

Potentiometric displacement sensor

Type 2125A...

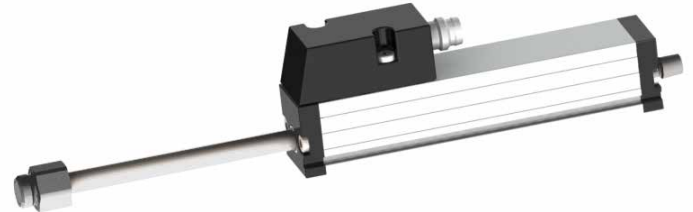
for displacement, tolerance measurement and continuous position sensing

Position sensors employing conductive plastic resistance and collector tracks for direct, precise measurement in control and regulation systems and instrumentation.

- Long life: up to 100×10^6 strokes
- Outstanding linearity up to $\pm 0.075\%$
- Actuating rod with double bearing system
- Special ball coupling eliminates sideways forces
- High operational speeds up to 10 m/s
- Insensitive to shock and vibration

Description

Using this type of sensor, problems traditionally associated with rotary potentiometers, especially reliability, life expectancy, accuracy and operational speed, are overcome. A ball coupling offers backlash-free operation even where there are parallel or angular errors between the sensor axis and the direction of movement.



| | |
|-----------------------|--|
| Housing | Aluminum, anodized |
| Actuating rod | Stainless steel |
| Ball coupling | Stainless steel with a hardened ball sprung against a hardened plate surface |
| Resistance element | Conductive plastic |
| Wiper | Precious metal multi-finger wiper, elastomer-damped |
| Electrical Connection | M8 pos., 3 pin |

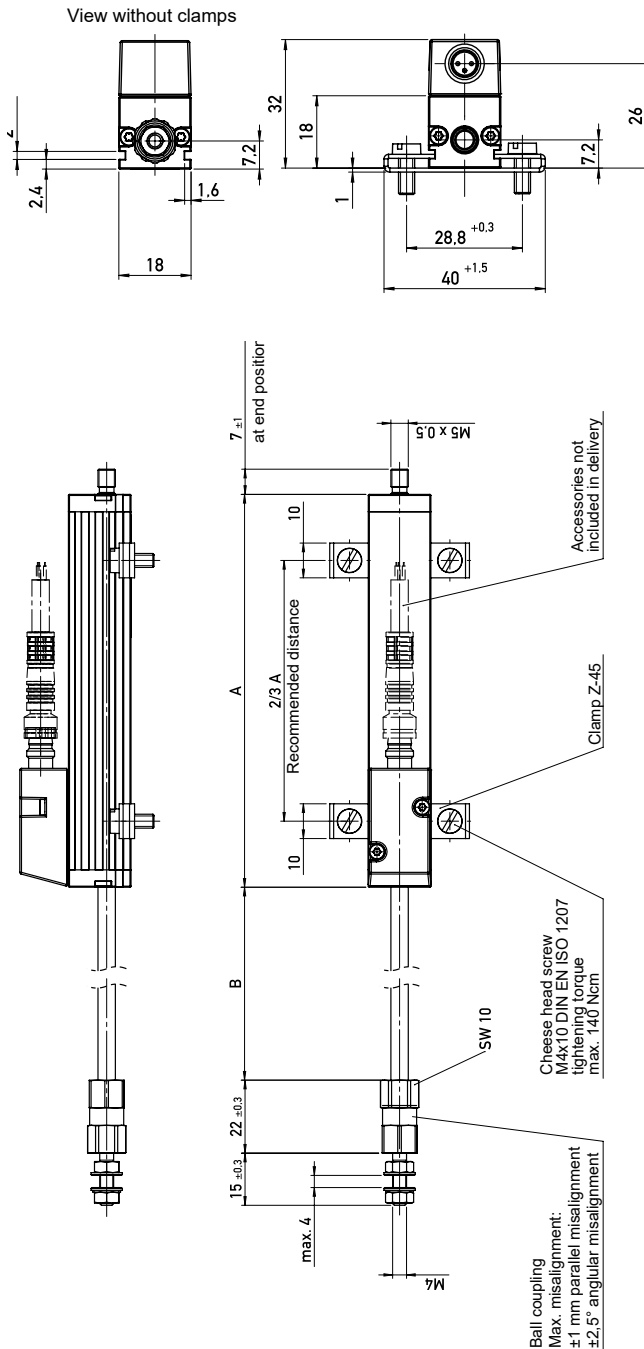
Technical data

| Model | | 2125A25 | 2125A50 | 2125A75 | 2125A100 | 2125A150 |
|---|--------------|------------------|------------------|-------------------|-------------------|-------------------|
| Electrical data | | | | | | |
| Defined electrical range | mm | 25 | 50 | 75 | 100 | 150 |
| Nominal resistance | k Ω | 1 | 5 | 5 | 5 | 5 |
| Linearity, independent | $\pm\%$ | 0.2 | 0.15 | 0.1 | 0.075 | 0.075 |
| Repeatability | mm | 0.002 | | | | |
| Max. permissible applied voltage | V | 42 | | | | |
| Recommended operating wiper current | μ A | ≤ 1 | | | | |
| Max. wiper current in case of malfunction | mA | 10 | | | | |
| Mechanical data | | | | | | |
| Overall length (dimension A ^{+1 mm}) | mm | 63 | 88 | 113 | 138 | 188 |
| Mechanical stroke (dimension B ^{+1.5 mm}) | mm | 30 | 55 | 80 | 105 | 155 |
| Total weight | g | 70 ^{±5} | 97 ^{±5} | 125 ^{±5} | 145 ^{±5} | 180 ^{±5} |
| Operating force (horizontal) | \leq N | 0.3 | | | | |
| Environmental data | | | | | | |
| Temperature range | $^{\circ}$ C | -30 ... 85 | | | | |
| Vibration | Hz | 5 ... 2 000 | | | | |
| Shock | g/ms | 50/11 | | | | |
| Protection class (EN 60529) | IP | 40 | | | | |

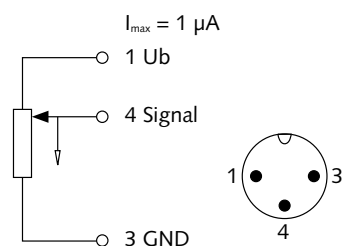
Important: All values specified in this data sheet for linearity, lifetime and vibration resistance are only valid for a sensor used as a voltage divider with virtually no load applied to the wiper ($I_e \leq 0.1 \mu$ A).

2125A_003-545e-03.23

Dimensions



Connection diagram



Included accessories

- 2 mounting clamps Z-45 incl. 4 allen screw M4x10
- 1 ball coupling

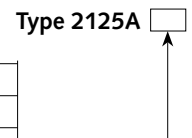
Accessories (Optional)

- | | Type |
|---|--------------|
| • Connection cable for maXYmos family, drag chain suitable, L = 2, 3, 5 or 10 m | 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 |
| • Certificate of compliance with the order "EN 10204 3.1" | 44002530 |
| • Calibration certificate | 44002121 |

Ordering key

Potentiometric displacement sensor

| | |
|--------|------------|
| 25 mm | 25 |
| 50 mm | 50 |
| 75 mm | 75 |
| 100 mm | 100 |
| 150 mm | 150 |



Colour scheme 1200A243 with open cable end

