

# MS-15 series – Linear Potentiometers



Manufactured in UK

- **Rugged Construction**
- **Sealed to IP67**
- **Long Life**
- **Excellent Linearity**
- **High Operating Temperature**
- **Regulated Output Options**



The MS-15 series of linear potentiometers are designed to withstand the harsh environments of motorsport, testing and industrial applications. Using proven 'Conductive Plastic' technology, the sensors offer high performance and reliability at operational temperatures up to +175°C and sealing to IP67

The durable, 15mm square body design is available with stroke lengths up to 250mm and a choice of potentiometer, or regulated analogue outputs.

## Specifications

### Electrical (Potentiometer Output)

Technology	Conductive plastic
Max. Supply Voltage	40VDC
Resolution	Essentially infinite
Recommended Wiper Current	<10µA
Output Signal	Potentiometer (voltage divider)
Repeatability	≤0.01mm
Independent Linearity	≤0.5%

### Electrical (Regulated Outputs)

Technology	Conductive plastic with 'on board' signal conditioning
Supply Voltage	6-30VDC (4-20mA, 0-5V output) ; 11-30VDC (0-10V output)
Resolution	Essentially infinite
Reverse Polarity Protection	Yes
Output Signal	4-20mA ; 0-5VDC ; 0-10VDC regulated output options
Repeatability	≤0.01mm
Independent Linearity	≤0.5%

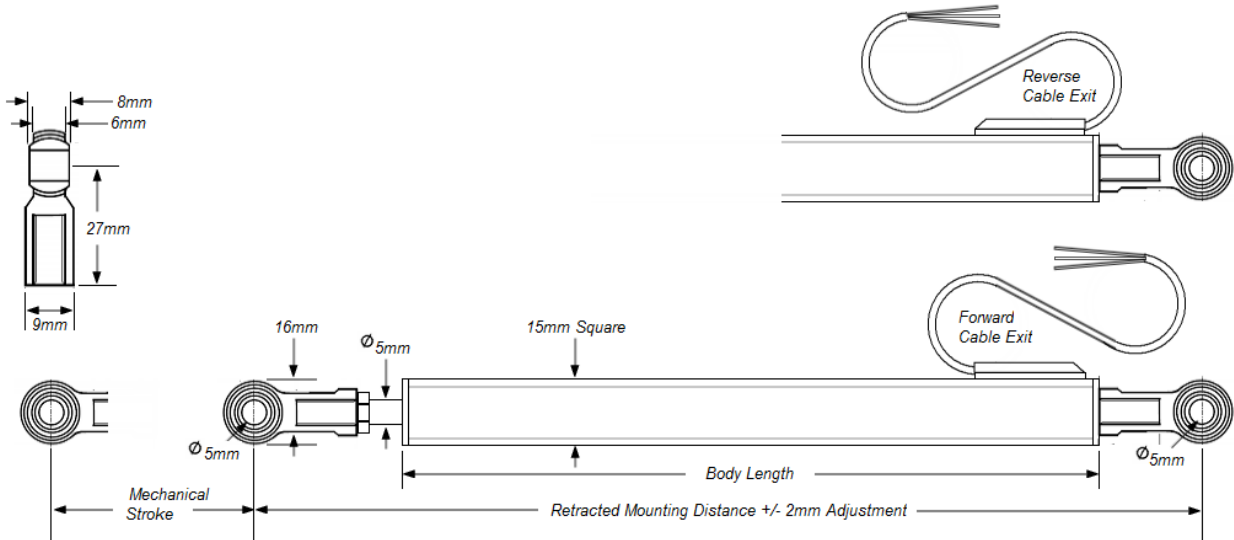
### Mechanical

Operating Temperature	-40°C - +150°C (Potentiometer output) ; -30°C - +125°C (4-20mA, 0-5V, 0-10V output)
Stroke lengths	100mm – 250mm
Operational Speed	10m/s max
Electrical & Mechanical Life	>25 million operations (depending on installation and environmental conditions)
Housing Material	Aluminium
Shaft Material	Stainless steel
Sealing	IP54 (felt) ; IP65 (2 x Viton O ring) ; IP67 (PTFE U spring, Viton O ring)

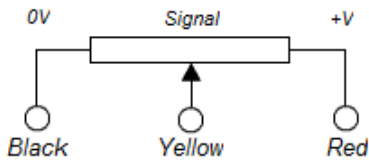
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## MS-15M-

Electrical Stroke (mm)	100	150	200	250
Retracted Mounting Distance (mm)	248	298	348	398
Min. Mechanical Stroke (mm)	102	152	202	252
Body Length (mm)	182	232	282	332
Approx. Weight Without Cable (g)	109	116	123	130
Resistance (K $\Omega$ +/-20%)	6.7	10	13.4	16.7
Mechanical Fixing	Rod End Bearings $\varnothing$ 5mm			



### Electrical Connection (Potentiometer output)



Wiring	+Ve Supply	0V Supply (GND)	Signal
Single Output	RED	BLACK	YELLOW
Dual Output (option)	BROWN	BLUE	WHITE (Green wire = Not Used)

**Output Signal** Output signal may be reversed by swapping connections to the Red & Black and Brown & Blue wires. DO NOT connect +Ve supply to the Yellow or White wires, as this will cause damage to the sensor element.

### Electrical Connection (0-5VDC ; 0-10VDC output)

Wiring	+Ve Supply	0V Supply (GND)	Signal
Single Output	RED	BLACK	YELLOW

### Electrical Connection (4-20mA output) 2 wire

Wiring	+Ve Supply	0V Supply (GND)
Single Output	RED	BLACK (Yellow wire = Not Used)

### Electrical Cable

Cable Type	Raychem 55A, 24AWG, FDR 25 sleeve (Dual Output = 26AWG)
Cable Length	Approximately 500mm

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## Ordering Information

Please use the chart below to construct your product code...

**Sample Product Code: MS – 15M – 150 – 67 – F – 000**

<b>Series</b>	MS – 15M
<b>Stroke Length</b>	
Insert required length in mm	
<b>100 , 150 , 200 , 250</b>	
<b>Seal Rating</b>	
<b>54 = IP54</b>	
<b>65 = IP65</b>	
<b>67 = IP67</b>	
<b>Cable Exit Direction</b>	
<b>F = Forward facing cable exit</b>	
<b>R = Reverse facing cable exit</b>	
<b>Options</b> (compatible options may be selected, separated by – between codes)	
<b>000 = No options selected</b>	
<b>Dual = Dual output (6 wire)</b>	
<b>420 = 4-20mA regulated output (single output only)</b>	
<b>V05 = 0-5VDC regulated output (single output only)</b>	
<b>V10 = 0-10VDC regulated output (single output only)</b>	
<b>Lxxxx = Cable length in mm (500mm cable supplied as standard)</b>	

Since the suitability of these products depends upon a wide range of factors not in our control, the manufacturer expects and understands that you will conduct the testing and evaluation necessary to determine that these products are suitable for your application. Whilst every effort is made to ensure the above details are correct at the time of printing, the manufacturer reserves the right to make material changes, and / or technical changes without notification.