

Sensorex®

## High performance LVDT sensors – Ø12mm SX12C/K/W



Meggitt (Sensorex) SX12 range is a high performance LVDT series. They are particularly suitable for severe environment applications (high temperature and pressure), and where accuracy and outstanding reliability are needed.

Three different versions of LVDT are available :

– **SX12C**: M8 connector output, Max. operating temperature 85°C, Max. operating pressure 250 bar, plug-in

– **SX12K**: 2 meter or 10 meter shielded cable output, Max. operating temperature 200°C, (option), Max. operating pressure 250 bar (option), rugged for extreme environments

– **SX12W**: 6 wire output, Max. operating temperature 200°C (option), Max. operating pressure 350 bar (option), compact, easy to integrate

These sensors are AC/AC. They should be connected to a signal conditioner model SX3120, SX9130... These conditioners can be found in our chapter “electronic conditioners”.

### Characteristics

- Very high MTBF (Mean Time Between Failure)
- Low non-linearity error (<0.15% of Full Scale)
- Very low thermal drift (<150ppm/°C)
- Protection IP66 (K and W versions)
- Protection IP67 (C version)

### Applications

- Test benches
- Special machines
- Tests on vehicles
- Automated production lines

Meggitt Sensing Systems

Our measurement product competencies:  
LVDTs | Inertial systems | Inclinoimeters | Accelerometers | IMU |  
MEMS sensors | Servo-inclinometer | Conditioners

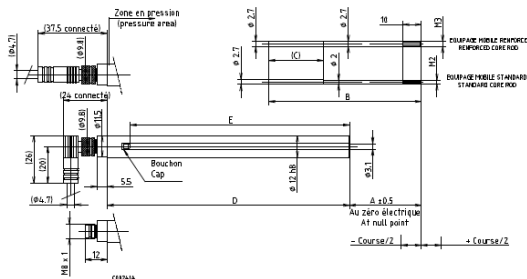
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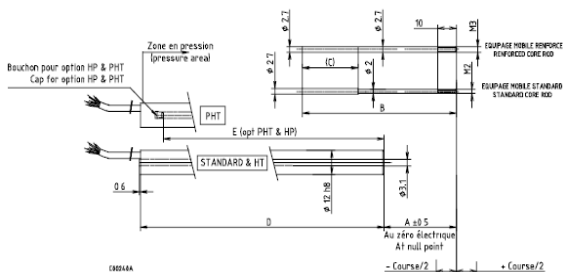
# High performance LVDT sensors – Ø12mm

## SX12C/K/W

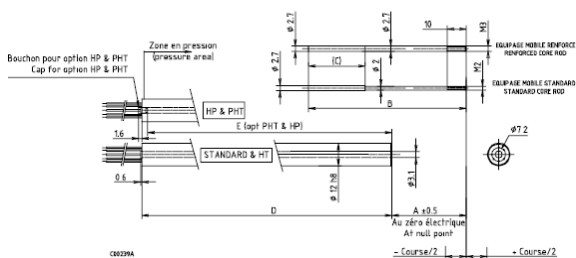
SX12C



SX12K



SX12W



## Dimensions

Electrical strokes	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
±3 mm	33	61.8	21.7	58.5 (38.5/SX12W)	34.9
±5 mm	33	61.8	21.7	58.5 (38.5/SX12W)	34.9
±10 mm	40.4	85.5	29.3	86.5 (67/SX12W)	63.4
±20 mm	50.2	116	40.8	116.5 (97/SX12W)	93.4
±30 mm	59.8	136	41.4	136.5 (117/SX12W)	113.4
±50 mm	80.4	175.5	41.2	174.5 (155/SX12W)	151.4
±75 mm	105.5	243	56	244.5 (225/SX12W)	221.4
±100 mm	126.9	300	69.2	302.5 (284/SX12W)	280.4
±125 mm	145.5	357	80	369.5 (352/SX12W)	348.4
±150 mm	170	408	80	423.5 (404/SX12W)	400.4

## Contact

Meggitt (Sensorex)

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## Environmental characteristics

Operating range	-40°C to +125°C (for SX12K & SX12W) – option +200°C -25°C to +85°C (for SX12C)
Vibrations	12grms / 10Hz to 2000Hz
Shocks	1000g/ 2ms
Protection	IP 66 (for SX12K & SX12W) IP 67 (for SX12C)

## General specifications at +25°C

Electrical stroke	±3mm to ±150mm
Primary power supply	2.2Vrms nominal (6V peak to peak)
Frequency (primary excitation)	3500 Hz nominal (400Hz to 15kHz)
Consumption	≤10mW
Resolution	Infinite
Hysteresis	Non measurable
Non linearity	< 0.15% of FS (except for ranges ±125mm & ±150mm = <0.25% of FS)
Thermal drift	<150ppm/°C
Zero null voltage	≤0.5% of FS
Dielectric strength	500Vdc/ 1 min
Insulation resistance	≥ 1000 MΩ / 500 Vdc

## Electrical specifications at +23°C

Electrical stroke (mm)	±3	±5	±10	±20	±30	±50	±75	±100	±125	±150
Mechanical stroke (mm)	±6	±6	±18	±30	±37	±56	±83	±107	±136	±162
Sensitivity (mV/V/mm) ±5%	56	56	39	19	9	9	9	7.2	3.7	4.4
Primary impedance (Ohms) ±20%	750	750	1250	2000	3000	2400	1500	3700	2800	1450
Secondary impedance (Ohms)	<200	<200	<330	<300	<200	<400	<550	<750	<600	<450
Phase primary/ secondary	<±6°	<±6°	<±6°	<±6°	<±6°	<±6°	<±6°	<±6°	<±6°	<±6°

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## Selection guide

<b>SX12C</b>	<b>Reference</b>					
±3 mm	690 150 300					
±5 mm	690 150 310					
±10 mm	690 150 320					
±20 mm	690 150 330					
±30 mm	690 150 340					
±50 mm	690 150 350					
±75 mm	690 150 360					
±100 mm	690 150 370					
±125 mm	690 150 380					
±150 mm	690 150 390					
<b>SX12K</b>	<b>Ref. 2m cable</b>	<b>Ref. 10m cable</b>	<b>Ref. 2m cable + HT</b>	<b>Ref. 10m cable + HT</b>	<b>Ref.2m cable + PHT</b>	<b>Ref.10m cable + PHT</b>
±3 mm	690150100	690150200	690150101	690150201	690150102	690150202
±5 mm	690150110	690150210	690150111	690150211	690150112	690150212
±10 mm	690150120	690150220	690150121	690150221	690150122	690150222
±20 mm	690150130	690150230	690150131	690150231	690150132	690150232
±30 mm	690150140	690150240	690150141	690150241	690150142	690150242
±50 mm	690150150	690150250	690150151	690150251	690150152	690150252
±75 mm	690150160	690150260	690150161	690150261	690150162	690150262
±100 mm	690150170	690150270	690150171	690150271	690150172	690150272
±125 mm	690150180	690150280	690150181	690150281	690150182	690150282
±150 mm	690150190	690150290	690150191	690150291	690150192	690150292
<b>SX12W</b>	<b>Standard</b>		<b>HP</b>	<b>HT</b>	<b>PHT</b>	
±3 mm	690150000		690150003	690150001	690150002	
±5 mm	690150010		690150013	690150011	690150012	
±10 mm	690150020		690150023	690150021	690150022	
±20 mm	690150030		690150033	690150031	690150032	
±30 mm	690150040		690150043	690150041	690150042	
±50 mm	690150050		690150053	690150051	690150052	
±75 mm	690150060		690150063	690150061	690150062	
±100 mm	690150070		690150073	690150071	690150072	
±125 mm	690150080		690150083	690150081	690150082	
±150 mm	690150090		690150093	690150091	690150092	

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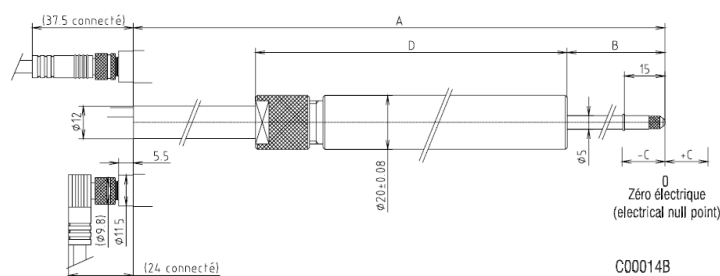
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## Options

Designation	Product reference
10m axial cable for SX12C	690150402
2m axial cable for SX12C	690150401
10m radial cable for SX12C	690150404
2m radial cable for SX12C	690150403
Reinforced core rods	Consult us
Radial output (SX12W & SX12K)	690150400
Gauge head kit for SX12x006/010	690109051
HT Gauge head kit for SX12x006/010	690100094
Gauge head kit for SX12x020	690109052
HT gauge head kit for SX12x020	690100321
Gauge head kit for SX12x040	690109053
HT gauge head kit for SX12x040	690100106
Gauge head kit for SX12x060	690109054
HT gauge head kit for SX12x060	690100325
Gauge head kit for SX12x100	690109055
HT gauge head kit for SX12x100	690100326
Protective bellow for gauge head kit	690109022



Electrical strokes	B (mm)	A (mm) (SX12W)	A (mm) (SX12K)	A (mm) (SX12C)	D (mm)
±3mm	22.5	146	173	173	113.5
±5mm	22.5	151	175	178	113.5
±10mm	27.5	210	230	230	147
±20mm	37.5	270	290	290	170.5
±30mm	50	333	350	350	238
±50mm	70	431	450	450	330

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