

**'ANALOG' Output Precision Contactless Rotary Position Sensors**

**Servo Mount - 2 Precision Ball Bearings**

**Hall effect magnetic**

**Output : 0 - 5V(ratiometric), 0 - 5V, 0 - 10V, 4 - 20mA, 0 - 20mA**

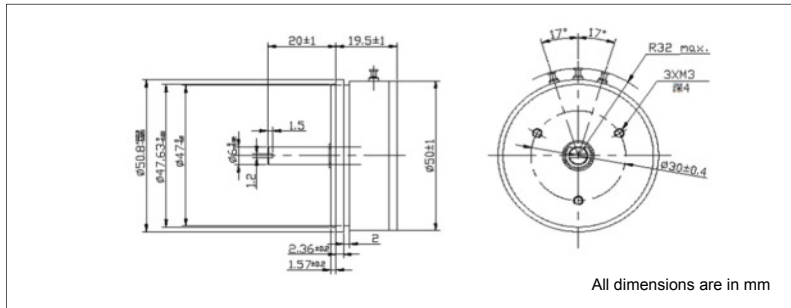
**50 mm Ø robust aluminium housing with two ball bearings**

**Synchro size 20, shock & vibration proof**

**Servo mount / screw fitting, Measurement range 0° - 360°**



- 1- Supply (Red); 2- Output (Yellow); 3- Ground (Black) : **For OCP**
- 1- Supply (Red); 2- Output (Green); 3- Ground (Black) : **For OCG, OCR**
- 1-Supply; 2-Output; 3-Ground : **For OCM, OCTA, OCTR**

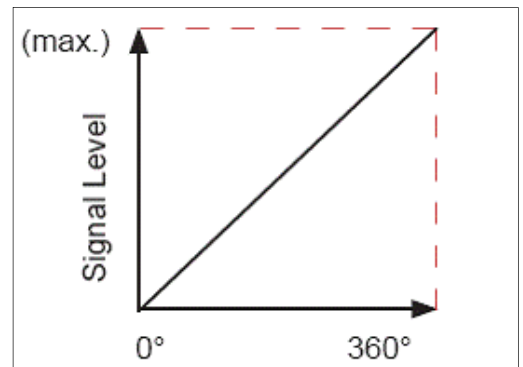


**For full range of Rotary Sensor refer - [www.rotacol.info/rotamec.pdf](http://www.rotacol.info/rotamec.pdf)**

**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 OUTPUT**



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%; 9-30VDC; 15-30V (24VDC) output signals of 0 - 5VDC; 0 - 10VDC; 0 - 20mA; 4 - 20mA at the sensor output are provided. Besides this a large variety of electrical options such as Output signal level programming, Zero point programming, Centre point programming, Multipoint programming, 2 Channel redundant outputs are provided.

**Default Version :**

servo mount, 50 mm housing with 2 precision ball bearing, 360° CW Electrical & Mechanical angle, electrical speed 160 rpm, Output signal level 0-100% ,3 pins

**ELECTRICAL CHARACTERISTICS**

Electrical angle	0 to 360° , any angle from 0 - 20... 0 - 360 programmable in steps of 1°	
Electrical speed (Max.)	160 rpm (default) / 800 rpm (optional)	
Resolution	4096 step (12 bit)	
Independent linearity tolerance	± 0.5%	
Signal type	Supply voltage	Output signal
S0505	5V ±10%	0 - 5V ratiometric
SDC05	9 - 30 V	0 - 5V
S2410	15 - 30 V	0 - 10 V
S2442	15 - 30 V	4 - 20 mA
S2420	15 - 30 V	0 - 20 mA
S05052C	5V ±10%	2 channel 0 - 5V ratiometric
SDC052C	9 - 30 V	2 channel 0 - 5V
S24102C	15 - 30 V	2 channel 0 - 10 V
Supply current	< 16 mA	
Update rate	1 ms	

**MECHANICAL CHARACTERISTICS**

Mechanical angle	360° (continuous)
Shaft diameter and length (FMS)	6 mm Ø X 20 mm
Operating torque (approx.)	0.05 Ncm
Protection	IP 40
Operating temperature	- 40 to +85° C
Operating life (approx.)	45 million rotations
Mechanical speed (max.)	9000 rpm
Weight	85 gm
Interconnection	3 pins ( default)

**MATERIAL**

Housing	Anodized aluminium
Shaft	Stainless steel
Bearings	2 precision ball bearing

**ORDERING INFORMATION**

Refer to electrical and mechanical options on page 2

50	A	MSL	RC	S	Sxxx	Electrical angle	xxx	CW / CCW	PEx	POx	Axx	CVxx	OCxx
Housing diameter	Analog output	Metric Silverline (Shaft 6 mm Ø)	RotaCol	Servomount - with 2 ball bearings	Signal	0 - 5V DC (ratiometric) 0 - 5V DC 0 - 10V DC 4 - 20mA 0 - 20mA 2 channel 0 - 5V DC (ratiometric) 2 channel 0 - 5V DC 2 channel 0 - 10V DC	any angle from 0-20 to 0-360 programmable in steps of 1° (default 360°)	Direction of rotation Clockwise (CW)- (default) Counter clockwise (CCW)	Programming options for non - effective electrical angle (only if elec. angle is < 360°) Delta 1/2 Low level High level Variable level	Programming options Output signal level Zero point Center point Multipoint	Special shaft length (default 20 mm FMS)	Special cable length - only for OCG, OCR (default 1 mtr long)	Output connections 3 Pins (default) 3 Core round cable 1 mtr long Miniature connector Cable gland with 1 m cable Terminal block Axial Terminal block Radial
50	A	MSL	RC	S	Sxxxx	xxx	CW / CCW	PEx	POx	Axx	CVxx	OCxx	

Example with description - **50A MSL RCS S2410 300 CCW PE1 OCR** - 50mm diameter, analog output, Metric Silverline (Shaft 6 Ø mm), RotaCol sensor, Servomount, Signal - 0 - 10V, 300° angle and counter clockwise, delta 1/2, 3 core round cable 1 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 Effective electrical angle :**

**Electrical angle (xxx) :** Standard configuration is 360°. As an option, any angle from 0-20° to 0-359° in steps of 1° can be programmed.(Price adder)

**Output Signal level Programming (POL) :** Standard configuration is 0-100%. Output signal can be programmed at any defined lower limit or upper limit in terms of percentage of output. Example : 10% to 90% for S0505 will give output from 0.5V to 4.5V (Price Adder).

**Direction of Rotation (CW/CCW) :**

CW(Clockwise) When shaft is viewed from top, and rotated in clockwise direction, output increases from minimum to maximum value(standard configuration).

CCW(Counter clockwise) when shaft is viewed from top,and rotated in counter clockwise direction,output increases from minimum to maximum value(Price adder).

**Zero point Programming (POZ) :**

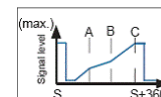
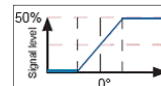
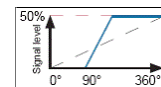
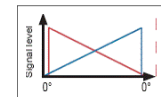
Standard configuration is zero point without orientation. At POZ, when we do zero point programming rising ramp will start from marking on encoder housing or from the endstop CCW. Zero point can also be programmed at any defined offset from marking on the housing (Price Adder).

**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 also be programmed at any offset (Price Adder).

**Multi Point Programming (POM) :**

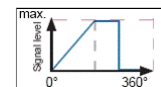
Output characteristics : 3 to 6 rising or falling linear segments. Minimum and maximum signal level can be defined within the total electrical angle. First and last linear segment (min./max.) is always horizontal 1 to 3 setable calibration points. (Price Adder)



**Electrical options for Non - Effective electrical angle (Price Adder) : ( If electrical angle is < 360°)**

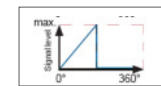
**Delta 1/2 (PE1) :**

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.



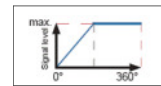
**Low level (PE2) :**

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



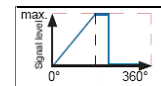
**High level (PE3) :**

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



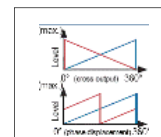
**Variable level (PE4) :**

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.



**2 Channel Redundant Output (2C) - Special type**

**2 Channel Output (2C) :** The sensor provides 2 operating modes: A) Redundancy i.e. channel one and channel two are identical. If one channel fails the other channel remains active.B) It is also possible to have 2 different programs in the 2 channels. For this, additional functions can be obtained.



MECHANICAL OPTIONS FOR ANALOG VERSION 50A MSL RCS

Type / Series	Standard mechanical options	Customized mechanical options
50A MSL RCS	Cable gland (OCG), Round cable(OCR), Miniature connector (OCM), Terminal block (OCTA / OCTR)	Special shaft length ; Special cable length

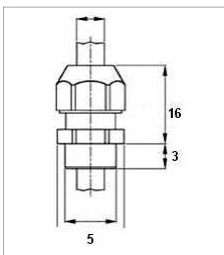
INTERCONNECTIONS

Standard Interconnections - 3 Pins

Other Interconnection options

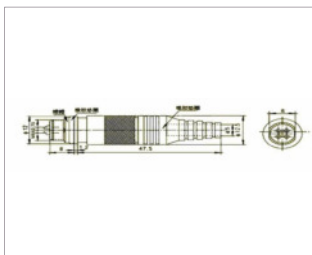
**Cable gland (OCG)**

3 core cable of 1 m length



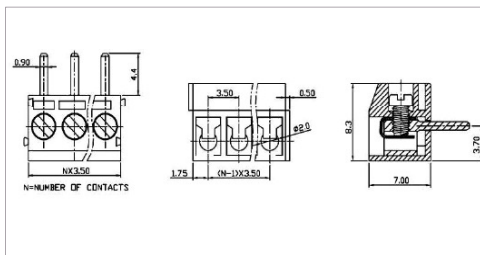
**Miniature connector (OCM)**

3 pin in integrated socket with plug



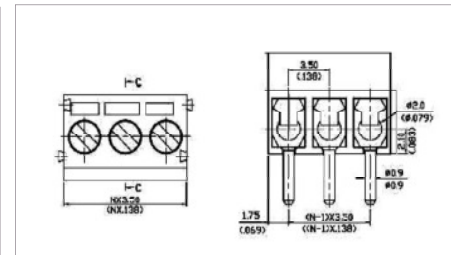
**Terminal block - Axial (OCTA)  
Wires leaving axial to shaft axis**

3 sockets



**Terminal block - Radial (OCTR)  
Wires leaving radial to shaft axis**

3 sockets



**MegAuto KG**

Am Tummelsgrund 48  
D 01156 Dresden, Germany  
Tel : +49 351 6587894 0 Fax : +49 351 65878949  
Email : info@megauto.de / www.megauto.de  
Skype : megautodd / whats app: +491781244294

**Sensall - MegAuto International**

Div of Sendap Precision Electronics Pvt Ltd.  
3, Electronic Sadan - I, MIDC, Bhosari, Pune - 411026, INDIA  
Tel : +91 8669617194, +91 8669617195  
Email : mail@megacraft.net / www.sensall.info  
Skype: sendapimc / whats app: +91 8669617198

