

RotaCol® - Miniline

ANALOG CONTACTLESS ROTARY POSITION SENSOR

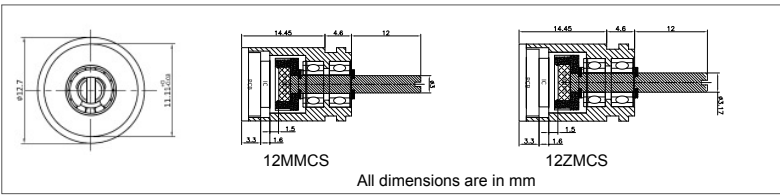
SERVO MOUNT - BALL BEARINGS

12A M/Z MCS



12 mm Ø metal housing, Mini size
Hall CMOS technology, low cost
Output : 0-5V ratiometric, Measurement range 0° - 360 °
Servo mounting - 2 precision ball bearings

1-Supply (Red); 2- Output (Grey); 3- Ground (grey) : **For OCF**



ELECTRICAL CHARACTERISTICS

Electrical angle	0 to 360°, any angle from 0-20 to 0-360 programmable in steps of 1°	
Electrical speed (max)	160 rpm	
Resolution	4096 step (12 bit)	
Signal type	Supply voltage	Output signal
S0505	5V±10%	0 -5V ratiometric
Independent linearity tolerance	± 0.5%	
Supply current (mA)	< 16 mA	
Update rate	1 ms	

MECHANICAL CHARACTERISTICS

Mechanical angle	0 - 360°(continuous)	
Shaft diameter and length (FMS)	Metric 3 mm Ø X 12mm (MMCS)	Inch 1/8" Ø X12mm (ZMCS)
Mechanical speed (Max.)	3000 rpm	
Rotational life	~ 15 million rotations	
Operating torque (approx.)	0.05 Ncm	
Operating temperature range	- 40 to +85° C	
Weight	10 gm	
Interconnection	3 core flat cable 0.15 mtr long	

MATERIAL

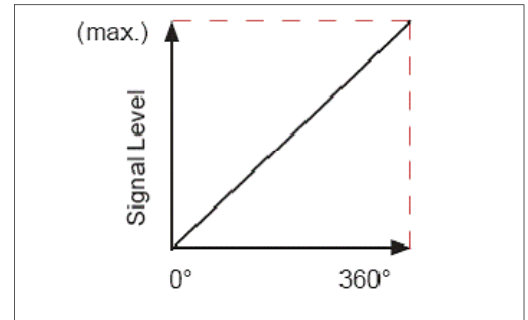
Housing	Aluminium anodized
Shaft	Stainless Steel
Bearing	2 precision ball bearings

For full range of Rotary Sensor refer - www.rotacol.info/rotamec.pdf

FUNCTION PRINCIPLE

The determination of angular position and signal generation is realised by an intelligent CMOS Hall sensor. A diametrical polarised magnet induces its magnetic field into the sensor. It rotates and provides a conditioned signal to the integrated electronic.

ANALOG INTERFACE



At the output of the sensor a variable voltage or variable current is provided proportional to the position of the shaft / axis over a complete angle range of 360 ° or a subrange. The contactless sensor electronic guarantees a steady signal level and a very low linearity error of 0.5%. With supply voltages of 5VDC±10% output signal of 0 - 5V ratiometric at the sensor output is provided. Besides this a large variety of electrical options such as Zero point programming and Centre point programming are provided.

Default Version :

360° CW Electrical & Mechanical angle, Electrical speed 160 rpm, 3 core flat cable 0.15 mtr long

ORDERING INFORMATION

Refer to electrical and mechanical options on page 2

Housing diameter	Analog output	Metric Miniline Shaft diameter 3 mm Ø	Inch Miniline Shaft diameter 1/8" Ø	Miniline RotaCol	Servo mounting	Signal	Electrical angle	Direction of rotation	Programming options for non - effective electrical angle (onlf if elec angleis < 360°)	Delta 1/2- default Low level High level Variable level	Programming options	Special cable length (default 0.15 m long)	Output connection
12	A	M	Z	MC	S	S0505	0xxx	CW CCW	PE1 PE2 PE3 PE4	POx POZ POC	CVxx	OCF	
12	A	M / Z		MC	S	S0505	Oxxx	CW / CCW	PEx	POx	CVxx	OCF	

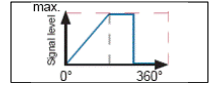
Example with description - **12A ZMCS S0505 O360 CW OCF** - 12mm diameter, analog output, Inch Shaft 1/8"Ø, Miniline RotaCol, Servo mount, Signal - 0-5V ratiometric, 360 angle and clockwise, 3 core flat cable 0.15 mtr long

Please note: The specification and information in this datasheet cannot consider all special demands that are caused by the application. Because of this, they are no general description of the properties of the product. Megacraft does not assume any responsibility for damages due to improper application of our products. The user has to ensure on his own, that the products used are suitable for his application. Megacraft does not warrant the reproducibility of published information. The specifications can be changed any time without notice.

ELECTRICAL OPTIONS FOR ANALOG VERSION 12A M/Z MCS

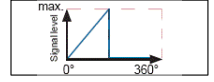
Non-effective Electrical Angle (PE1) - Delta 1/2

If the electrical effective angle is programmed smaller than 360°, the remaining electrical non-effective angle is divided in two equal parts : high level & low level (Delta 1/2)



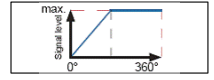
Low level (PE2)

If the electrical effective angle is programmed smaller than 360°, after reaching the maximum, the signal level falls to low level.



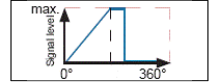
High level (PE3)

If the electrical angle is programmed smaller than 360°, the signal level remains high after reaching the full level.



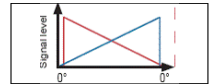
Variable level (PE4)

If the electrical angle is programmed smaller than 360°, remaining electrical non effective angle can be divided into high and low level in any ratio according to customer request.



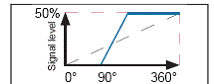
Direction of Rotation (CW/CCW)

By default the direction of rotation is clockwise (CW). With this option it is also possible to change the direction from clockwise(CW) to counterclockwise (CCW).



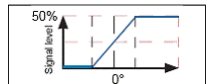
Zero point Programming (POZ)

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.



Center Point Programming (POC)

Effective electrical angle is aligned with the mechanical zero point in such a way that equal effective angles in both rotating directions are achieved. Center point can be programmed at any offset.



MECHANICAL OPTIONS FOR ANALOG VERSION 12A M/Z MCS

Type / Series	Customized mechanical options
12A M/Z MCS	Special cable length

INTERCONNECTIONS

Standard Interconnections - 3 core flat cable 0.15 mtr long

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