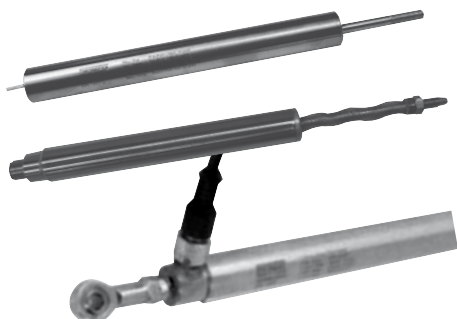


# INDUSTRIAL LVDTs : 20MM DIAMETER SX20MR - SX20MCR - SX20MC2R SERIES



### Main advantages :




- Rugged
- Stainless steel housing
- Economical
- Modularity
- Reinforced core rod 6mm dia.

### RANGE OVERVIEW

The SX20M range is a versatile, rugged and economical LVDT series. It features innovating technical solutions, that allow mechanical modularity and cost saving installation.

From a single housing , several configurations are available :  
Cable or connector, gauge head & spring, shivel joints, radial or axial cable.  
Moreover, these LVDTs can be used in differential or ratiometric mode.

### SELECTION GUIDE

Model		Characteristics	Options
SX20 MR		Standard Cable output	Gauge head Swivel joints
SX20 MCR		M12 connector output	Gauge head
SX20 MC2R		M12 connector output Shivel joints Guided core rod	None

### SIGNAL CONDITIONING

These sensors are AC/AC. They should be connected to a signal conditioning unit, model SX3120, SX9130, or SX6510. These signal conditioners can be found in our 2.0 catalogue.

### GENERAL SPECIFICATIONS (AT 25 °C)

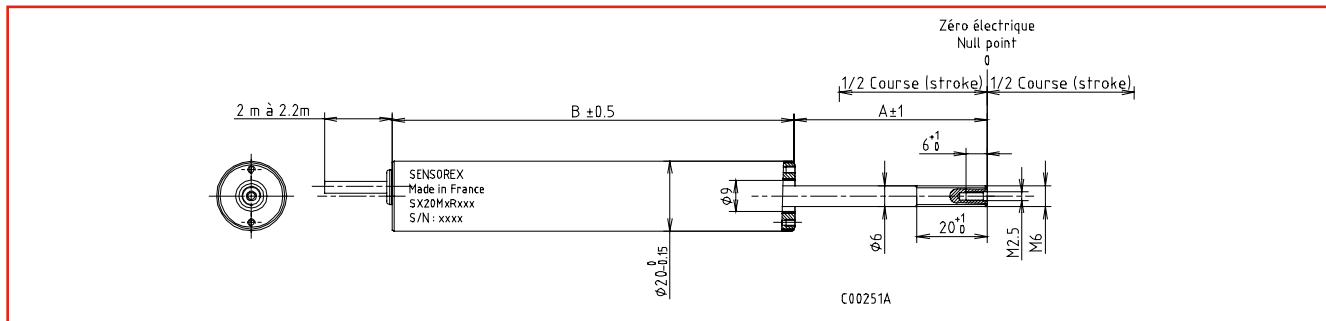
Electrical stroke :	$\pm 2.5$ to $\pm 150$ mm
Power supply (primary) :	2.2 V rms $\pm 10$ %
Frequency (primary excitation) :	3500 Hz (2 KHz to 10 KHz)
Linearity :	$\pm 0.25$ % Full scale, $\pm 0.15$ % Half scale
Resolution :	Infinite
Hysteresis :	Non measurable
Zero null voltage :	< 30 mV rms
Thermal drift :	< 200 ppm / °C
Resistive load :	100 KOhm
Dielectrical strength :	500 VDC / 1mm
Insulation resistance :	> 1000 MOhm / 500 VDC
Operating temperature :	- 40 °C to + 150 °C (according to models)
Shock resistance :	100 g / 11 ms
Vibration resistance :	10 g peak to peak (20 to 2000 Hz)
Protection :	IP 66 or IP 67 (according to models)

# SX20MR : CABLE OUTPUT



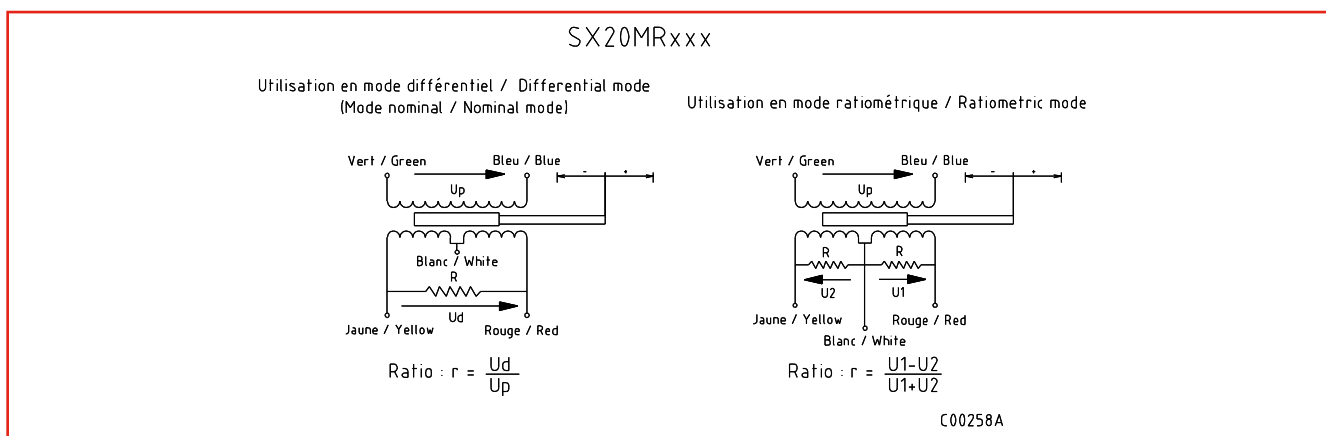
## INTERFACE DRAWING & SPECIFICATIONS

Standard sensor : Non guided core rod



Models		SX20 MR005	SX20 MR010	SX20 MR020	SX20 MR030	SX20 MR050	SX20 MR100	SX20 MR200	SX20 MR300
Stroke (mm)	Electrical stroke	± 2,5	± 5	± 10	± 15	± 25	± 50	± 100	± 150
	Mechanical stroke	± 7,5	± 7,5	± 12,5	± 17,5	± 27,5	± 52,5	± 102,5	± 152,5
Electrical specifications at 3.5 KHz / 2.2V rms / 23°C	Differential sensitivity ± 10 % (mV/V.mm)	200	100	50	33,3	20	10	5	3,33
	Voltage sum (V)	11,5	5,9	4,9	4,2	3,9	3,2	2,2	2,0
	Primary impedance ± 20 % (Ohm)	270	710	680	510	340	1240	260	270
	Secondary impedance ± 20 % (Ohm)	<1220	< 865	< 550	< 390	< 315	< 460	< 160	< 175
	Phase primary / secondary (degrees)	< 5	< 5	< 10	< 10	< 10	< 15	< 15	< 15
Environment	Operating temperature	- 40 to + 150 °C							
	Operating temperature with options	- 40 to + 125 °C							
	IP	66							
Dimensions (mm)	A	40	40	55	65	80	125	205	250
	B	99	99	115	144	173	259	400	495
	C	199	199	230	269	313	444	665	805

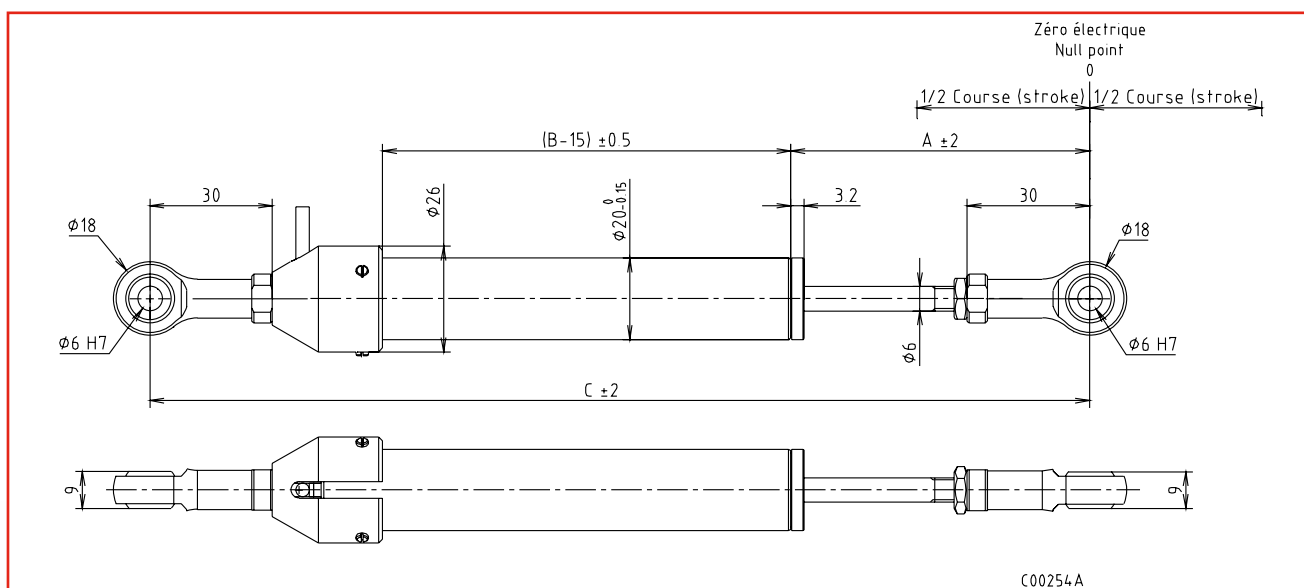
## CONNECTION



## SWIVEL JOINTS OPTION

This option can be factory mounted before shipping. It includes the joints and their supports, and the core rod guide.

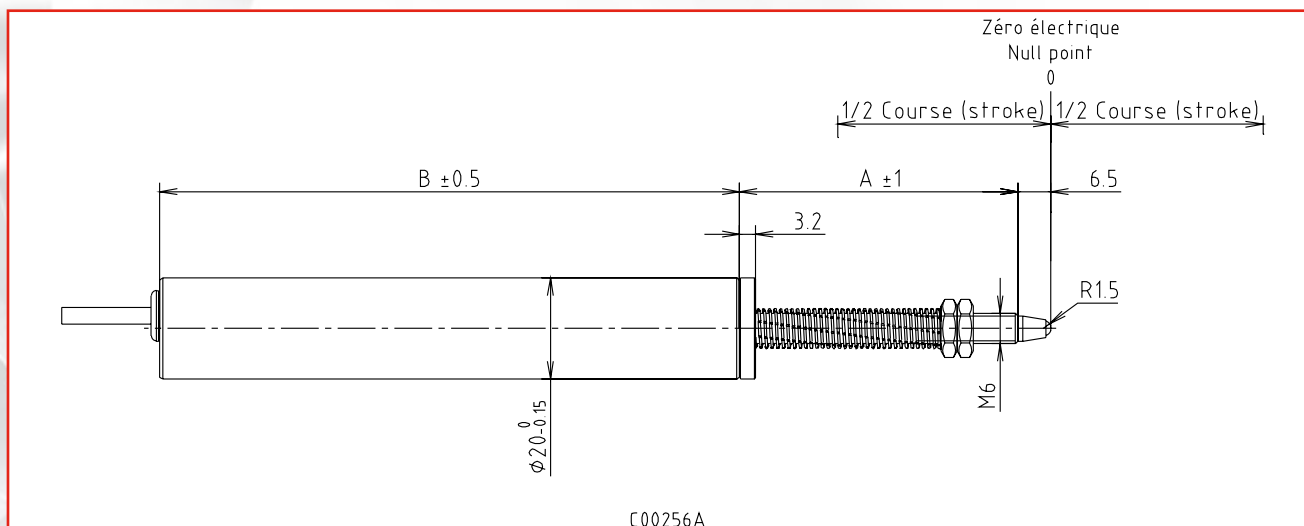
### Interface drawing with swivel joints option



## GAUGE HEAD OPTION

Can be factory mounted. Includes core rod guide, spring & probe tip (M2.5 standard).

### Interface drawing with gauging head option



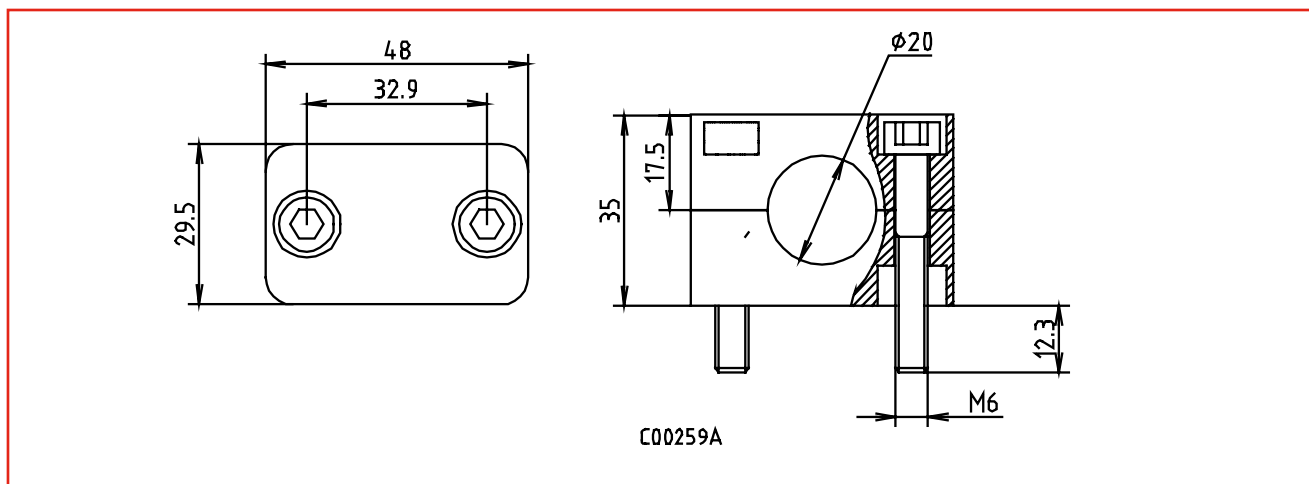
NB : The spring is not available with gauge head option for stroke 300mm.

## Strength at Zero position and spring stiffness.

Sensor ref.	Stroke (mm)	Strength at Zero (N)	Stiffness (N/mm)
SX 20 MR 005	± 2.5	1,07	0,030
SX 20 MR 010	± 5	0,87	0,026
SX 20 MR 020	± 10	0,98	0,015
SX 20 MR 030	± 15	0,83	0,015
SX 20 MR 050	± 25	0,90	0,010
SX 20 MR 100	± 50	2,38	0,023
SX 20 MR 200	± 100	2,36	0,012
SX 20 MR 300	± 150	/	/

## ACCESSORIES

### Mounting Flanges ; ref. BCX20P



## SELECTION GUIDE

### - LVDT alone

SX20MR xxxx  
 |  
 Total stroke

Options & accessories must be ordered separately, as follows :

### - Gauge head option for SX20MR / MCR

Pxxx - SX20MR/MCR  
 |  
 Total stroke

### - Swivel joints option for SX20MR

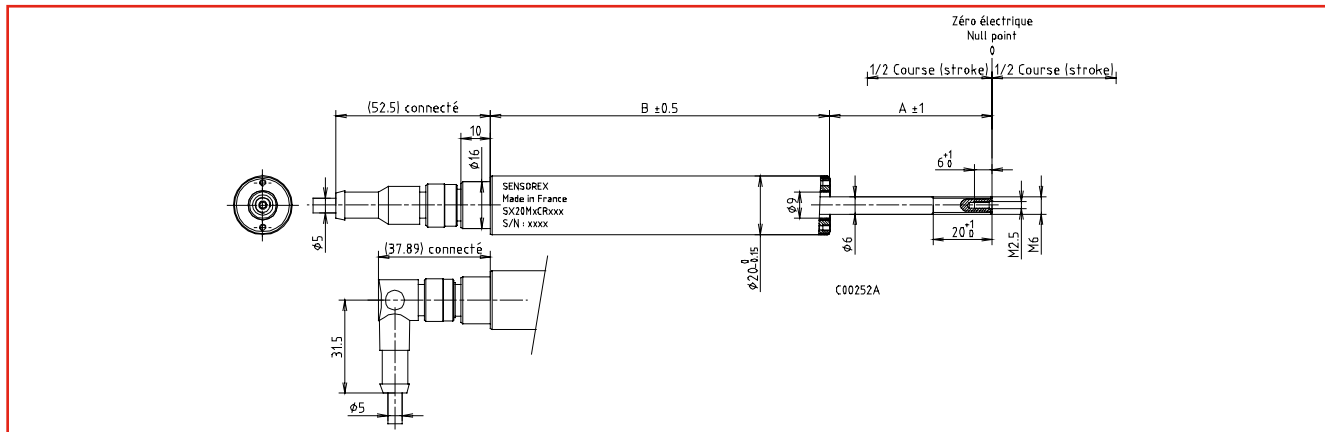
R-SX20MR

## SX20MCR : M12 CONNECTOR OUTPUT



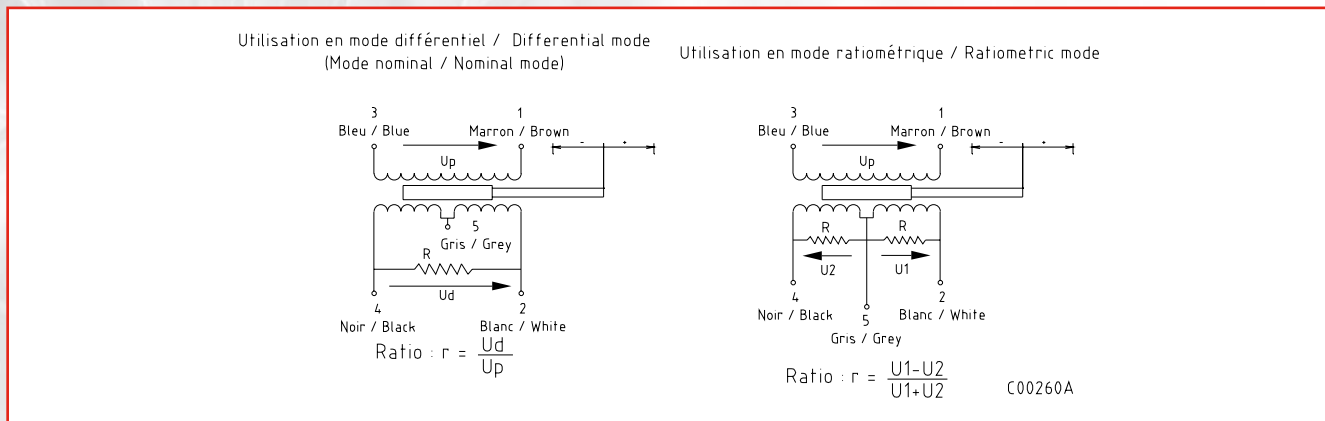
### INTERFACE DRAWING & SPECIFICATIONS

Standard sensor : Non guided core rod



Models		SX20 MCR005	SX20 MCR010	SX20 MCR020	SX20 MCR030	SX20 MCR050	SX20 MCR100	SX20 MCR200	SX20 MCR300
Stroke (mm)	Electrical stroke	± 2,5	± 5	± 10	± 15	± 25	± 50	± 100	± 150
	Mechanical stroke	± 7,5	± 7,5	± 12,5	± 17,5	± 27,5	± 52,5	± 102,5	± 152,5
Electrical specifications at 3.5 KHz / 2.2V rms / 23°C	Differential sensitivity ± 10 % (mV/V.mm)	200	100	50	33,3	20	10	5	3,33
	Voltage sum (V)	11,5	5,9	4,9	4,2	3,9	3,2	2,2	2,0
	Primary impedance ± 20 % (Ohm)	270	710	680	510	340	1240	260	270
	Secondary impedance ± 20 % (Ohm)	<1220	< 865	< 550	< 390	< 315	< 460	< 160	< 175
	Phase primary / secondary (degrees)	< 5	< 5	< 10	< 10	< 10	< 15	< 15	< 15
Environment	Operating temperature	- 40 to + 85 °C							
	IP	67							
Dimensions (mm)	A	40	40	55	65	80	125	205	250
	B	99	99	115	144	173	259	400	495
	C	199	199	230	269	313	444	665	805

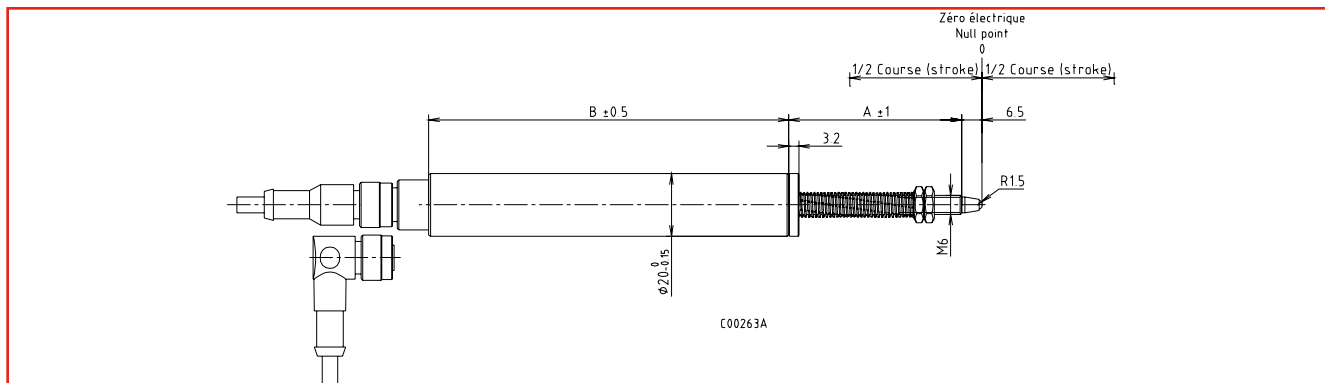
### CONNECTION



## GAUGE HEAD OPTION

Can be factory mounted. Includes core rod guide, spring & probe tip (M2.5 standard).

### Interface drawing with gauging head option



NB : The spring is not available with gauge head option for stroke 300mm.

### Strength at Zero position and spring stiffness.

Sensor ref.	Stroke (mm)	Strength at Zero (N)	Stiffness (N/mm)
SX 20 MCR 005	$\pm 2.5$	1,07	0,030
SX 20 MCR 010	$\pm 5$	0,87	0,026
SX 20 MCR 020	$\pm 10$	0,98	0,015
SX 20 MCR 030	$\pm 15$	0,83	0,015
SX 20 MCR 050	$\pm 25$	0,90	0,010
SX 20 MCR 100	$\pm 50$	2,38	0,023
SX 20 MCR 200	$\pm 100$	2,36	0,012
SX 20 MCR 300	$\pm 150$	/	/

## ACCESSORIES

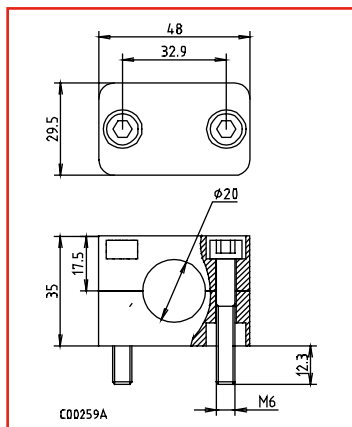
### Axial or radial cable

	Axial shielded cable, M12 female connector, 5 pins		Radial shielded cable, M12 female connector, 5 pins	
	2 m	10 m	2 m	10 m
Reference	690 15 04 05	690 15 04 06	690 15 04 07	690 15 04 08
Working Temp. : - 20 to + 85 °C				

### Female plug for shielded cable

	Axial female plug for shielded cable dia.4 to 6mm, 5 pins
Reference	690 15 04 09
Working Temp. : - 40 to + 85 °C	

### Mounting Flanges ; ref. BCX20P



## SELECTION GUIDE

### - Sensor alone :

SX20MCR xxxx

Total stroke

### Options & accessories must be ordered separately, as follows :

### - Gauge head option for SX20MR / MCR :

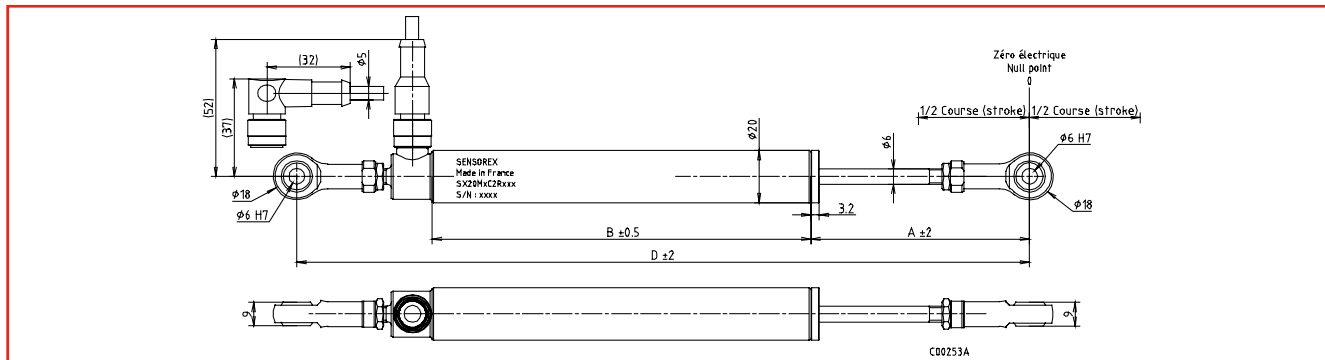
Pxxx - SX20MR/MCR

Total stroke

## SX20MC2R : M12 CONNECTOR OUTPUT, SWIVEL JOINTS, CORE ROD GUIDE



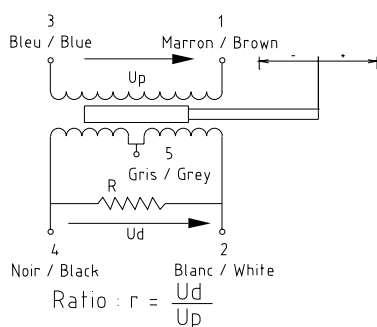
### INTERFACE DRAWING & SPECIFICATIONS



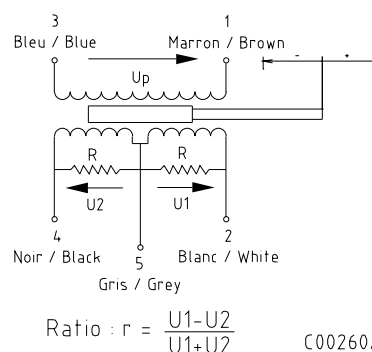
Models		SX20 MC2R005	SX20 MC2R010	SX20 MC2R020	SX20 MC2R030	SX20 MC2R050	SX20 MC2R100	SX20 MC2R200
Stroke (mm)	Electrical stroke	± 2,5	± 5	± 10	± 15	± 25	± 50	± 100
	Mechanical stroke	± 7,5	± 7,5	± 12,5	± 17,5	± 27,5	± 52,5	± 102,5
Electrical specifications at 3.5 KHz / 2.2V rms / 23°C	Differential sensitivity ± 10 % (mV/V.mm)	200	100	50	33,3	20	10	5
	Voltage sum (V)	11,5	5,9	4,9	4,2	3,9	3,2	2,2
	Primary impedance ± 20 % (Ohm)	270	710	680	510	340	1240	260
	Secondary impedance ± 20 % (Ohm)	<1220	< 865	< 550	< 390	< 315	< 460	< 160
	Phase primary / secondary (degrees)	< 5	< 5	< 10	< 10	< 10	< 15	< 15
Environment	Operating temperature	- 40 to + 85 °C						
	IP	67						
Dimensions (mm)	A	40	40	55	65	80	125	205
	B	99	99	115	144	173	259	400
	D	203,5	203,5	239	278,5	322,5	453,5	674,5

### CONNECTION

Utilisation en mode différentiel / Differential mode (Mode nominal / Nominal mode)







Utilisation en mode ratiométrique / Ratiometric mode




C00260A

## ACCESSORIES

### Axial or radial cable

	Axial shielded cable, M12 female connector, 5 pins		Radial shielded cable, M12 female connector, 5 pins	
Length	2 m	10 m	2 m	10 m
Reference	690 15 04 05	690 15 04 06	690 15 04 07	690 15 04 08
Working Temp. : - 20 to + 85 °C				

### Female plug for shielded cable

	Axial female plug for shielded cable dia.4 to 6mm, 5 pins
Reference	690 15 04 09
Working Temp. : - 40 to + 85 °C	

## SELECTION GUIDE

### - Sensor alone

SX20MC2R xxxx  
 |  
 Total stroke

**Accessories are to be ordered separately**