

Analog Linear Displacement Sensor



FEATURES

- Conductive plastic potentiometer technology. Infinite resolution
- Anodized light alloy housing
- Precious metal multi-contact wiper
- Stainless steel floating shaft
- Flange mounting

QUICK REFERENCE DATA

Sensor type	LINEAR, conductive plastic
Output type	Output by cable
Market appliance	Industrial
Dimensions	35 mm

ELECTRICAL SPECIFICATIONS

PARAMETER												
Theoretical electrical travel (TET)	UET - 0 mm + 2 mm											
Independent linearity standard	± 0.1 %											
Independent linearity optional	± 0.05 %											
Tolerance on R _n	± 20 %											
Temperature coefficient	-300 ± 300 ppm/°C											
Wiper current	≤ 1 mA											
Recommended load impedance	≥ 1000 R _n											
Dielectric strength	500 V _{RMS} , 50 Hz, 1 min											
Insulation resistance	≥ 10 GΩ at 500 V _{DC}											
Output smoothness	≤ 0.05 %											
Useful electrical travel (UET)	100 mm	150 mm	200 mm	250 mm	300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm
Total resistance R _n (E3 series)	4.7 kΩ	4.7 kΩ	4.7 kΩ	4.7 kΩ	4.7 kΩ	10 kΩ	10 kΩ	22 kΩ	22 kΩ	47 kΩ	47 kΩ	47 kΩ
Power rating at +70 °C (0.15 W/cm of travel)	1.5 W	2.25 W	3 W	3.75 W	4.5 W	6 W	7.5 W	9 W	10.5 W	12 W	13.5 W	15 W

SPECIFIC CHARACTERISTICS

PARAMETER	
Shaft version	AF = floating AG = guided
Connector output	Standard = without plug D = with straight plug C = with right angle plug
Cable output	FA = axial (cable sheath) FR = radial

MECHANICAL SPECIFICATIONS

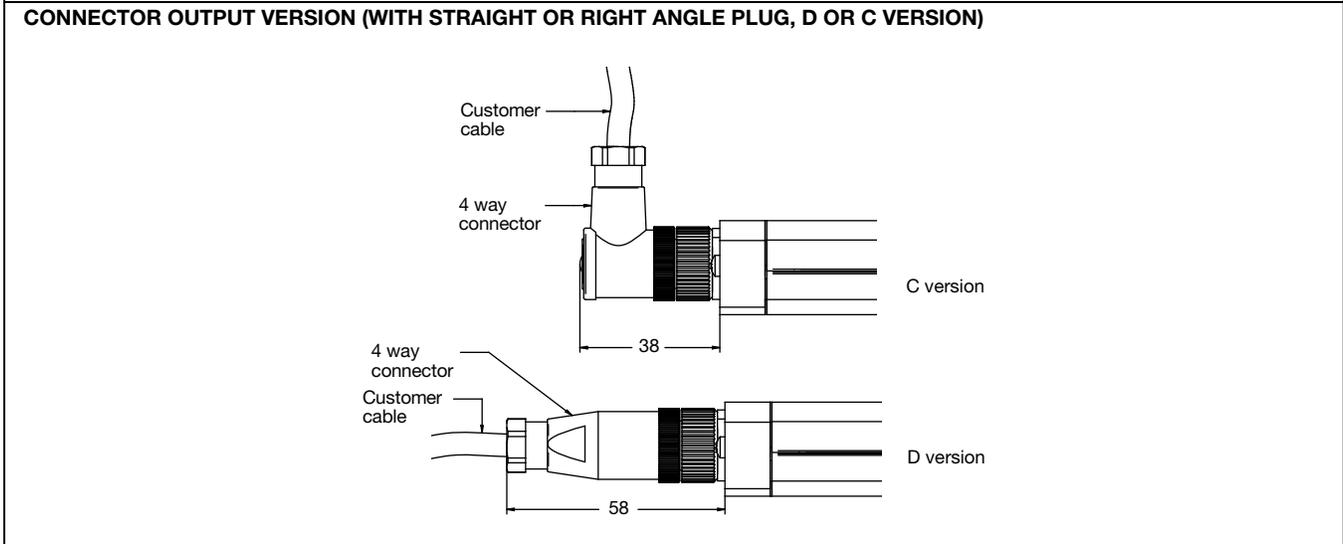
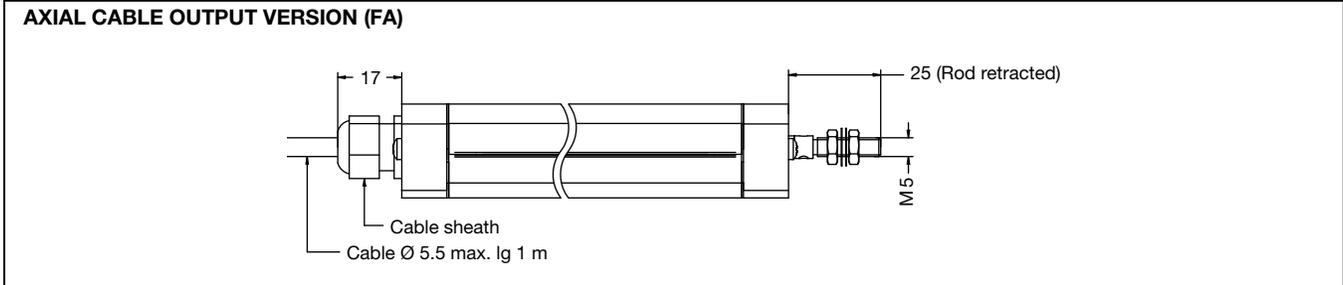
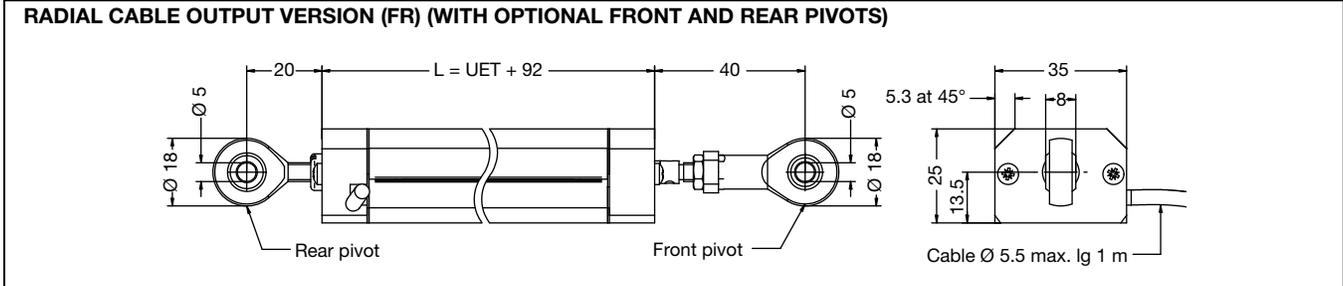
PARAMETER													
Mechanical travel	UET + 3 mm min.												
Driving force	≤ 5 N in AF version (floating shaft) ≤ 10 N in AG version (guided shaft)												
Backlash	< 10 μm												
Protection class	IP 50 in AF version (floating shaft) IP 64 in AG version (guided shaft)												
Maximum displacement speed	1.5 m/s												
Shaft / body misalignment	≤ ± 0.5 mm in AF version												
Mounting	Flanges												
Useful electrical travel (UET)	100 mm	150 mm	200 mm	250 mm	300 mm	400 mm	500 mm	600 mm	700 mm	800 mm	900 mm	1000 mm	
Weight	Shaft + wiper	46 g	56 g	67 g	78 g	89 g	110 g	131 g	153 g	175 g	196 g	220 g	240 g
	Sensor	450 g	540 g	620 g	720 g	800 g	970 g	1140 g	1320 g	1490 g	1660 g	1830 g	2000 g

PERFORMANCE	
PARAMETER	
Operating temperature range	-40 °C to +105 °C
Storage temperature range	-55 °C to +125 °C
Life	20M operations for UET ≤ 250 mm
	10M operations for 250 < UET ≤ 600 mm
	5M operations for UET < 600 mm

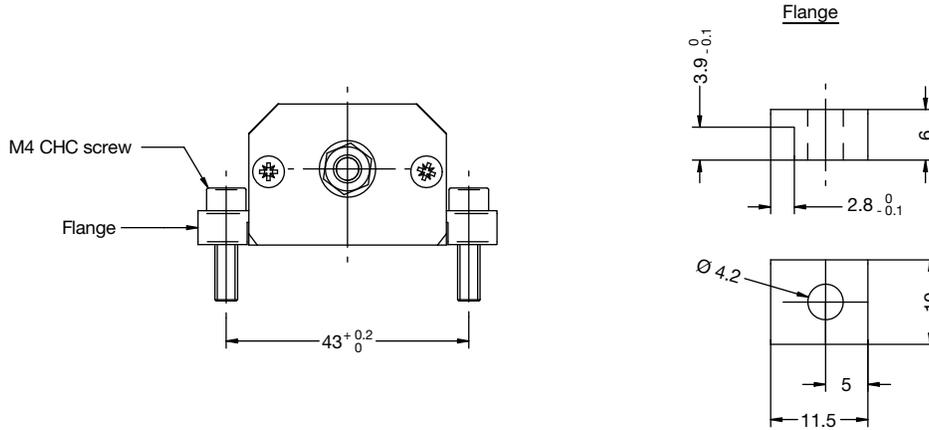
Note

- Nothing stated herein shall be construed as a guarantee of quality or durability.

ORDERING INFORMATION / DESCRIPTION				
RH28	500	AF	FR	*****
SENSOR TYPE	USEFUL ELECTRICAL TRAVEL (UET IN mm)	GUIDED SHAFTED AG OR FLOATING SHAFT AF	FR OR FA CABLE OUTPUT OR CONNECTOR WITH D OR C PLUG CONNECTOR ONLY: LEAVE BLANK	SPECIAL FEATURE OR OPTION (Plain language)

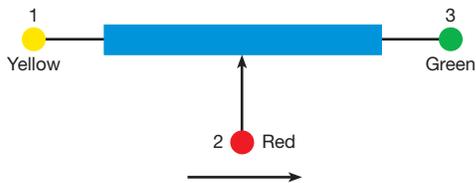
DIMENSIONS in millimeters


MOUNTING

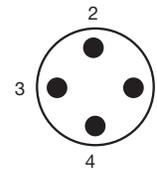


Useful electrical travel UET	Up to 250 mm	300 mm to 550 mm	600 mm to 900 mm	1000 mm
Number of flanges	4	6	8	10

ELECTRICAL DIAGRAM



Direction of wiper displacement with shaft extended



BINDER 713 Series M12 connector (4 pin)
for use with a 3 mm to 6 mm diameter cable
Soldering contacts for 0.75 mm² max. wires

OPTIONS (on request)

- Independent linearity ± 0.05 %
- 25 mm and 50 mm electrical travels
- Front pivot
- Rear pivot (with radial cable output only)



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