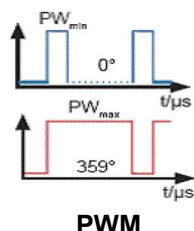
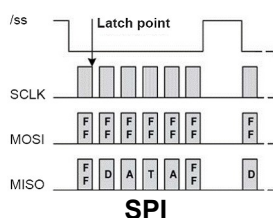
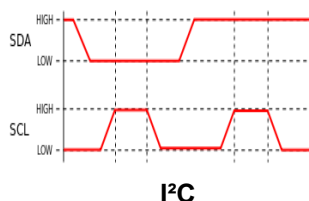
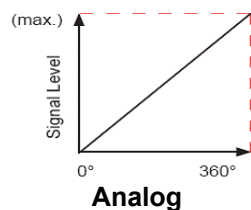


12X M/Z MCS

HALL EFFECT ENCODERS WITH SERVO MOUNTING

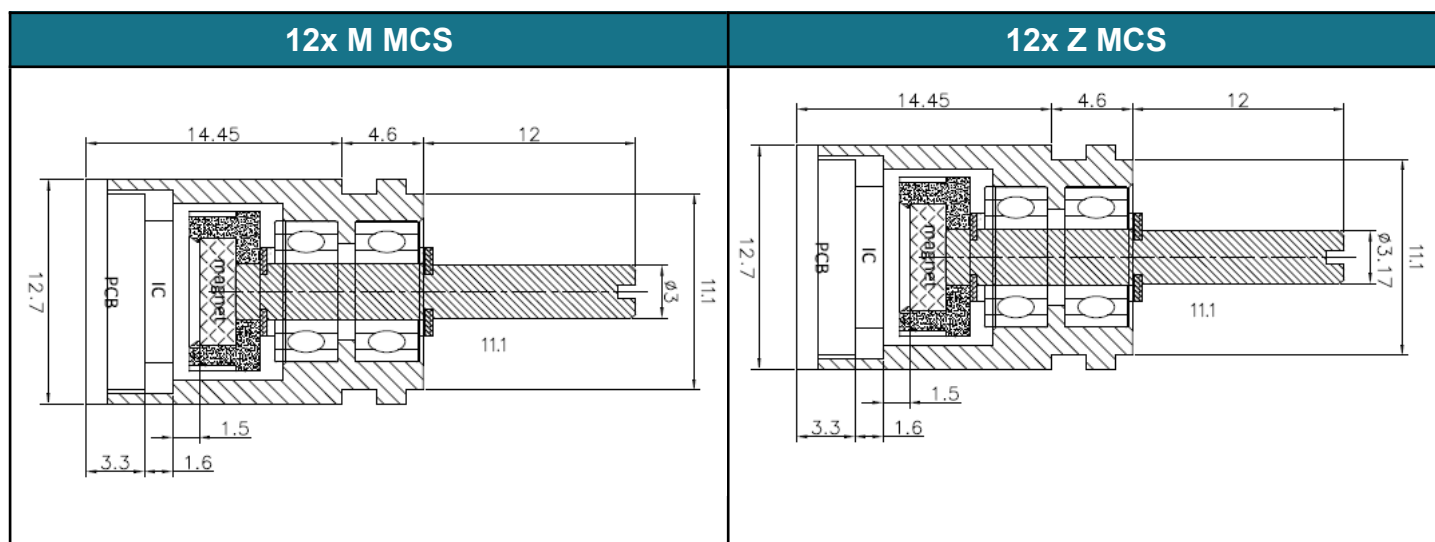
Available in 12mm diameter **aluminum housings**, the **MCS** series Hall effect magnetic encoders provides excellent performances.



- Contactless
- Programmable 360° travel
- 2 Ball bearings

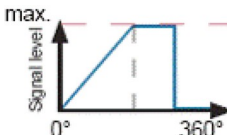
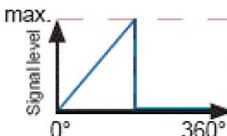
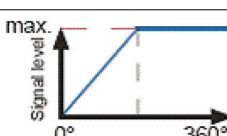
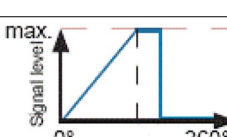
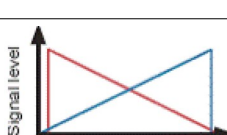
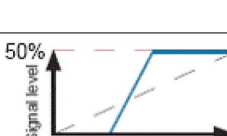
Version	Electrical specifications			
	Analog (A)	PWM (W)	SPI (P)	I²C (C)
Electrical angle	360° (programmable by step of 1° on request)			
Resolution	4096 step (12 bits)	4096 step (12 bits)	16383 step (14 bits)	4096 step (12 bits)
Voltage supply	5VDC ±10%	5VDC ±10%	5V ±10% 3.3V±10%	5V ±10% 3.3V±10%
Current supply	< 16 mA		< 30 mA	<10 mA
Output signal	0-5V Ratiometric	PWM	SPI	I²C
Linearity	0,5 %			
Max rotation speed	160 rpm		800 rpm	800 rpm
Connection	3 core flat cable (150mm)		6 core flat cable (150mm)	4 core flat cable (150mm)
				Fixed adress I²C = 0x36

	Mechanical specifications
Version	Ø12
Mechanical angle	360°
Max rotation speed	3000 rpm
Lifespan	15.10 ⁶ rotations
Starting torque	0,05 Ncm
Operating temperature	-40 à +85°C
Housing	Anodized aluminium
Shaft	Stainless steel
Bearing	2 ball bearings



Wiring 12x M/Z MCS						
	1	2	3	4	5	6
Analog	Supply (RED)	Output (Brown)	Ground (Black)			
PWM	Supply (red)	Output	Ground			
SPI	Supply (red)	Ground	Clock	MOSI	MISO	Chip select
I²C	Supply (red)	Ground	Clock	Data		

ELECTRICAL OPTIONS FOR ANALOG AND PWM VERSIONS

Non-effective Electrical Angle (PE1) - Delta 1/2	With this option, if the electrical effective angle is programmed smaller than 360°, the remaining non-effective electrical angle is divided in two equal parts : high level & low level - Delta 1/2.	
Low level (PE2)	If the electrical effective angle is programmed smaller than 360°, after reaching the maximum, the signal level falls to low level.	
High level (PE3)	If the electrical angle is programmed smaller than 360°, the signal level remains high after reaching the full level.	
Variable level (PE4)	If the electrical angle is programmed smaller than 360°, remaining non-effective electrical angle can be divided into high and low level in any ratio according to customer request.	
Direction of Rotation (CW/CCW)	With this option it is also possible to change the direction from clockwise (CW) to counter clockwise (CCW).	
Programmation point Zero (POZ)	Mechanical zero point is aligned with marking on the sensor housing. Electrical zero point can be aligned to mechanical zero point. Zero point can be programmed at any offset.	

MECHANICAL OPTION

Special cable length

Order code	Standard					Option
Sensor Ø 12mm	12					
Analog PWM SPI I ² C SENT		A W P C T				
Shaft Ø 3 mm Shaft Ø 3,17 mm			M Z			
Range				MCS		
Power supply / Output signal :						
5VDC±10% / 0-5V (ratiometric)					S 0505	
5VDC±10% / PWM					S PWM	
5V±10% / SPI 3,3V±10% / SPI					S 05SPI S 33SPI	
5V±10% / I ² C 3,3V±10% / I ² C					S 05I2C S 33I2C	
Output connections :						
Flat cable 0,15m						OCF
Reference :				MCS		

Optional mounting kit : Bag of 3 SFN3 fixing nails (to be specified when ordering)