

MAGNESCALE

digital magnetic scale



Series PL25 with MJ100/110, SL110, SL130

Key-Features:

- Measurement ranges:
Magnetic profile SL110: 200 - 2000 mm
Magnetic tape SL130: 200 - 30000 mm
- Resolution 5, 10, 25, 50, 125 μ m adjustable
- MJ100/110: A/B TTL output signal or HTL open collector output
- resistant against dirt, water, oil, vibrations and shock
- Protection class PL25: IP65
- high displacement speed
- Working temperature 0...+45 °C
- easy mounting

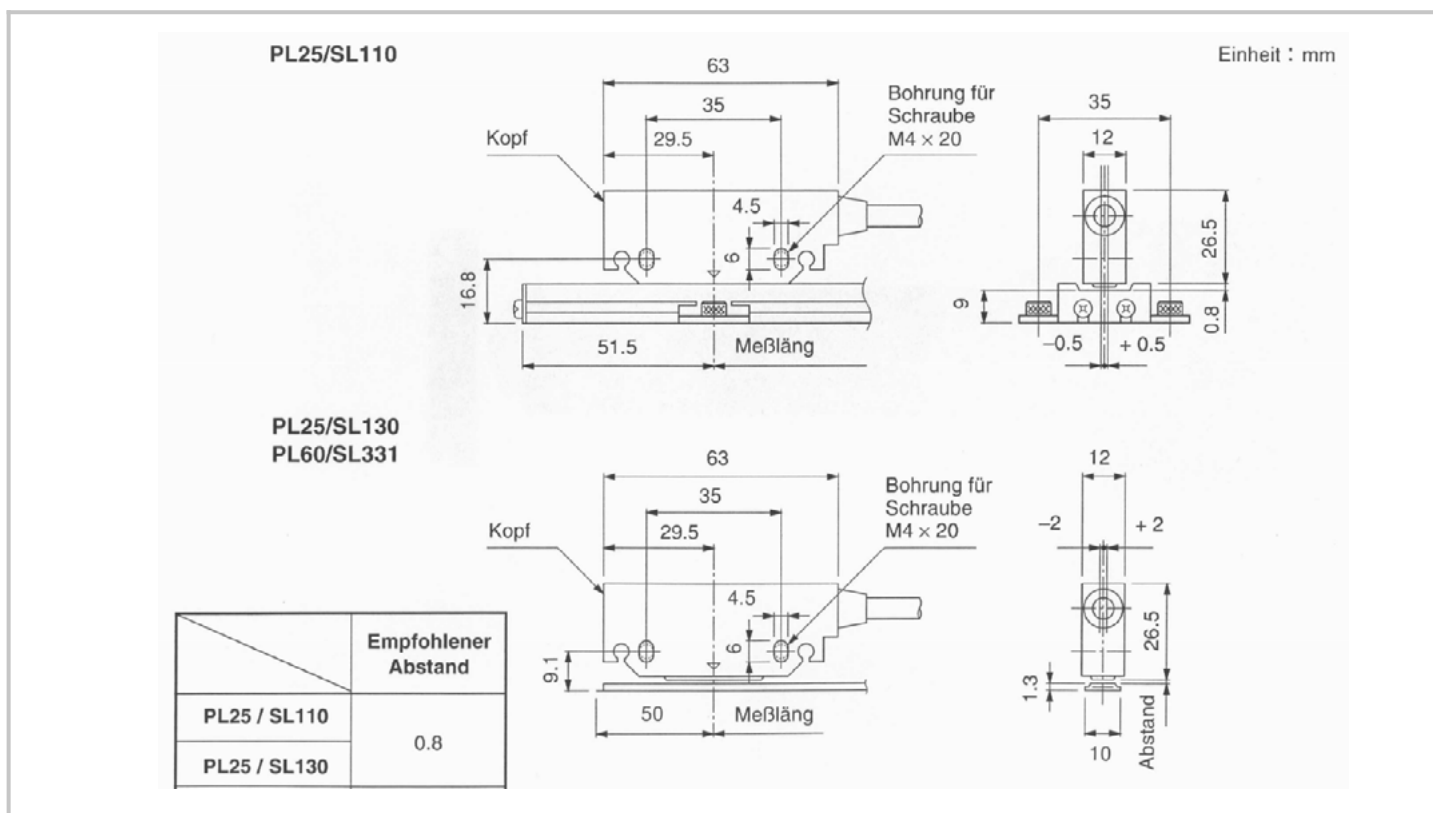
Content:

Technical Data PL252
Technical Data SL1103
Technical Data SL134
Technical Data MJ100/1105
Order Code6

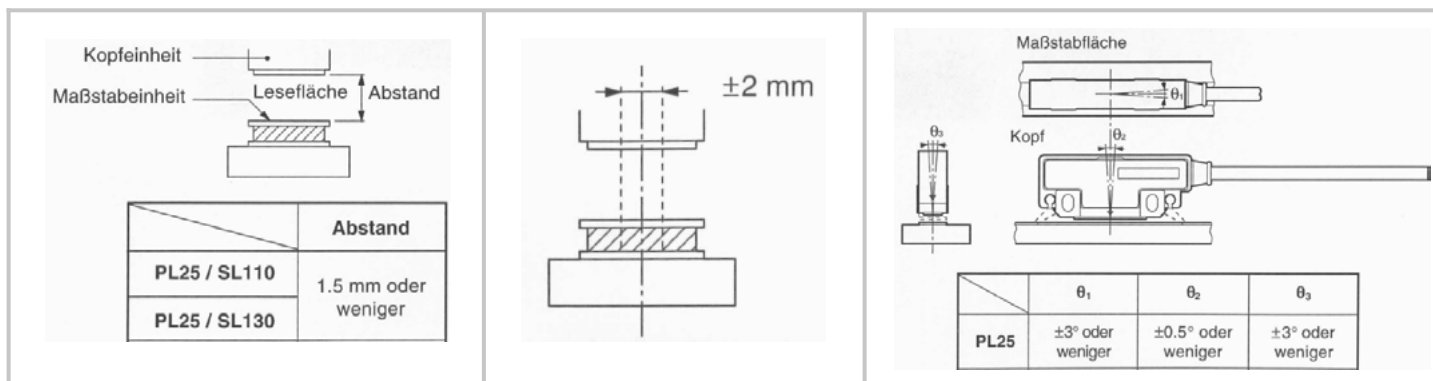
TECHNICAL DATA PL25

Model	PL25-3
Cable length	3 m
Resolution (20°C)	10 µm
Output signal	A/B quadrature signal (compliant with RS422)
Screw tightening torque	0.7 to 1.1 Nm
Working temperature	-5 to 45 °C
Storage temperature	-10 to 50 °C
Protection class	IP65
Displacement speed	maximum 300 m/min (varies with the settings)
Distance reading head - magnetic tape	maximum 1.5 mm (contactless)
Bending radius cable	minimum 100 mm
Compatible scales	SL110, SL130
Compatible interpolator	MJ100, MJ110

TECHNICAL DRAWING PL25



INSTALLATION PL25

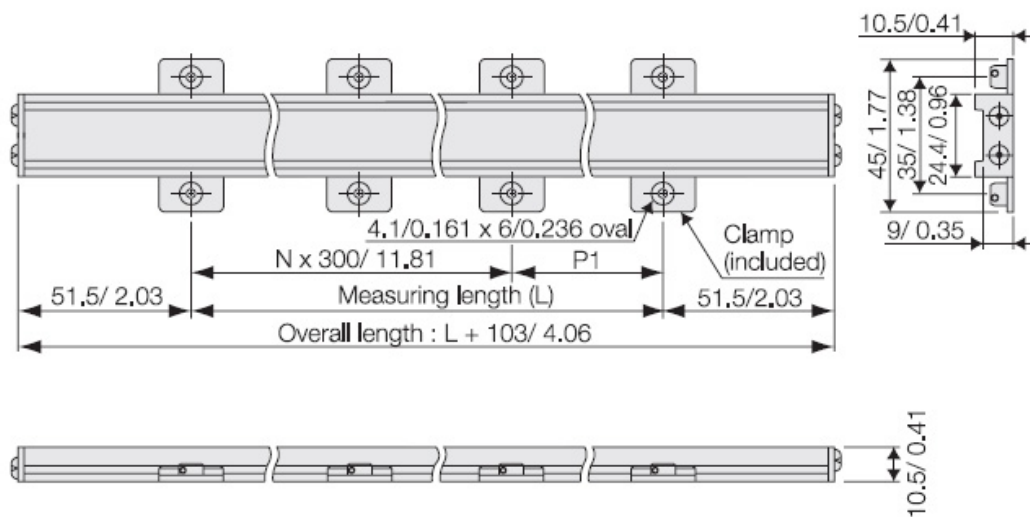


TECHNICAL DATA SL110

Model		
Measurement range MR	[mm]	200 / 300 / 400 / 500 / 600 / 700 / 800 / 1000 / 1200 / 1500 / 1600 / 1700 / 1800 / 2000
Resolution (20°C)	[µm]	10
Linearity (20°C)	[µm]	±(25 + 5MB/1000)
Reference point		none
Working temperature	[°C]	0 to 45
Storage temperature	[°C]	-20 to 50
Displacement speed	[m/min]	maximum 300
Expansion coefficient		(11.1 ±1) x 10 ⁻⁶ /°C
Total length	[mm]	MB + 103
Reading head		PL25

TECHNICAL DRAWING SL110

SL110 magnetic profile



Model	Length	N	P1	Number of clamps
SL110-20	200	0	200	4
SL110-30	300	1	0	4
SL110-40	400	1	100	6
SL110-50	500	1	200	6
SL110-60	600	2	0	6
SL110-70	700	2	100	8
SL110-80	800	2	200	8
SL110-100	1000	3	100	10
SL110-120	1200	4	0	10
SL110-150	1500	5	0	13
SL110-160	1600	5	100	14
SL110-170	1700	5	200	14
SL110-180	1800	6	0	14
SL110-200	2000	6	200	16

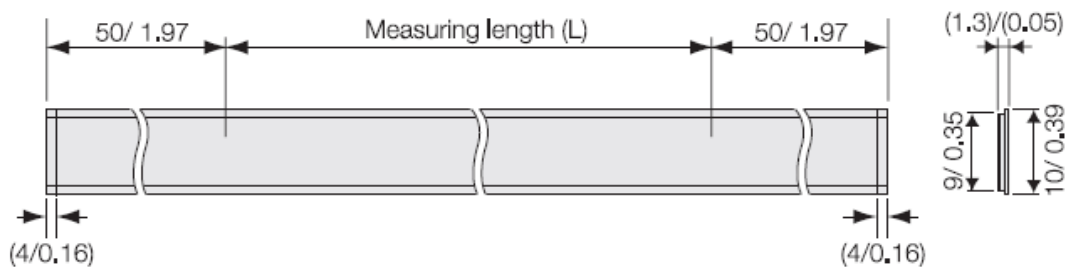
TECHNICAL DATA SL130

Model		
Measurement range MR	[mm]	200/ 300/ 400/ 500/ 1000/ 1200/ 1500/ 1600/ 1700/ 1800/ 2000/ 2500/ 3000/ 4000/ 5000/ 6000/ 7000/ 8000/ 9000/ 10000/ 20000/ 30000
Resolution (20°C)	[µm]	10
Linearity (20°C)	[µm]	MB ≤7000 mm: ±(25 + 5MB/1000) / MB ≥8000 mm: ±(25 + 5MB/1000 + 10N*)
Reference point		none
Working temperature	[°C]	0 to 45
Storage temperature	[°C]	-20 to 50
Displacement speed	[m/min]	maximum 300
Expansion coefficient		(10.4 ±1) × 10 ⁻⁶ /°C
Total length	[mm]	MB + 100
Reading head		PL25

* MB ≤10000: N=1 / MB =20000: N=1 / MB =30000: N=3

TECHNICAL DRAWING SL130

SL130 magnetic tape



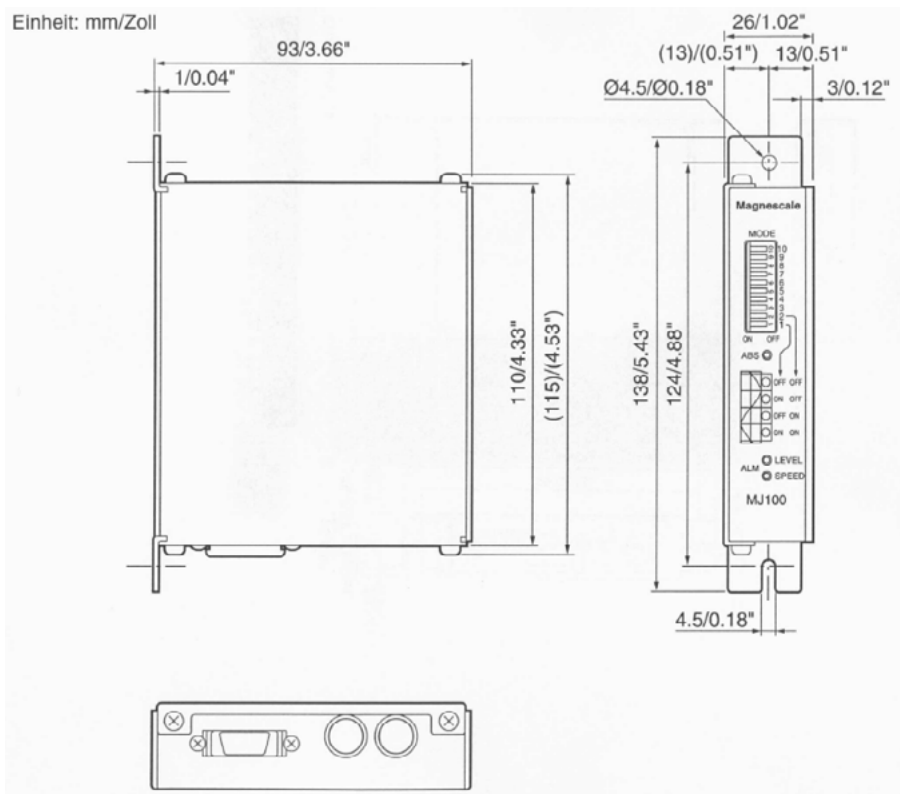
Model	Range	Total length
SL130-20	200	300
SL130-30	300	400
SL130-40	400	500
SL130-50	500	600
SL130-60	600	700
SL130-70	700	800
SL130-80	800	900
SL130-100	1000	1100
SL130-120	1200	1300
SL130-150	1500	1600
SL130-160	1600	1700
SL130-170	1700	1800
SL130-180	1800	1900
SL130-200	2000	2100
SL130-250	1500	2600
SL130-300	3000	3100
SL130-400	4000	4100
SL130-500	5000	5100
SL130-600	6000	6100
SL130-700	7000	7100
SL130-800	8000	8100

TECHNICAL DATA INTERPOLATOR MJ100/110

Model	MJ100	MJ110
Power supply	5 V (4.5 to 6 V)	12 to 30 V (11 to 31 V)
Power consumption	4 W	3 W
Output interface	Line Driver (RS422 compliant)	Open Collector ($I_{OL}=50$ mA max.)
Outputs	AB quadrature, Z phase, U/V/W phases, alarms	AB quadrature, Z phase, alarms
Number of divisions	1000, 960, 800, 512, 500, 480, 400, 256, 240, 200, 128, 120, 100, 80, 64, 40 and 1/2 of each of these (which does not satisfy the synchronised reference point specifications)	
Maximum response frequency		
1000 divisions	6 kHz, 1800 m/min	600 kHz, 180 m/min
500 divisions	15 kHz, 4500 m/min	1.5 kHz, 450 m/min
200 divisions	42 kHz, 12600 m/min	4 kHz, 1200 m/min
120 divisions	70 kHz, 21000 m/min	7.4 kHz, 2220 m/min
Minimum phase difference	100 ns	1 μ s
Alarms	Speed alarm (minimum phase difference time or maximum response frequency)wert Level alarm ($0.4 V_{p-p}$ or less), Minimum alarm time approx. 400 ms	
System start-up time	within 0.5 seconds after the power is online	
External dimensions	138 x 93 x 26 mm	
Compatible head unit	PL25 and PL60	
Working temperature	0...45°C	
Storage temperature	-20...60°C	
Mass	350 g	
Supplied accessories	Manual, output connector, connector cap, mounting screws	
Options	SET-P16-1 (for external reference point), Scale extension cable, external reference point extension cable, output connector with cable	

TECHNICAL DRAWING INTERPOLATOR MJ100/110

MJ100/110 interpolator



ORDER CODE MAGNSCALE MAGNETIC TAPE/PROFILE

SL110-20	Measurement range 200 mm
SL110-30	Measurement range 300 mm
SL110-40	Measurement range 400 mm
SL110-50	Measurement range 500 mm
SL110-60	Measurement range 600 mm
SL110-70	Measurement range 700 mm
SL110-80	Measurement range 800 mm
SL110-100	Measurement range 1000 mm
SL110-120	Measurement range 1200 mm
SL110-150	Measurement range 1500 mm
SL110-160	Measurement range 1600 mm
SL110-170	Measurement range 1700 mm
SL110-180	Measurement range 1800 mm
SL110-200	Measurement range 2000 mm
SL130-20	Measurement range 200 mm
SL130-30	Measurement range 300 mm
SL130-40	Measurement range 400 mm
SL130-50	Measurement range 500 mm
SL130-60	Measurement range 600 mm

SL130-70	Measurement range 700 mm
SL130-80	Measurement range 800 mm
SL130-100	Measurement range 1000 mm
SL130-120	Measurement range 1200 mm
SL130-150	Measurement range 1500 mm
SL130-160	Measurement range 1600 mm
SL130-170	Measurement range 1700 mm
SL130-180	Measurement range 1800 mm
SL130-200	Measurement range 2000 mm
SL130-250	Measurement range 2500 mm
SL130-300	Measurement range 3000 mm
SL130-400	Measurement range 4000 mm
SL130-500	Measurement range 5000 mm
SL130-600	Measurement range 6000 mm
SL130-700	Measurement range 7000 mm
SL130-800	Measurement range 8000 mm
SL130-900	Measurement range 9000 mm
SL130-1000	Measurement range 10.000 mm
SL130-2000	Measurement range 20.000 mm
SL130-3000	Measurement range 30.000 mm

ORDER CODE MAGNSCALE READING HEAD, INTERPOLATOR

Reading head PL25	PL25-3
Extension cable 3m	CE08-3
Extension cable 5 m	CE08-5
Extension cable 10 m	CE08-10
Extension cable 15 m	CE08-15

Interpolator MJ100	MJ100
Interpolator MJ110	MJ110
Magnetswitch (1.5 m cable)	SET-P16-1
Extension cable 3 m	CE09-3
Extension cable 5 m	CE09-5
Extension cable 10 m	CE09-10

Subject to change without prior notice.