

Potentiometric displacement sensor

Type 2124A...

with internal return spring for displacement, tolerance measurement and continuous position sensing

Displacement sensor with resistance and collector path of conductive-plastic – with internal return spring – for direct displacement and tolerance measurements and for continuous position sensing.

- Long life: up to 100×10^6 strokes
- Outstanding linearity up to $\pm 0.075\%$
- DIN standard gauging end
- Double bearing system on shaft
- Insensitive to shock and vibration

Description

An important and special feature of these particular units are their robust, industry-proven design. Of particular significance is the double bearing arrangement which is really useful when side forces are met. The rear end of the actuating rod has a special collar, which can be easily employed where automatic retraction by means of air cylinders or solenoid is required.



Housing	Aluminium, eloxiert
Actuating rod	Stainless steel with anti-rotation device, inside thread M2.5
Gauging head	Stainless steel with external M2.5 thread and hardened ball point
Resistance element	Conductive plastic
Wiper	Precious metal multi-finger wiper, elastomer-damped
Electrical connection	M8 pos., 3 pin

Technical data

Model		2124A10	2124A25	2124A50	2124A75	2124A100
Electrical data						
Defined electrical range	mm	10	25	50	75	100
Electrical area	mm	12	27	52	77	102
Nominal resistance	k Ω	1	1	5	5	5
Resistance tolerance	$\pm\%$	20				
Linearity, independent	$\pm\%$	0.25	0.20	0.15	0.1	0.075
Repeatability	mm	0,002				
Max. permissible applied voltage	V	24	42			
Recommended operating wiper current	μA	≤ 1				
Max. wiper current in case of malfunction	mA	10				
Mechanical data						
Overall length (dimension A ^{+1 mm})	mm	48	63	94.4	134.4	166
Mechanical stroke (dimension B ^{+1.5 mm})	mm	15	30	55	80	105
Flange nut SW-10 (dimension C)	mm	7	12	12	12	12
Excess length of push rod in end position (dimension D)	mm	6	32	32	32	32
Total weight	g	30 ^{±5}	64 ^{±5}	90 ^{±5}	118 ^{±5}	140 ^{±5}
Operating force (horizontal)	$\leq\text{N}$	5				
Operating frequency	Hz	20	18	14	11	10
Environmental data						
Temperature range	$^{\circ}\text{C}$	-30 ... 85				
Vibration	Hz	5 ... 2 000				
Shock	g/ms	50/11				
Protection class (EN 60529)	IP	40				

Important: All values specified in this data sheet for linearity, lifetime and vibration resistance are only valid for a sensor used as a voltage divider with virtually no load applied to the wiper ($I_e \leq 0.1 \mu\text{A}$).

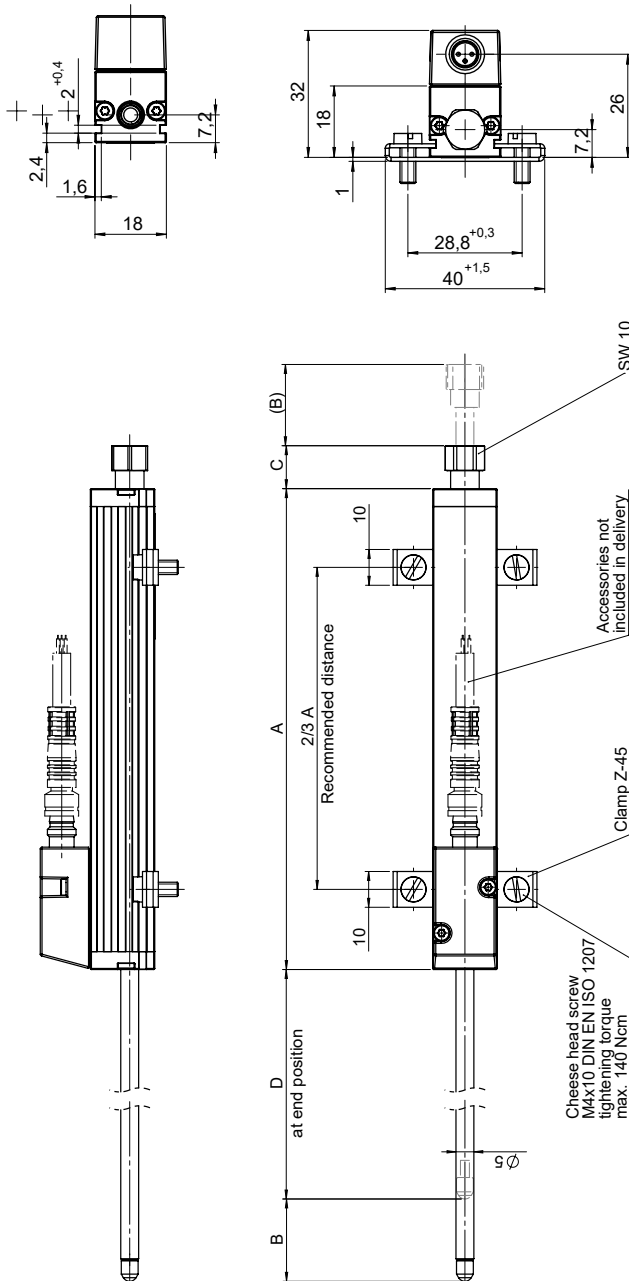
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This information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes. Liability for consequential damage resulting from the use of Kistler products is excluded.

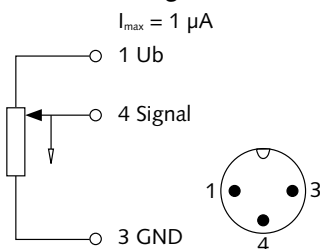
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Dimensions

View without clamps



Connection diagram



Included accessories

- 2 mounting clamps Z-45 incl. 4 allen screw M4x10
- 1 probe tip with pressed-in hardened metal ball

Accessories (Optional)

- | | |
|---|-----------------------------|
| • Connection cable for maXYmos family, drag chain suitable, L = 2, 3, 5 or 10 m | Type
1200A243A... |
| • Connection cable for maXYmos family, drag chain suitable, L = SP (0.5 ... 20 m, in 0.5 m steps) | 1200A243ASP |
| • Connection cable with open cable end, drag chain suitable, L = SP (0.5 ... 20 m, in 0.5 m steps) | 1200A243BSP |
| • Connection cable with 5 pin round plug, drag chain suitable, L = SP (0.5 ... 20 m, in 0.5 m steps) | 1200A243CSP |
| • Adapter cable M8 round connector, straight to 5-pin IEC 130-9 round connector L = 0.2 m (mandatory when using existing cabling with 5-pin round connector, attention: sensor destruction) | 1200A245A0.2 |
| • Extension cable for maXYmos family, drag chain suitable, L = SP | 18025475 |
| • Replacement probe tip with pressed-in hardened metal ball | 18042656 |
| • Certificate of compliance with the order "EN 10204 3.1" | 44002530 |
| • Calibration certificate | 44002121 |

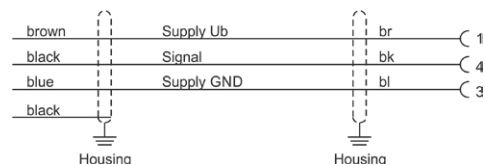
Ordering key

Potentiometric displacement sensor

10 mm	10
25 mm	25
50 mm	50
75 mm	75
100 mm	100

Type 2124A

Colour scheme 1200A243 with open cable end



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