

Displacement Sensor Model TR

Type 2118A...

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

Position sensors employing conductive-plastic resistance and collector tracks provide direct means of measuring position or profile, without the need of any form of solid mechanical coupling.

- Long life: 100×10^6 movements
- 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 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, anodized
Actuating rod	stainless steel with anti-rotation device, inside thread M2,5x6
Gauging head	stainless steel with external M2,5 thread and hardened ball point
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		TR10	TR25	TR50	TR75	TR100
Electrical data						
Defined electrical range	mm	10	25	50	75	100
Electrical range	mm	12	27	52	77	102
Nominal resistance	k Ω	1	1	5	5	5
Resistance tolerance	$\pm\%$	20				
Linearity, independent	$\pm\%$	0,25	0,2	0,15	0,1	0,075
Repeatability	mm	0,002				
Max. permissible applied voltage	V	24	42	42	42	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	48	63	94,4	134,4	166
Mechanical stroke (dimension B ^{+1,5 mm})	mm	15	30	55	80	105
Weight	g	80	120	150	180	200
Operating force (horizontal)	\leq N	5				
Operating frequency	Hz	20	18	14	11	10
Environmental data						
Temperature range	$^{\circ}$ C	-30 ... 100				
Vibration	Hz	5 ... 2,000				
Shock	g/ms	50/11				
Protection class (EN 60529)	IP	40				

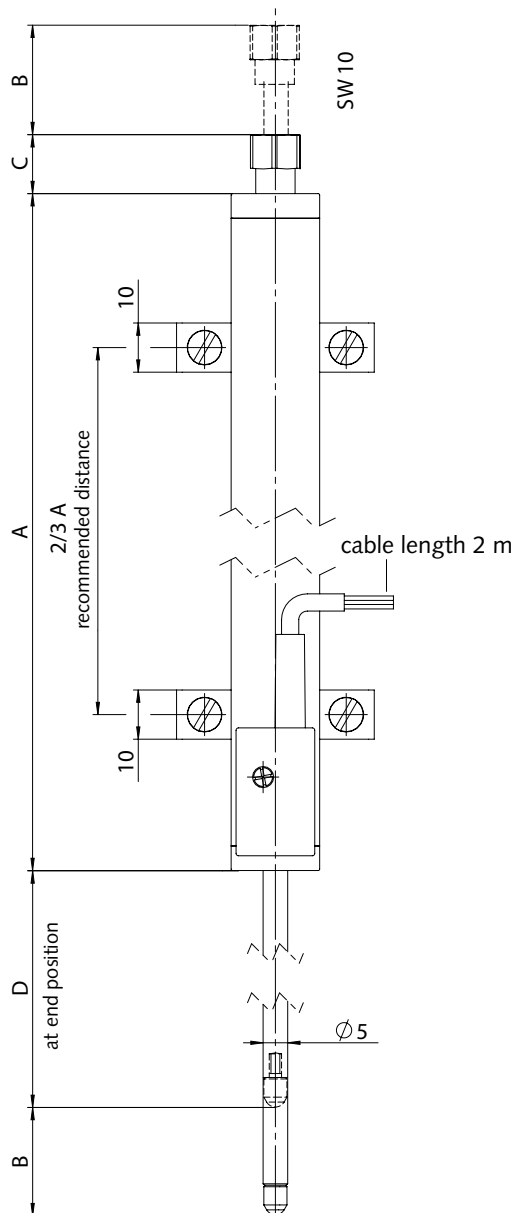
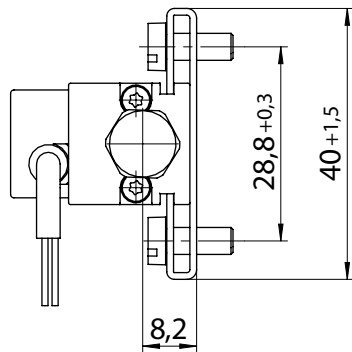
Important: All values specified in this data sheet for linearity, lifetime and temperature coefficient are only valid for a sensor used as a voltage divider with virtually no load applied to the wiper ($I_e \leq 0,1 \mu$ A).

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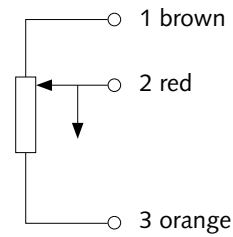
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Dimensions



Schematic



Included accessories

- 2 mounting clamps Z-45
incl. 4 allen screw M4x10
- 1 gauging head with hardened ball point

Accessories (optional)

- Connection cable for maXYmo family, L = 5 m **Type 18013960**
- Connection cable for maXYmo family, L = sp **Type 18025475**
- Spare gauging head with hardened ball point **Type 18042656**

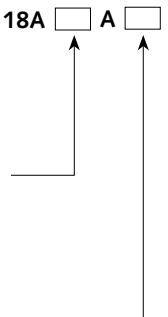
Ordering key

Position sensor TR

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

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

Type 2118A A



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