# RH28 Vishay MCB

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**Analog Linear Displacement Sensor** 



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

## **FEATURES**

- Conductive plastic potentiometer technology. Infinite resolution
- Anodized light alloy housing
- Precious metal multi-contact wiper
- · Stainless steel floating shaft
- Flange mounting
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

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 <sub>n</sub>		± 20 %										
Temperature coefficient		-300 ± 300 ppm/°C										
Wiper current		≤ 1 mA										
Recommended load impedance	≥ 1000 R <sub>n</sub>											
Dielectric strength		500 V <sub>BMS</sub> , 50 Hz, 1 min										
Insulation resistance		$\geq$ 10 G $\Omega$ at 500 V <sub>DC</sub>										
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 100						1000 mm					
Total resistance R <sub>n</sub> (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	F = floating					
Shart version	G = guided (on request)					
Connector output	S = standard (straight plug)					
	C = with right angle plug (on request)					
Cable output	A = axial cable sheath (on request)					
	R = radial cable (on request)					

MECHANICAL SPECIFICATIONS													
PARAMETER													
Mechanical	travel		UET + 3 mm min.										
Driving force	≤ 5 N in F version (floating shaft)												
Driving lorce	5					≤ 10 N	in G vers	ion (guid	ed shaft)				
Backlash							< 1	0 µm					
Protection class		IP 50 in F version (floating shaft)											
Protection c	IP 64 in G version (guided shaft)												
Maximum di	splacement speed	1.5 m/s											
Shaft / body	misalignment	≤ ± 0.5 mm in F version											
Mounting Flanges													
Useful electr	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
weight	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

1





**RH28** 

Vishay MCB

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

#### Note

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

SAP PART NUMBERING GUIDELINES										
MODEL	USEFUL ELECTRICAL TRAVEL (mm)	SHAFT VERSION	VALUE	LINEARITY	LEADS	PACKAGING				
RH28	0025	F = floating shaft	472 = 4K7	D = 0.1 %	S = standard	B = box				
	0050	_	103 = 10K		(straight plug)					
	0100		223 = 22K							
	0150		473 = 47K							
	0200									
	0250		In accordance							
	0300		with UET, see							
	0350		"Electrical							
	0400		Specifications"							
	0500									
	0600									
	0700									
	0800									
	0900									
	1000									



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**RH28** 

#### **DIMENSIONS** in millimeters





### **ELECTRICAL DIAGRAM**



Direction of wiper displacement with shaft extended

### **OPTIONS** (on request)

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

Revision: 09-Sep-15

3





BINDER 713 Series M12 connector (4 pin) for use with a 3 mm to 6 mm diameter cable Soldering contacts for 0.75 mm<sup>2</sup> max. wires



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