SENSEL MEASUREMENT
CAPTEURS, ELECTRONIQUES & ACQUISITION DE DONNEES

- ***Rugged Construction***
- ***Compact Design***
- ***Sealed to IP67***
- ***Long Life***
- ***Excellent Linearity***
- ***Regulated Output Options***

The SM-13SR 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 +150°C

The rugged, yet compact 13mm diameter SM-13SR is available with stroke lengths up to 75mm, flange mount, a choice of potentiometer and regulated outputs, sealing up to IP67.

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 Output)	
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	25mm – 200mm
Operational Speed	10m/s max
Electrical & Mechanical Life	>25 million operations (depending on installation and environmental conditions)
Housing Material	Aluminium
Shaft & Spring Material	Stainless steel
Sealing	IP54 (felt) ; IP65 (2 x Viton O ring) ; IP67 (PTFE U spring, Viton O ring)

SENSEL MEASUREMENT
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S.A.R.L au capital de 7500 Euros - SIRET 502 277 908 00013 - APE 7490 - N° TVA : FR40502277908

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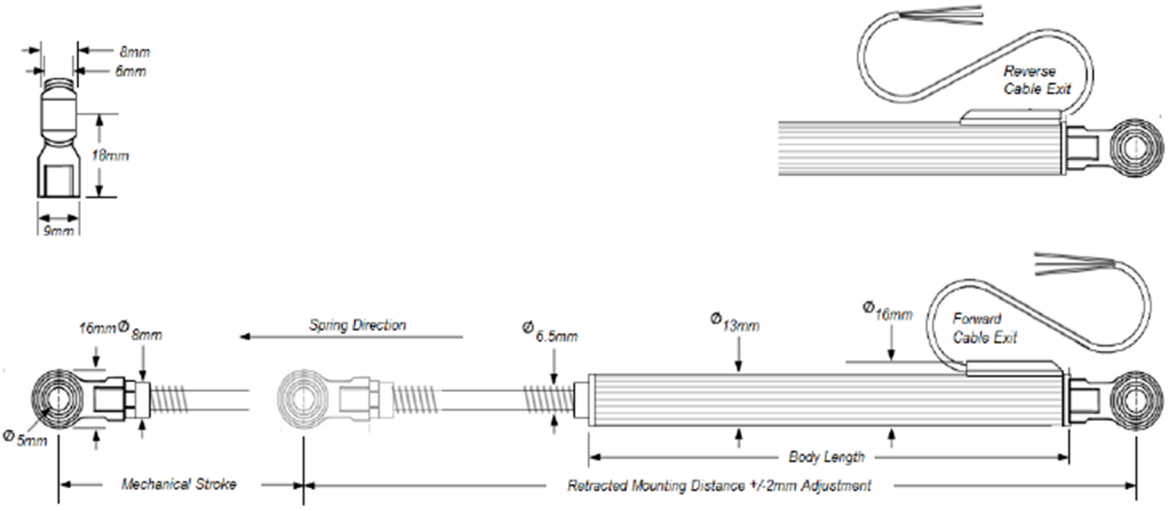
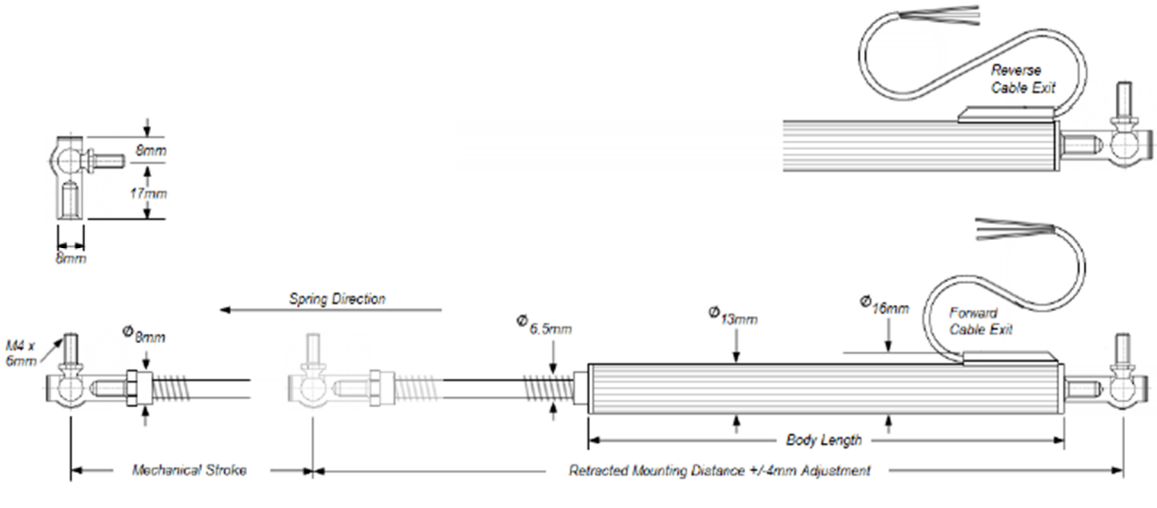
SM-13SRC-

Electrical Stroke (mm)	25	50	75
Retracted Mounting Distance (mm)	184.5	234.5	284.5
Min. Mechanical Stroke (mm)	27	52	77
Body Length (mm)	97	122	147
Approx. Weight Without Cable (g)	49	54	59
Resistance (KΩ +/-20%	1.7	3.4	5
Mechanical Fixing	Compact Rod End Bearings - Ø5mm		



SM-13SRP-

Electrical Stroke (mm)	25	50	75
Retracted Mounting Distance (mm)	184.5	234.5	284.5
Min. Mechanical Stroke (mm)	27	52	77
Body Length (mm)	97	122	147
Approx. Weight Without Cable (g)	49	54	59
Resistance (KΩ +/-20%)	1.7	3.4	5
Mechanical Fixing	Pop Joints M4 x 6mm		



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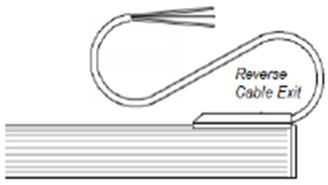
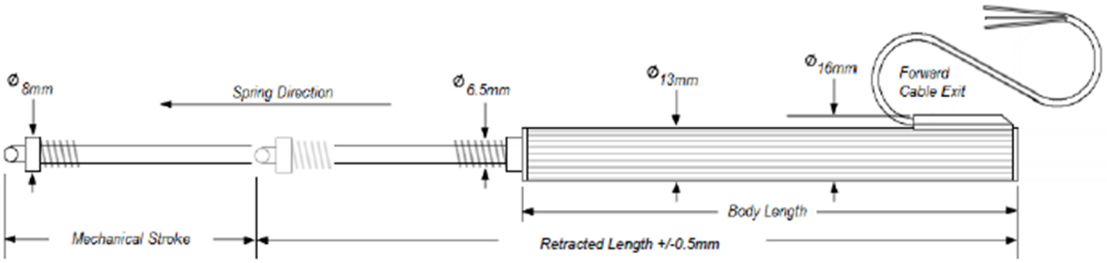
SM-13SRA-

Electrical Stroke (mm)	25	50	75
Retracted Length (mm)	156.5	201.5	251.5
Min. Mechanical Stroke (mm)	27	52	77
Body Length (mm)	97	122	147
Approx. Weight Without Cable (g)	42	47	52
Resistance (KΩ +/-20%)	1.7	3.4	5
Shaft End	Probe Ball Tip		





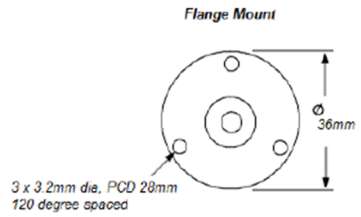
Flange Mount

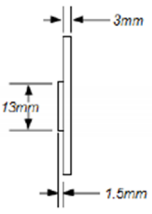
Compatible with 13SRC, 13SRP, 13SRA – Refer to model for specifications, except below:

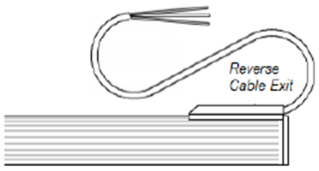
Rod End Bearing (SM-13SRC) or Pop Joint (SM-13SRP) is removed from the rear of the sensor

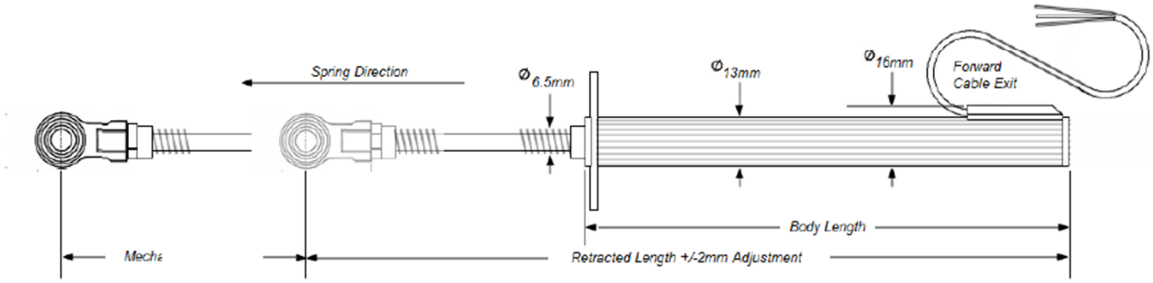
Retracted Length (mm) = Retracted Mounting Distance -18mm (13SRC) , -17mm (13SRP)

Body Length (mm) = +2.5mm to all models









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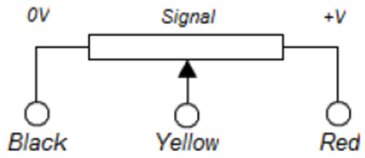
Electrical Connection (Potentiometer output)



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, 26AWG, FDR 25 sleeve
Cable Length	Approximately 500mm

Accessories

Protective Sleeve -SLV For use with models **13SRC,13SRP**

Material Carbon fibre, Peek Ø16mm

Body Clamp -DG8 For use with model **13SRA**

Material Aluminium, Rubber Lined

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Ordering Information

Please use the chart below to construct your product code…

Sample Product Code: **SM – 13SRC – 75 – 67 – F – 000**

Series **SM – 13SR**

Mounting

C = Rod End Bearings

P = Pop Joints

A = No Fixings

Stroke Length

Insert required length in mm

25 , 50 , 75

Seal Rating

54 = IP54

65 = IP65

67 = IP67

Cable Exit Direction

F = Forward facing cable exit

R = Reverse facing cable exit

Options (compatible options may be selected, separated by – between codes)

000 = No options selected
FL = Flange Mount
Dual = Dual output (6 wire)
SLV = Protective sleeve (refer to accessories)
DG8 = 2 x Body Clamps (use with MS-13SRA)
420 = 4-20mA regulated (single output only)
V05 = 0-5VDC regulated (single output only)
V10 = 0-10VDC regulated (single output only)
Lxxxx = Cable length in mm (500mm cable supplied as standard)