



KH53

For harsh conditions – the heavy-duty linear encoder with a measuring length of up to 1.6 km

SICK
Sensor Intelligence.



Technical data overview

Measuring length	0 m ... 1,700 m (depending on type)
Communication interface	SSI, PROFIBUS DP (depending on type)
Resolution	0.1 mm
Connection type	Male connector, M23, 12-pin Cable, 12-wire Male connector, 3x, M12

Product description

The POMUX KH53 non-contact linear encoder can measure absolute lengths up to 1,700 m. The encoder consists of two main components: The non-contact read head determines the absolute position using a series of measuring elements attached along the measurement path. Each measuring element consists of a number of permanent magnets. Since the distances between the magnets are unique, they can be used to develop an absolute measuring code. No reference run is required due to the absolute position being determined. The read head is passed parallel to these measuring elements at a distance of 25 mm or 55 mm. With a measuring length of up to 1,700 m, the KH53 is ideal for use in cranes, in storage and conveyor systems, and for railed vehicles. Due to the non-contact technology, this system works wear-free even in harsh ambient conditions, so that a long lifetime is ensured.

At a glance

- Non-contact length measurement – maintenance-free, rugged, long service life
- 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 harshest ambient conditions
- High traversing 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 ambient conditions such as the effects of dirt, dust, fog, shock, and vibration
- High efficiency and productivity
- Time savings – no reference run necessary on initial commissioning due to absolute position measurement
- Accurate positioning even with high mounting tolerances

Fields of application

- Position determination for container cranes in container terminals
- Positioning of the trolley on cranes
- Positioning of automated guided vehicles in storage and conveyor systems

Ordering information

Other models and accessories → www.sick.com/KH53

- **System part:** Read head
- **Communication interface:** SSI
- **Resolution:** 0.1 mm
- **Supply voltage:** 10 V ... 32 V

Measuring range	Repeatability	Connection type	Type	Part no.
0 m ... 1,700 m	0.3 mm	Cable, 12-wire, 1.5 m	KHK53-AXR01700	1030078
		Cable, 12-wire, 10 m	KHK53-AXU01700	1030081
		Cable, 12-wire, 3 m	KHK53-AXS01700	1030079
		Cable, 12-wire, 5 m	KHK53-AXT01700	1030080
		Male connector, M23, 12-pin	KHK53-AXB01700	1030082

Measuring range	Repeatability	Connection type	Type	Part no.
0 m ... 107 m	0.3 mm	Cable, 12-wire, 1.5 m	KHK53-AXR00107	1030058
		Cable, 12-wire, 10 m	KHK53-AXU00107	1030061
		Cable, 12-wire, 3 m	KHK53-AXS00107	1030059
		Cable, 12-wire, 5 m	KHK53-AXT00107	1030060
		Male connector, M23, 12-pin	KHK53-AXB00107	1030062
0 m ... 354 m	0.3 mm	Cable, 12-wire, 1.5 m	KHK53-AXR00354	1030068
		Cable, 12-wire, 10 m	KHK53-AXU00354	1030071
		Cable, 12-wire, 3 m	KHK53-AXS00354	1030069
		Cable, 12-wire, 5 m	KHK53-AXT00354	1030070
		Male connector, M23, 12-pin	KHK53-AXB00354	1030072
0 m ... 38 m	0.3 mm	Cable, 12-wire, 1.5 m	KHK53-AXR00038	1030048
		Cable, 12-wire, 10 m	KHK53-AXU00038	1030051
		Cable, 12-wire, 3 m	KHK53-AXS00038	1030049
		Cable, 12-wire, 5 m	KHK53-AXT00038	1030050
		Male connector, M23, 12-pin	KHK53-AXB00038	1030052
0 m ... 548 m	1 mm	Cable, 12-wire, 5 m	KHK53-AXT00548	1035448
		Male connector, M23, 12-pin	KHK53-AXB00548	1035449
0 m ... 54 m	1 mm	Cable, 12-wire, 5 m	KHK53-AXT00054	1035442
		Male connector, M23, 12-pin	KHK53-AXB00054	1035443

- **System part:** Read head
- **Communication interface:** PROFIBUS DP (According to EN 50 170-2 (DIN 19245 Parts 1–3) electrically isolated by optocoupler.)
- **Resolution:** 0.1 mm
- **Supply voltage:** 10 V ... 32 V
- **Connection type:** male connector, 3x, M12

Measuring range	Repeatability	Type	Part no.
0 m ... 1,700 m	0.3 mm	KHK53-PXF01700	1036166
0 m ... 107 m	0.3 mm	KHK53-PXF00107	1036164
0 m ... 354 m	0.3 mm	KHK53-PXF00354	1036165
0 m ... 38 m	0.3 mm	KHK53-PXF00038	1036163
0 m ... 548 m	1 mm	KHK53-PXF00548	1036168
0 m ... 54 m	1 mm	KHK53-PXF00054	1036167

- **System part:** measuring element

Measuring range	Code type	Type	Part no.
0 m ... 1,700 m	Coded	KHT53-XXX01700	1030085
	Universal configurable	KHU53-XXX01700	1030086
0 m ... 107 m	Coded	KHT53-XXX00107	1030065
	Universal configurable	KHU53-XXX00107	1030066
0 m ... 354 m	Coded	KHT53-XXX00354	1030075
	Universal configurable	KHU53-XXX00354	1030076
0 m ... 38 m	Coded	KHT53-XXX00038	1030055
	Universal configurable	KHU53-XXX00038	1030056
0 m ... 548 m	Coded	KHT53-XXX00548	1035451
	Universal configurable	KHU53-XXX00548	1035452
0 m ... 54 m	Coded	KHT53-XXX00054	1035445
	Universal configurable	KHU53-XXX00054	1035446

- **System part:** Mounting gauge

Measuring range	Type	Part no.
0 m ... 1,700 m	KHM53-XXX01700	1030087
0 m ... 107 m	KHM53-XXX00107	1030067
0 m ... 354 m	KHM53-XXX00354	1030077
0 m ... 38 m	KHM53-XXX00038	1030057
0 m ... 548 m	KHM53-XXX00548	1035453
0 m ... 54 m	KHM53-XXX00054	1035447

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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.

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.”

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