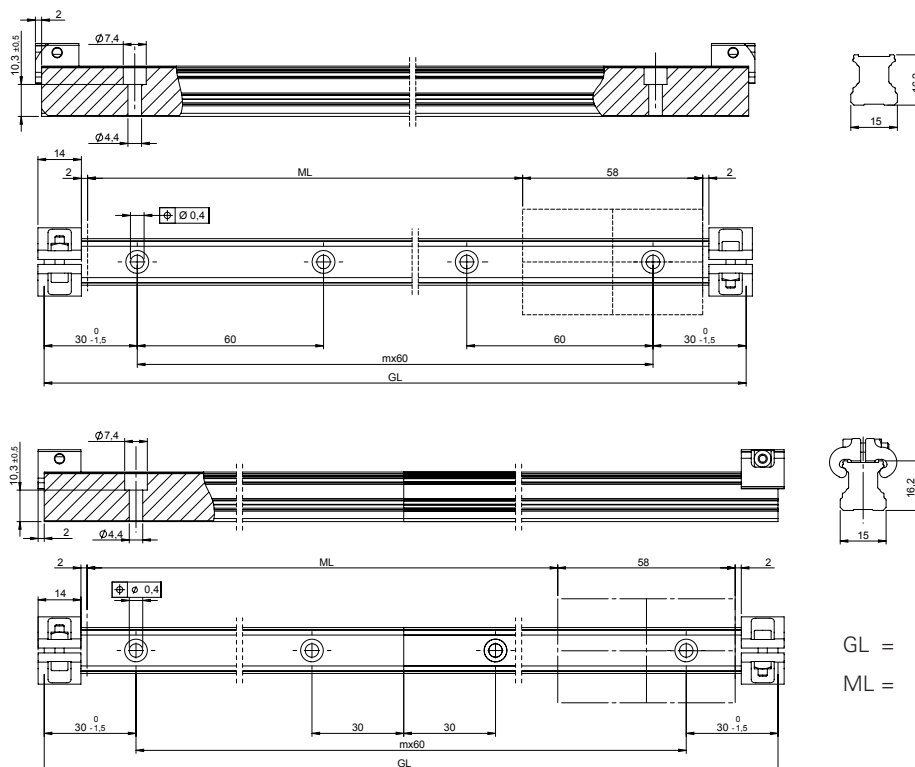


Scale tape in measuring rail LMF 3010

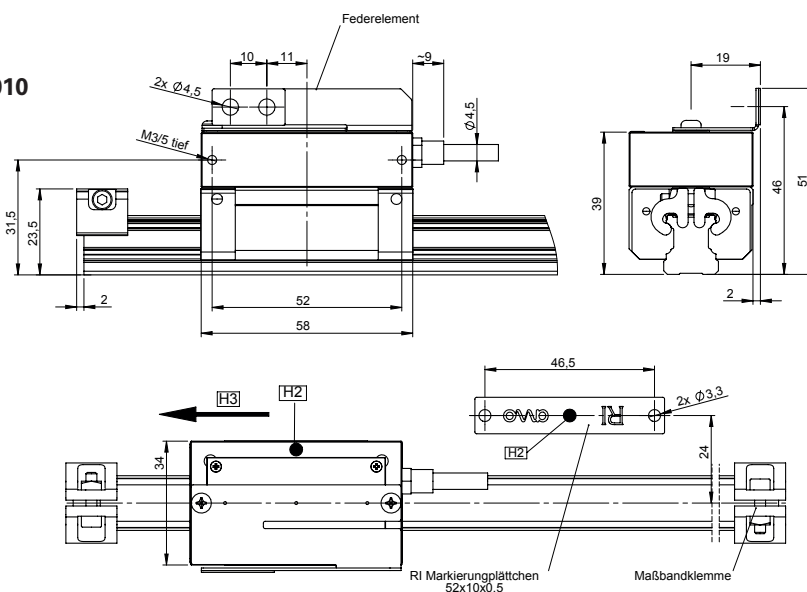
- Scale tape in measuring rail, for guided linear encoders
- Grating period 1000µm
- In combination with LMK 3010



Scanning head - LMK 3010 series

- Incremental, guided linear encoders
- Grating period 1000µm
- Guided scanning head with integrated electronics
- In combination with scale type LMF 3010

Design 30 with scale type LMF 3010



Tolerance principle in accordance with SO8015
General tolerances in accordance with ISO 2768-fH
All dimensions in mm

H2 = Reference track marking
H3 = Direction of scanning head movement for positive counting

Technical data

- LMF - Measuring rail for guided linear encoders
- Grating period 1000µm

Incremental measuring rail	LMF 3010	
Grating period	1000µm	
Accuracy class	± 20µm/m	± 50µm/m
Accuracy after linear compensation	± 5µm/m	± 10µm/m
Total length GL	Standard length see ordering code	
Mechanical design	Standard guide rail with integrated scale tape	
Reference marks	Single or distance coded reference marks – Customized reference mark positions on request.	
Coefficient of expansion	~ 11 ppm/K	
Mass	1400 g/m Total length	

Technical data

- LMK - Scanning head for guided linear encoders
- Grating period 1000µm

Scanning head guided	LMK 3010			
Grating period	1000µm			
Performance	Standard		High Accuracy	
Interface	1Vpp	TTL	1Vpp	TTL
Position error per grating period ¹⁾	± 2µm		± 0,5µm	
Maximum speed	5m/s limited by the mechanics			
TTL - Interpolation/ 1Vpp signal period				
Signal period ²⁾ Interpolation	- -	250µm to 1µm 1 to 250	- -	0,5µm or 0,1µm 500 or 2500
Signal period Dividing factor	1000µm or 40µm 1 or 25	- -	20µm 50	- -
Max. output frequency	400KHz	5MHz	400KHz	5MHz
Electrical connection	Cable with M23 coupling 12pin male			
Cable length on the encoder	0,50m - 6,00m			
Power supply	1Vpp: DC 4,0V to 7,0V TTL: DC 5,0V +/- 0,5V			
Power consumption	≤ 1300mW at 5V			
Typ. current consumption	≤ 220mA at 5V (without load)			
Vibration 55 to 2000 Hz	< 200m/s² (EN 60068-2-6)			
Shock 6 ms	< 2000m/s² (EN 60068-2-27)			
Operating temperature	-0°C to 80°C			
Storage temperature	-20°C to 100°C			
Protection	IP67			
Mass	200g			

¹⁾ The position error per grating period and the accuracy of the grating results together in the encoder specific error; additional deviations caused by mounting and bearing are not considered in this error.

²⁾ After 4-edge-evaluation.

Ordering code

- LMF - Measuring rail for guided linear encoders
- Grating period 1000µm

LMF 3010

-

-

- MF - LF01 -

Classification
30 = LMF 3010

Grating period
10 = 1000 µm

Scale tape carrier
E = Single section measuring rail
 < 3600 mm
F = Multi section measuring rail
 > 3600 mm

Accuracy¹⁾
5 = 5 µm/m
10 = 10 µm/m

Total length in mm
E = Scale tape carrier
 180-3600 mm every 180 mm
F = Scale tape carrier
 3600 mm-xxxx every 180 mm

Reference mark
ORM = Without reference mark
1RM-M = 1 Reference mark - middle
B050 = Reference mark 50mm from both sides
L50 = Reference mark 50mm from left
R50 = Reference mark 50mm from right
K120 = Distance-coded reference marks, nominal increment
 120 grating period
K240 = Distance-coded reference marks, nominal increment
 240 grating period

Type of graduation carrier
LF01 = Measuring rail, mounting thread M4, each 60 mm

Safety concept
MF = Fault exclusion for the loosening of the mechanical possible

¹⁾ After linear length-error compensation in the evaluation electronics