

IKS24

Linear Encoder with Resolution Selector

When it comes to speed and position feedback requirements for linear motors, pick and place robots and electronics and semiconductors manufacturing systems, linear encoder IKS24 is the right choice. It features an advanced dual element magneto-resistive sensor for producing impressive accuracy even at highest speeds, low modulation rates and superb signal output clarity. The sensor head is as small as a five cent EURO coin. It provides liberal mounting tolerances and allows for unparalleled ease of installation, while still maintaining reliable operation and high performance characteristics. The IP68 design is dust-tight, waterproof and fully resistant to oil, grease, immersion in water and common chemical contaminants.

linear
applications

incremental
measurement

rotary
applications



Features and Benefits

- resolution selector from 50 to 2 μm
- compact reading head with IP68 protection
- power-on and error LEDs
- automatic output signal performance control
- ideal for linear motors and pick & place axes

Environmental Specifications

shock	250 g, 6 ms acc. to CEI EN 60068-2-27
vibration	10 g, 5 - 2000 Hz acc. to CEI EN 60068-2-6
protection class	IP68 (sensor head), IP65 (connector)
operating temperature	- 25 °C to + 85 °C (- 13 °F + 185 °F)
storage temperature	- 40 °C to + 100 °C (- 40 °F + 212 °F)

Mechanical Specifications

dimensions	see drawing
housing material	sensor: die cast aluminium, UNI EN AC-46100 connector: Macromelt OM646-EN
electrical connections	Hi-flex cable M6 + DSub 9 pin inline plug
gap between sensor/tape (without cover strip)	IKS24 (2 mm pole pitch): 0.1 to 1 mm IKS24 (5 mm pole pitch): 0.1 to 2 mm
travel speed (mechanical)	max 16 m/s
measuring length	tape length -5 mm each side

Electrical Specifications

resolution	IKS24 (2 mm pole pitch): 0.002 to 0.02 mm IKS24 (5 mm pole pitch): 0.005 to 0.05 mm
sensor accuracy	±1 increment (after auto-calibration)
repeat accuracy	±1 increment
output circuits	line driver, Push-Pull
output signals	AB0 /AB0
counting frequency (incremental)	500 kHz max. (others on request)
power supply	+ 5 Vdc ± 5 %, + 10 Vdc to +30 Vdc
power consumption	80 mA
protection	against inversion of polarity (except 5 Vdc version) and short-circuit
EMC	acc. to EN 61000-6-2 level 3

Accessories

LMS	magnetic tape
RMS	rotary magnetic scales

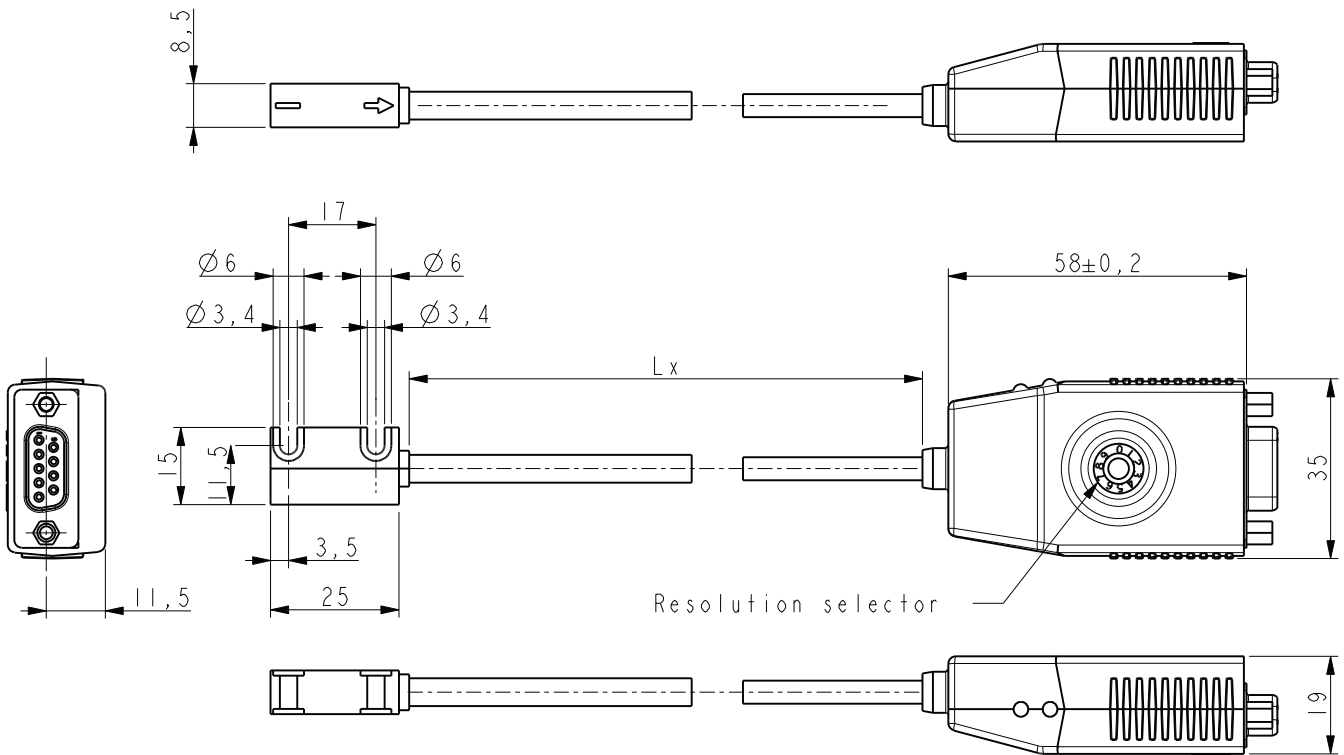
Edge Distance IKS24 (5 mm pole pitch)

order code	edge distance (µsec)	max. counting frequency (kHz)	resolution (µm) vs. max. possible speed (m/s)							
			5	6.25	10	12.5	20	25	40	50
B	2	500	2.15	2.69	4.30	5.38	8.60	10.75	17.20	21.50

Edge Distance IKS24 (2 mm pole pitch)

order code	edge distance (µsec)	max. counting frequency (kHz)	resolution (µm) vs. max. possible speed (m/s)							
			2	2.5	4	5	8	10	16	20
B	2	500	0.86	1.08	1.72	2.15	3.44	4.30	6.88	8.60

Dimensions



Order Code - Sensor

IKS24 - P - V - D - R - F - T - L - C

		code	explanation			
P	pole pitch	P2	2 mm			
		P5	5 mm			
V	supply voltage	V5	+ 5 Vdc ± 5 %			
		V24	+ 10 Vdc to + 30 Vdc			
D	interface	D1	line driver (RS422), + 5 Vdc ± 5 % (AB0/AB0)			
		D2	push-pull, + 10 Vdc to + 30 Vdc (AB0/AB0)			
R	resolution	@ 2 mm pole pitch Rx	2 = 2 μm	4 = 4 μm	8 = 8 μm	16 = 16 μm
			2.5 = 2.5 μm	5 = 5 μm	10 = 10 μm	20 = 20 μm
		@ 5 mm pole pitch Rx	5 = 5 μm	10 = 10 μm	20 = 20 μm	40 = 40 μm
			6.25 = 6.25 μm	12.5 = 12.5 μm	25 = 25 μm	50 = 50 μm
F	max. output frequency	F500	500 kHz			
		F1000	1000 kHz (on request)			
		F2000	2000 kHz (on request)			
		F4000	4000 kHz (on request)			
		F8000	8000 kHz (on request)			
T	cable type	T1	hi-flex cable/drag-chain quality			
L	cable length	L0.5	0.5 m			
		L1	1 m			
		L2	2 m			
		L3	3 m			
		L5	5 m			
C	connector	C1	D-Sub9 (male)			
		C0	flying leads/without connector			

Order Code - Magnetic Tape

LMS - N - P - L - W - H - A - C - K - T - EB

		code	explanation ⁽¹⁾
N	number of tracks		one track
P	track parameters ⁽²⁾	I2	2 m
		I5	5 m
L	length	L ...	piece, length in mm ⁽⁴⁾
W	width (mm)	W5	5 mm
		W6	6 mm
		W8	8 mm
		W10	10 mm
H	scale height (mm)		1 mm magnetic tape, 0.3 mm carrier tape
		H1-0.1	1 mm magnetic tape, 0.1 mm carrier tape
		H0.5-0.3	0.5 mm magnetic tape, 0.3 mm carrier tape
		H0.5-0.1	0.5 mm magnetic tape, 0.1 mm carrier tape
A	accuracy class	A03	± 3 µm/m (only delivered up to piece length 2300 mm)
		A10	± 10 µm/m (only delivered up to piece length 2300 mm)
		A20	± 20 µm/m
		A40	± 40 µm/m
		A100	± 100 µm/m
C	cover tape		without cover tape
		C	equipped with cover tape (only delivered up to piece length 1500 mm)
K	adhesive tape		without adhesive tape
		K	equipped with adhesive tape
T	text imprint		with BOGEN text imprint
		T0	without text imprint
		T2	with customer specific text imprint (on request)
EB	mounting holes ⁽⁵⁾		without mounting holes
		1	please see drawings on the previous page
		2	
		3	
		4	
		5	

⁽¹⁾ standard parameters are bold

⁽²⁾ for absolute track and other options than listed please contact our sales team

⁽⁴⁾ length of scale: measuring length (specified accuracy class guaranteed) + 5 mm at each end (specified accuracy class cannot be guaranteed)

⁽⁵⁾ for other options than listed please contact our application engineers

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