2,000 Hz, 120 minutes (EN 60068-2-6)

[1] IPx8 = 168h, 1m.

Smart Task

Timer function	Deactivated On delay Off delay ON and OFF delay Impulse (one shot)
Inverter	Adjustable
Switching signal	Switching output

Classifications

ECl@ss 5.0	27270502
ECl@ss 5.1.4	27270502
ECl@ss 6.0	27270590
ECl@ss 6.2	27270590
ECl@ss 7.0	27270502
ECl@ss 8.0	27270502
ECl@ss 8.1	27270502
ECl@ss 9.0	27270502
ECl@ss 10.0	27270502
ECl@ss 11.0	27270502
ECl@ss 12.0	27270502
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))

① Connection
② LED, (4 x)
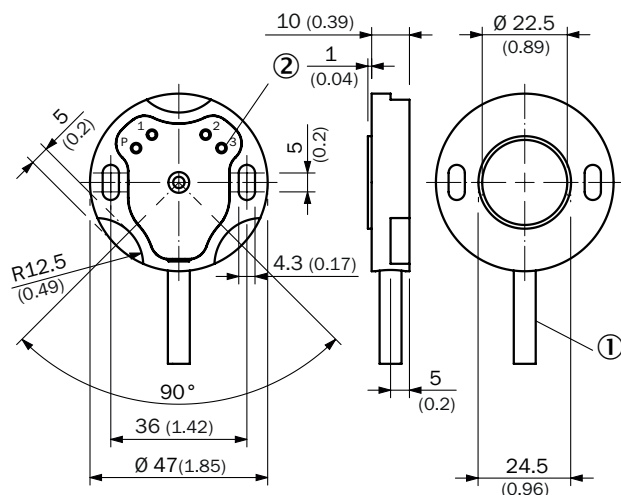
PIN assignment

Connection diagram

+(L+)	1	BN
Q2/IN	2	WH
- (M)	3	BU
Q1/C	4	BK
Q3	5	GY
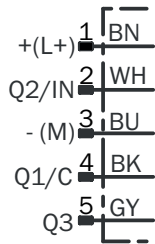
Recommended accessories

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

	Brief description	Type	Part no.
Connection modules			
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
Magnets			
	MAG-1005-N	MAG-1005-N	5344197
	MAGH-1004-N	MAGH-1004-N	2126478
Sensor Integration Gateway			
	• **Further functions:** Web server integrated, IIoT interface available (dual talk) • **Logic editor:** no • **Communication interface:** IO-Link, Ethernet, PROFINET, REST API, MQTT, OPC UA • **Product category:** IO-Link Master	SIG350-0004AP100	6076871
	• **Further functions:** Web server integrated, IIoT interface available (dual talk) • **Logic editor:** no • **Communication interface:** IO-Link, Ethernet, EtherNet/IP™, REST API, MQTT, OPC UA • **Product category:** IO-Link Master	SIG350-0005AP100	6076923
	• **Further functions:** Web server integrated, IIoT interface available (dual talk) • **Logic editor:** no • **Communication interface:** IO-Link, Ethernet, EtherCAT®, REST API, MQTT, OPC UA • **Product category:** IO-Link Master	SIG350-0006AP100	6076924

SICK AT A GLANCE

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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.

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