SENSEL MEASUREMENT
CAPTEURS, ELECTRONIQUES & ACQUISITION DE DONNEES

- ***Rugged Construction***
- ***Compact Design***
- ***Sealed to IP67***
- ***Long Life***
- ***Excellent Linearity***
- ***High Operating Temperature***

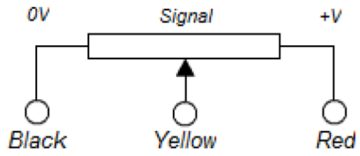
The SM-94 series of linear potentiometers are designed to withstand the harsh environments of motorsport, testing and industrial applications. Using proven 'Conductive Plastic' technology, the sensors offer high performance and reliability at operational temperatures up to +175°C

The small and lightweight, 9.4mm diameter SM-94 is available with stroke lengths up to 175mm, flange mount and sealing up to IP67.

Specifications

Technology	Conductive plastic
Stroke lengths	12.5mm – 175mm
Resolution	Essentially infinite
Max. Supply Voltage	40VDC
Output Signal	Potentiometer (voltage divider)
Recommended Wiper Current	<10µA
Independent Linearity	≤0.5%
Repeatability	≤0.01mm
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)
Operating Temperature	-40°C - +150°C (short term +175°C)

Electrical Connection



Wiring	+Ve Supply	0V Supply (GND)	Signal
Single Output	RED	BLACK	YELLOW
Cable Type	3 wire Raychem 55A, 26AWG, FDR 25 sleeve		
Cable Length	Approximately 500mm		
Output Signal	Output signal may be reversed by swapping connections to the Red & Black wires. DO NOT connect +Ve Supply to the Yellow wire, as this will cause damage to the sensor element.		

SENSEL MEASUREMENT
41, rue des laitières – 94300 VINCENNES - FRANCE
Tél. : 01 56 88 25 78 - www.sensel-measurement.fr - contact@sensel-measurement.com
S.A.R.L au capital de 7500 Euros - SIRET 502 277 908 00013 - APE 7490 - N° TVA : FR40502277908

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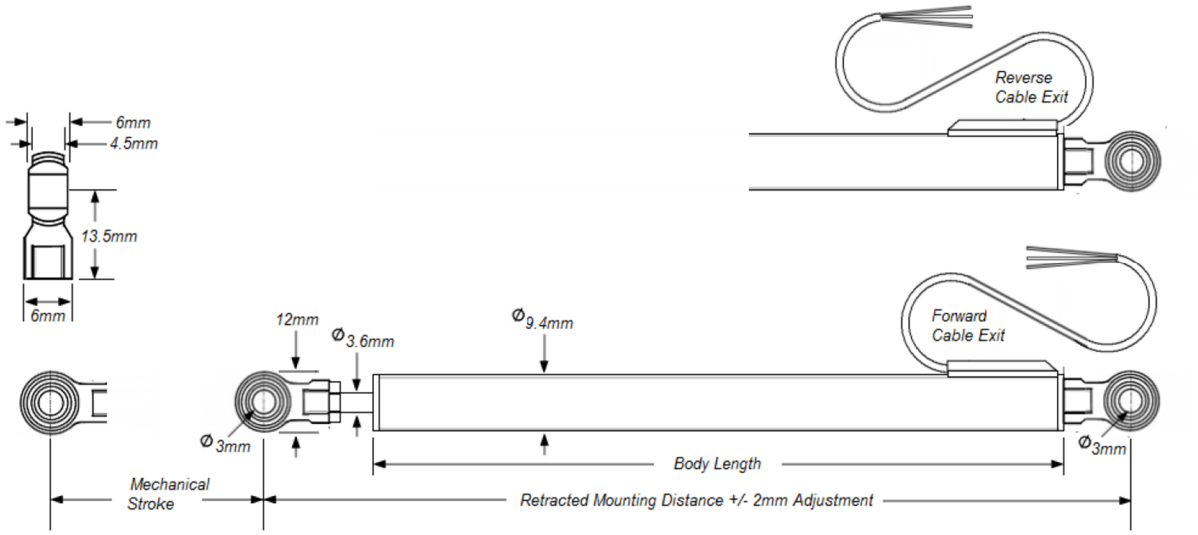
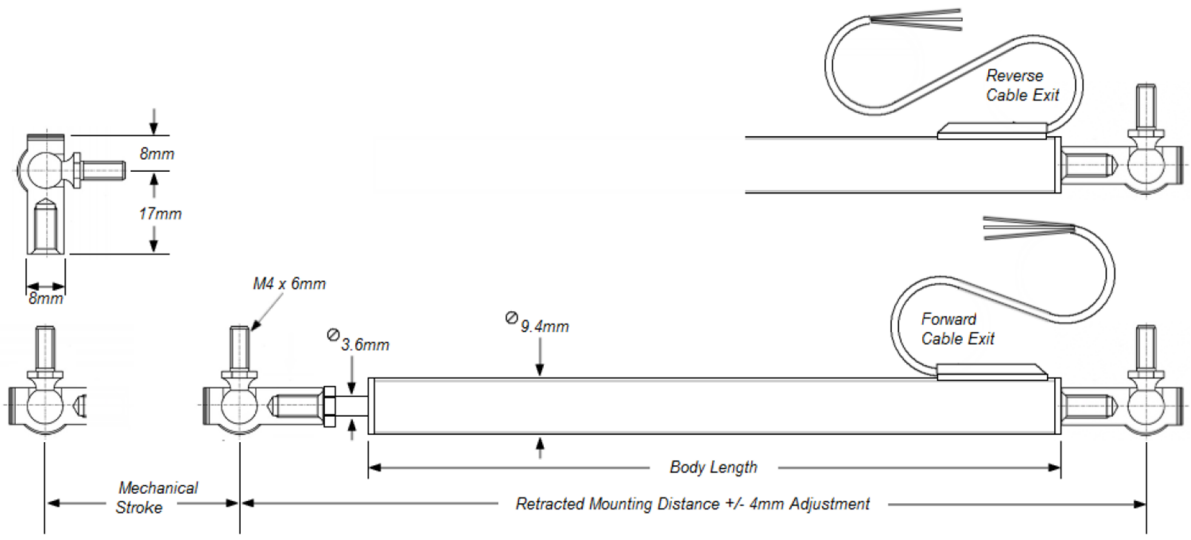
SM-94M-

Electrical Stroke (mm)	12.5	25	50	75	100	125	150	175
Retracted Mounting Distance (mm)	86	98	123	148	179	204	229	254
Min. Mechanical Stroke (mm)	14.5	27	52	77	102	127	152	177
Body Length (mm)	53	66	91	116	147	172	197	222
Approx. Weight Without Cable (g)	15	17	21	25	29	33	37	41
Resistance (KΩ +/-20%	0.8	1.7	3.4	5	6.7	8.4	10	11.7
Mechanical Fixing	Rod End Bearings Ø3mm							



SM-94P-

Electrical Stroke (mm)	12.5	25	50	75	100	125	150	175
Retracted Mounting Distance (mm)	98	110	135	160	191	216	241	266
Min. Mechanical Stroke (mm)	14.5	27	52	77	102	127	152	177
Body Length (mm)	53	66	91	116	147	172	197	222
Approx. Weight Without Cable (g)	19	21	25	29	33	37	41	45
Resistance (KΩ +/-20%)	0.8	1.7	3.4	5	6.7	8.4	10	11.7
Mechanical Fixing	Pop Joints M4 x 6mm							



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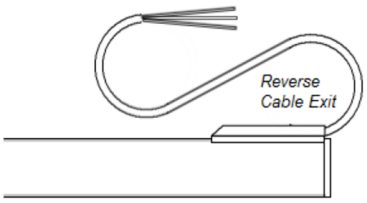
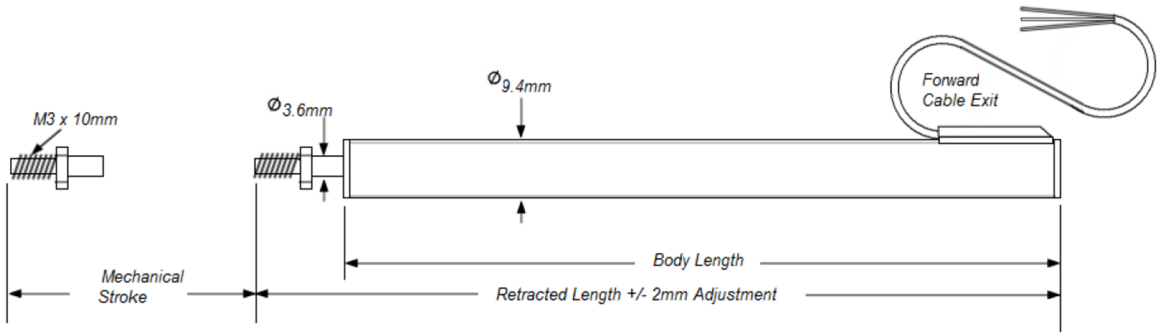
SM-94A-

Electrical Stroke (mm)	12.5	25	50	75	100	125	150	175
Retracted Length (mm)	64.5	77.5	102.5	127.5	158.5	183.5	208.5	233.5
Min. Mechanical Stroke (mm)	14.5	27	52	77	102	127	152	177
Body Length (mm)	53	66	91	116	147	172	197	222
Approx. Weight Without Cable (g)	11	13	17	21	25	29	33	37
Resistance (KΩ +/-20%)	0.8	1.7	3.4	5	6.7	8.4	10	11.7





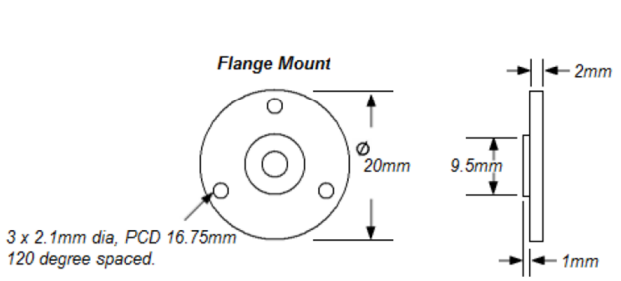
Flange Mount

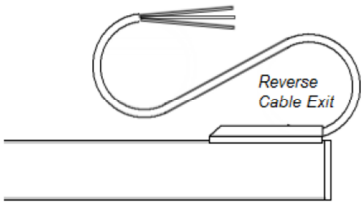
Compatible with 94M, 94P and 94A – Refer to model for specifications, except below:

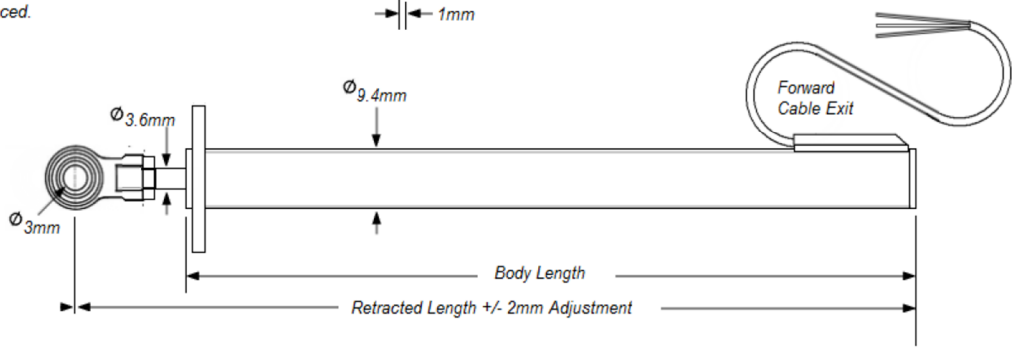
Rod End Bearing (94M) or Pop Joint (94P) is removed from the rear of the sensor

Retracted Length (mm) = Retracted Mounting Distance -13.5mm (94M) , -17mm (94P)

Body Length (mm) = +2mm to all models







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Ordering Information

Please use the chart below to construct your product code…

Sample Product Code: **SM – 94M – 150 – 67 – F – 000**

Series **SM - 94**

Mounting

M = Rod End Bearings

P = Pop Joints

A = No Fixings

Stroke Length

Insert required length in mm

12.5 , 25 , 50 , 75 , 100 , 125 , 150 , 175

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
SLV = Protective sleeve (refer to accessories below)
DG6 = 2 x Body clamp (refer to accessories below)
Lxxxx = Cable length in mm (500mm cable supplied as standard)

Accessories

Body Clamp DG6	For use with model 94A
Material	Aluminium, rubber lining

Protective Sleeve SLV	For use with models 94M & 94P
Material	Carbon fibre, Peek Ø12mm