

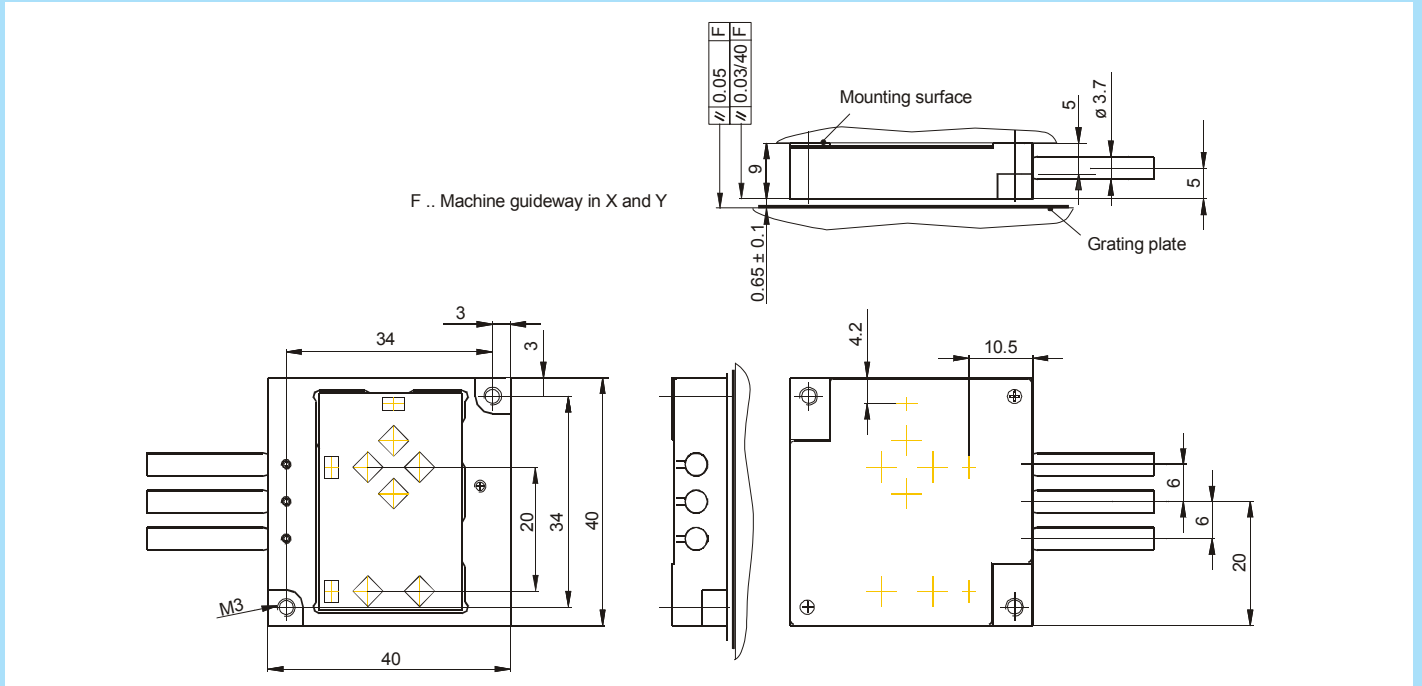
LIK-2D

**Incremental
2D - Linear Encoder**

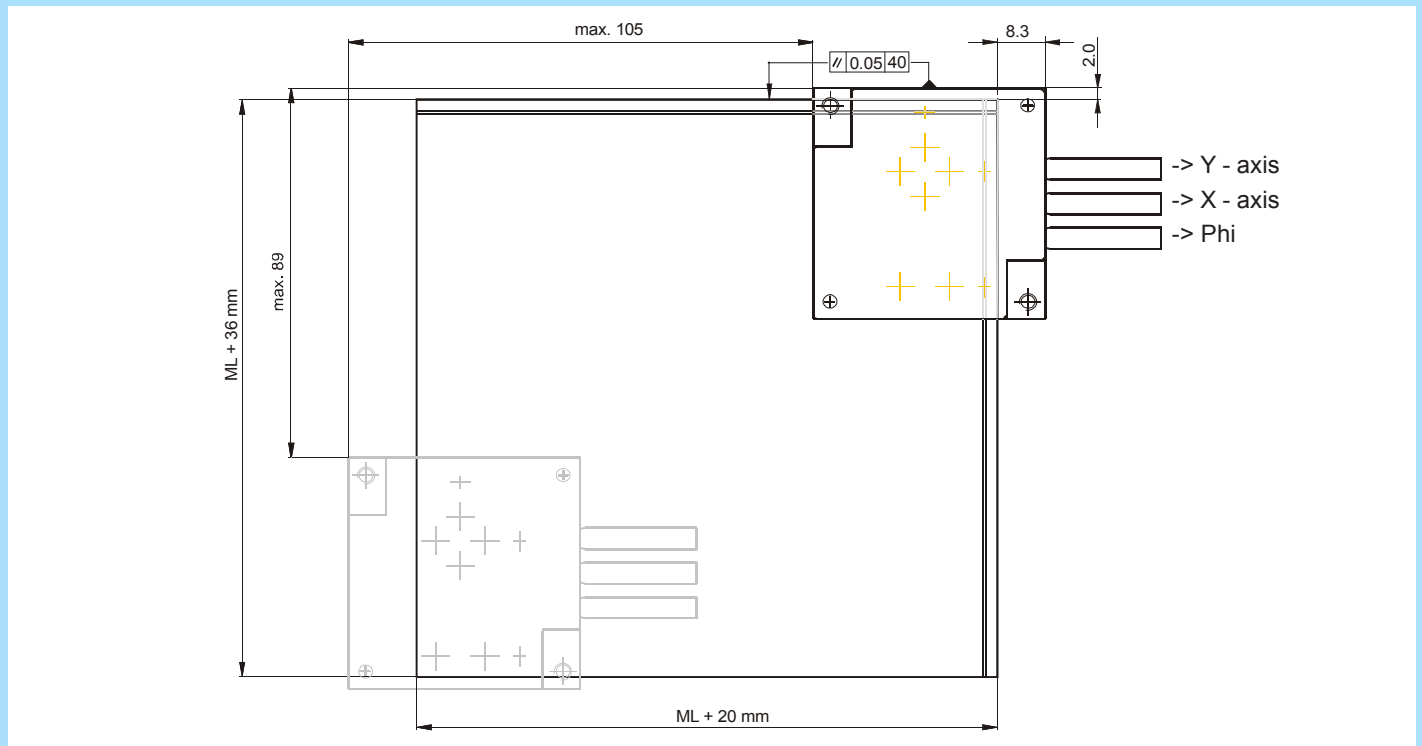
- Two dimensional linear encoder for position measurement
- 20 µm grating pitch on glass grid plate
- Measuring range upto 105 x 89 mm, larger on request
- Detection of angle deviations upto ±10' maximum (optional) additionally to distance measurement
- Signal interpolation upto 100x integrated in 15pin Sub-D
- Small scanning head dimensions
- Variable mounting conditions with additional mounting bracket (optional)
- High resolution and accuracy
- Good signal quality and high interpolation accuracy through automatic signal control
- One integrated reference mark per measuring direction

Technical data

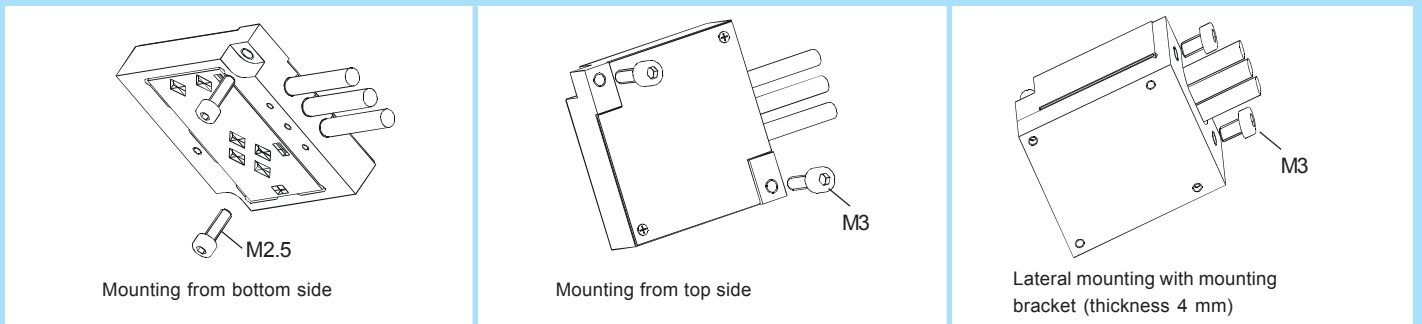
Mechanical data	Weight of scanning head	17 g without cable
	Recommended resolution	0,05µm; 0,1µm; 0,2µm; 0,5µm; 1µm; 5µm
	Traversing speed	
	- without interpolation	max. 600 m/min resp. 10 m/s
	- with interpolation x50	max. 96 m/min resp. 1.6 m/s
	Measuring range	
	- Distance	105 x 89 mm, larger on request
	- Angle	± 10'
	Measuring standard	
	- Material	Glass, thickness 1.1mm
	- Grating pitch (GP)	20 µm
	- Position of reference marks	Begin of measuring range
	Linear expansion coefficient	$8,5 \times 10^{-6} \text{ K}^{-1}$
	Accuracy class	± 5 µm
Electrical data	Scanning frequency	max. 500 kHz
	Output signals	
	- Voltage output	1 V _{PP}
	- Square wave output	RS 422 without interpolation RS 422 with interpolation up to 100x
	Power supply	5V ± 10%
	Current consumption	
	- Voltage output	80 mA per channel
	- Square wave output	200 mA per channel
	Cable length	
	- Fixed cable at scanning head	max. 3 m
	- Total cable length	max. 100 m with extension cable
Ambient conditions	Operation temperature range	0°C .. +55 °C
	Storage temperature range	-20°C .. +70 °C
	Humidity	93% RH (no condensing)



Dimensions grid plate



Mounting options



Ordering key for scanning head

Designation example

LIK 2D 1 - L 4 1 - T Z

Sensor

2	Two field sensor
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Dimensions

1	40 x 40 x 9 mm ³ with angle detection
2	40 x 40 x 9 mm ³ without angle detection

Grating pitch

-	20 µm
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Output signals

C	Sinusoidal signal 1 V _{pp}
K	Square wave signal RS 422 without interpolation
L	Square wave signal RS 422 with 5x interpolation
M	Square wave signal RS 422 with 10x interpolation
I	Square wave signal RS 422 with 25x interpolation
N	Square wave signal RS 422 with 50x interpolation
P	Square wave signal RS 422 with 100x interpolation

Connector

Z	15pin D-Sub; electronics in connector
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Cable(∅ 3,7mm)

R	0.3 m
S	0.5 m
T	1.0 m
P	1.5 m
V	2.0 m
W	3.0 m
U ¹	other length on request (max. 3m)

Version

-	Standard
1 ¹	Vacuum suitable to 10 ⁻⁶ mbar
3 ¹	Nonmagnetic scanning head
4 ¹	Nonmagnetic scanning head; vacuum suitable to 10 ⁻⁶ mbar

Mounting options

2	Thread M3 in the scanning head
3 ¹	Thread M3 and mounting bracket

Frequency/ Edge separation

X	Customer specific value, depending on max. encoder speed and input frequency of evaluation electronics. Contact NUMERIK Jena.
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1 supplied with a surcharge

Ordering key for grid plate

Designation example

RP 2 4 A P 105 89

Material

2	Glass
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Accuracy class

4	± 5 µm
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Position of reference mark

A	Begin of measuring range
O	without reference mark

Grating pitch

P	20 µm
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Measuring range

Measuring length (ML) in mm Y - axis

Measuring length (ML) in mm X - axis



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