

Position Sensor Model T

Type 2120A...

for displacement, tolerance measurements and continuous position sensing

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

- Long life: 100×10^6 movements
- 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. Thus opening up new fields of application in direct position measurement. 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 | Aluminium, anodized |
| Actuating | Rod stainless steel |
| Ball coupling | Stainless steel with a hardened ball sprung against a hardened plate surface |
| Resistance element | Conductive plastic |
| Wiper assembly | precious metal multi-finger wiper, elastomer-damped |
| Electrical connection | 3-wire, shielded cable strain-relieved, 2 m long |

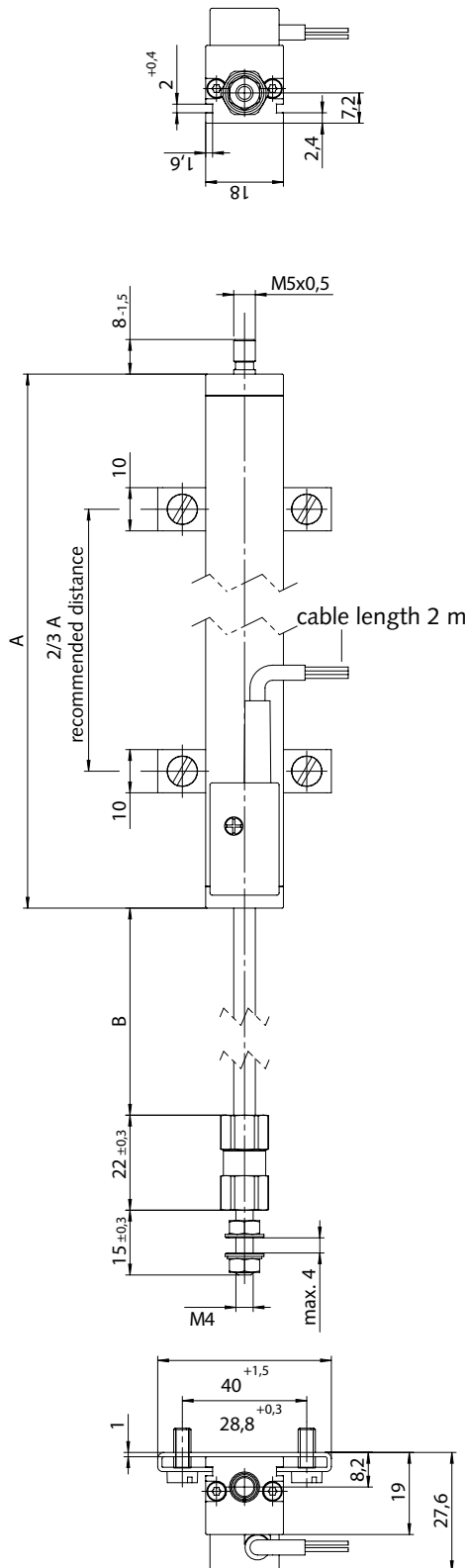
Technical data

| Model | | T25 | T50 | T75 | T100 | T150 |
|---|------|-------------|------|-----|-------|-------|
| Electrical data | | | | | | |
| Defined electrical range | mm | 25 | 50 | 75 | 100 | 150 |
| Electrical range | mm | 27 | 52 | 77 | 102 | 152 |
| Nominal resistance | kΩ | 1 | 5 | 5 | 5 | 5 |
| Resistance tolerance | ±% | 20 | | | | |
| Linearity, independent | ±% | 0.2 | 0.15 | 0.1 | 0.075 | 0.075 |
| Repeatability | mm | 0,002 | | | | |
| Max. permissible applied voltage | V | 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 | 63 | 88 | 113 | 138 | 188 |
| Mechanical stroke (dimension B ^{+1,5 mm}) | mm | 30 | 55 | 80 | 105 | 155 |
| Weight | g | 86 | 107 | 132 | 150 | 190 |
| Operating force (horizontal) | ≤N | 5 | | | | |
| Environmental data | | | | | | |
| Temperature range | °C | -30 ... 100 | | | | |
| Vibration | Hz | 5 ... 2,000 | | | | |
| Shock | g/ms | 50/11 | | | | |
| Protection class (EN 60529) | IP | 40 | | | | |

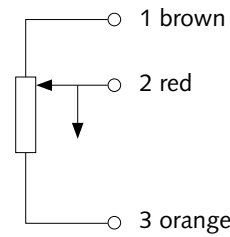
important: All values specified in this data sheet for linearity, lifetime and temperature coefficient are only valid for a sensor used as a voltage divider with virtually no load applied to the wiper ($I_e \leq 0,1 \mu A$).

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Dimensions



Schematic



Included accessories

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

Accessories (optional)

- Connection cable for maXYmo family, Type 1200A151C5
L = 5 m
- Connection cable for maXYmo family, Type 1200A151CSP
L = sp
- Extension cable for maXYmo family, Type 18013960
L = 5 m
- Extension cable for maXYmo family, Type 18025475
L = sp

Ordering key

Type 2120A A

Position sensor T

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

| | |
|-----------------------------------|----|
| with open cable end | 00 |
| with 15-pin D-Sub conn. to maXYmo | 03 |

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