

Linear Displacement Transducers

Model RP 12

Measuring strokes: 25, 50, 75, 100, 150, 200, 250, 300 mm

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- Measuring strokes up to 300 mm
- Life expectancy > 25 million cycles
- Infinite resolution
- Linearity 0.5 to 0.1 %
- Compact design for engineering and instrumentation applications
- Various mechanical and electrical connections on option

Construction

Cylindrical case in anodised aluminium - Shaft in stainless steel - Conductive plastic resistance element. Precious metal wipers - Axial connector or radial leads 300 mm - Ball joints at shaft end and / or case on request.

Measuring Strokes

Measuring strokes $L1^{+1}_{-0}$ (mm)	25	50	75	100	150	200	250	300
Resistance (k Ω) \pm 20 %	4,7	4,7	10	10	10	10	22	22
Rating up to +85° C (W)	0,5	1	1,5	2	3	4	5	6
Total mass (g)	6	8	11	13	18	23	28	33
Shaft + wiper (g)	22	27	30	40	51	65	75	86

Mechanical data

- Mechanical travel: $L1 + 1$ mm
- Operating speed: $> 25 \times 10^6$
- Acceleration: 20 m/s² (max.)
- Operating speed: 1.5 m/s
- Operating force: ≤ 2 N

Electrical Data

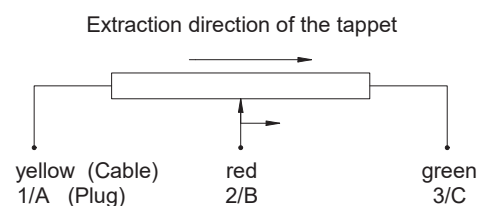
- Linearity classes: 0.5 (0.25; 0.1) %
- Max. current through wiper: ≤ 1 mA
- Recommended wiper current: 0,1 μ A
- Insulation resistance: 10^3 MOhm - 500 VDC
- Resistance tolerance: ± 20 %
- Dielectric strength: 500 V - 50 Hz - 1 min.

* **Note:** Precision potentiometers should only be used as voltage dividers - not as variable resistances!

Environmental data

- Operating temperature range: - 40 °C ... + 105 °C
- Storage temperature range: - 55 °C ... + 125 °C
- Temperaturkoeffizient: $< 1,5$ ppm/°C
- Resistance to vibration: 50 bis 100 m/s² von 10-500 Hz (depends on length)
- Resistance to shock: 300 m/s²; 11 ms
- SProtection grade: IIP 64 (except RP 12/25 and all button IP 40)

Circuit diagram



Linear Displacement Transducers

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Order number

RP12 / 200 / 0.5 - LI - KV/KH A01

A01 Electrical and / or mechanical variations *

Attachments:

KV/KH Ball joint KV / KH (KH STxx closes out)

T Button to 100 mm stroke

Connection:

ST85 Connector for (Straight mating connector)

STBG Connector (mating connector straight)

STBW Connector for (mating connector angled)

LI Stranded wire, 300 mm

Linearity tolerance:

0,5 0,5 %

0,25 %

0,1 %

Measuring stroke:

25 mm

50 mm

75 mm

100 mm

150 mm

200 200 mm

250 mm

300 mm

RP12 Model series

* The standard version is marked with 01. Deviation are marked with successive numbers.

Mating connector:

- STK4GS10: straight, plastic (STBG)
- STK4GS09: straight, Metal (STBGM)
- STK4WS05: angled, plastic (STBW)
- STK4GS08: straight, plastic, with 10 m cable (STK65)
- STM3GS03: straight, Metal (ST85G)

Mating connectors and mounting blocks must be ordered separately.

Linear Displacement Transducers

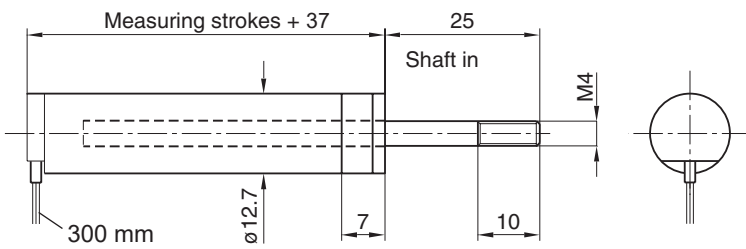
Model RP 12

Installation drawings

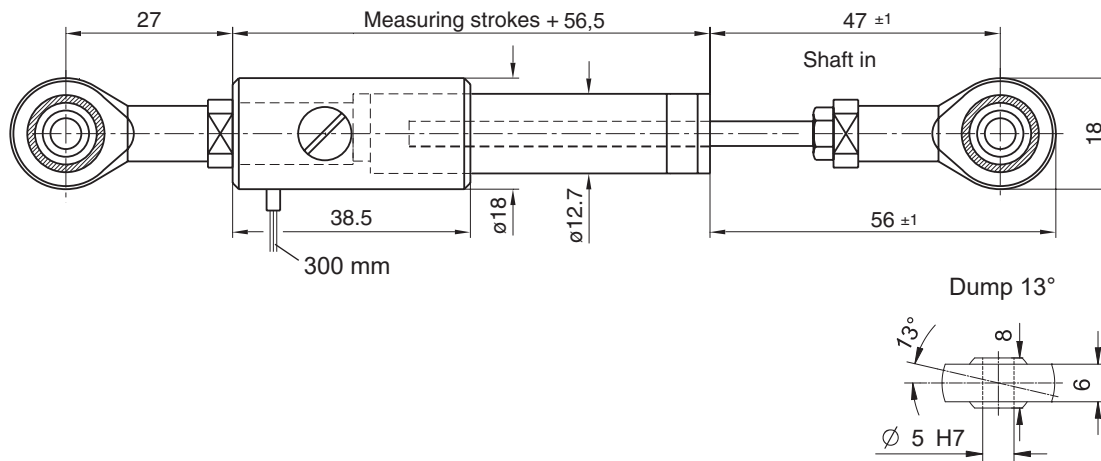
Dimensions in mm

RP12 - ...

At the entrance there is a guide ram with a seal.
In flawless flight guidance must be ensured.



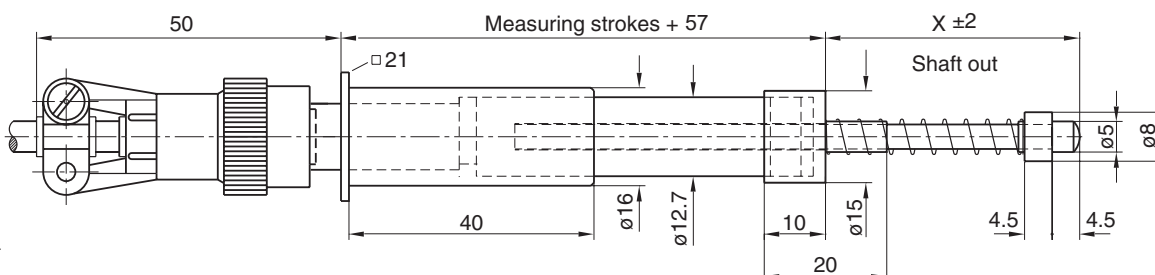
RP12 - ... KV / KH



RP12 - ... T / ST85

(up to 100 mm only)

Measuring stroke	25	50	75	100
x	53	78	103	128

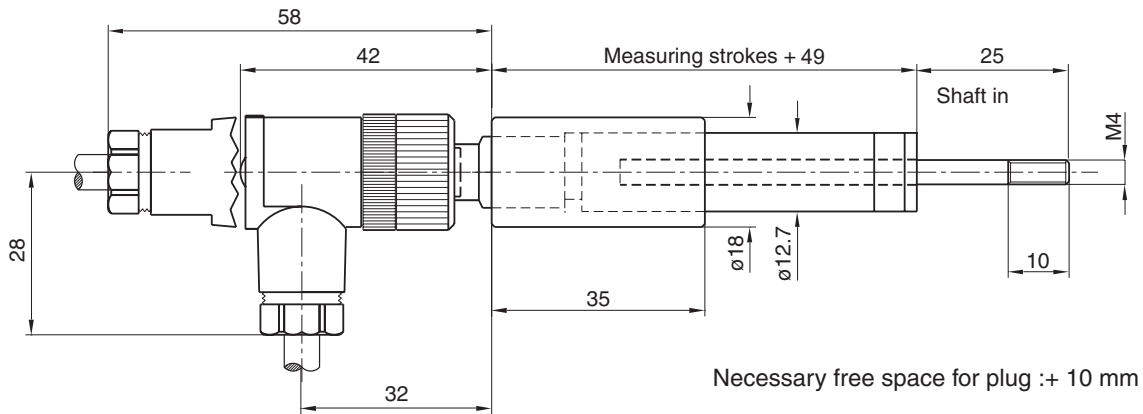


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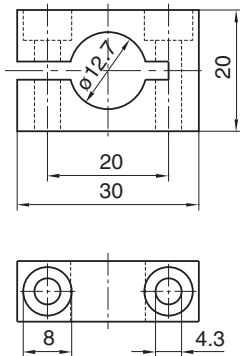
Installation drawings

RP12 - ... /STBG
RP12 - ... /STBW



Mounting block MB-12.7

with bolts and lock washers



Mounting blocks must be ordered separately.

Supply and signal conditioning

For supplying potentiometers encoders with impressed current (I const) or constant voltage (U const) deliver we ACTIPOT modules. These include a power adapter for 230 V ~ and simultaneously assume the conversion of the measuring signal into an impressed current. Further possibilities for zero adjustment ($\pm 5\%$) and for sensitivity (Range) setting (+ 40 ... + 110%) was added. (Data Sheet 10346)