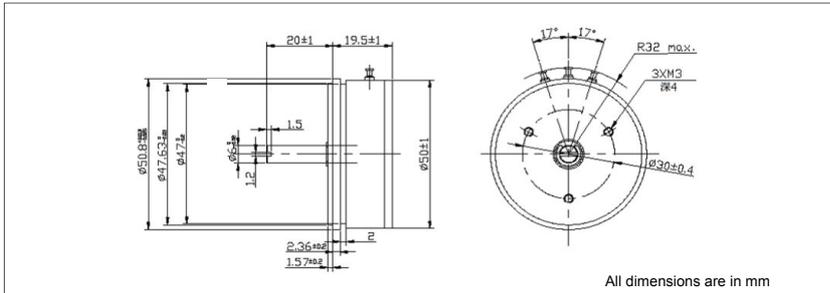


Servo Mount - 2 Precision Ball Bearing



- Hall effect magnetic sensor
- Direct SPI interface to microcontroller
- SPI - 3 wire - half duplex or 4 wire - full duplex
- 50 mm Ø metal aluminium housing with 2 precision ball bearings
- Synchro size 20, Shock & Vibration proof
- Servo mount / Screw fitting, Measurement range 0° - 360°

1-Supply (Red) 2-Ground (Black) 3-MOSI / MISO (Brown) 4-Clock (Orange) 5-Chip select (Yellow) : For 3 wire SPI - for OCG/OCR
 1-Supply 2-Ground 3-MOSI MISO 4-Clock 5-Chip select : For 3 wire SPI - for OCM/OCTA/OCTR
 1-Supply (Red) 2-Ground (Black) 3- Clock(Orange) 4 - MOSI (Blue) 5 - MOSI (Brown) 6-Chip select(Yellow) : For 4 wire SPI - for OCG/OCR
 1-Supply 2 -Ground 3- Clock 4 -MOSI 5 -MISO 6 -Chip select : For 4 wire SPI - For OCM/OCTA/OCTR

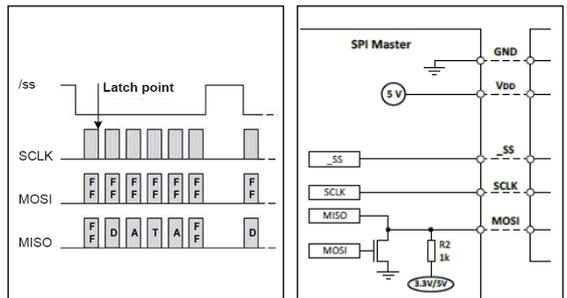


For full range of Rotary Sensor refer - www.rotacol.info/rotamec.pdf

FUNCTION PRINCIPLE

The angular position and the signal generation is detected by a CMOS Hall sensor over which a parallel diametrically polarized magnet induces a magnetic field. An integrated electronic provides the output of a 2 byte WORD with an SPI interface.

SERIAL PERIPHERAL INTERFACE



The serial peripheral interface (SPI) is a bus system for a serial synchronous data transmission between different integrated circuits.

A) For 3 wire SPI - The bus consists of 3 lines MOSI / MISO (one common line), SCLK - (Serial Clock, output from master) and SS Slave Select (active low; output from master).

B) For 4 wire SPI - The bus consists of 4 lines MOSI (Master Out Slave In), MISO (Master In Slave Out), SCLK - (Serial Clock, output from master) and SS Slave Select (active low; output from master).

By these signal lines the master selects the slave for communication. This is done because the master sets the SS line from high to low. The angular informations are calculated all 350 µs and are available for the master on demand. There is no fixed protocol for the SPI bus. Nevertheless many microcontroller IC's have a SPI input. By programming this microcontroller IC many SPI suitable sensors can be managed by one microcontroller. Two channel redundant outputs can be provided.

Default Version : 50mm housing, Servo mount, SPI interface, 360° Electrical & Mechanical angle, 5 core round cable 1 mtr long - 3 wire SPI / 6 core round cable 1 mtr long - 4 wire SPI

Refer to electrical and mechanical options on page 2

ELECTRICAL CHARACTERISTICS

Electrical angle	0 - 360°	
Electrical speed (Max.)	800 rpm	
Resolution	14 bit (16383 steps)	
Signal type	Supply voltage	Output signal
S05SPI	5V±10%	5V SPI - 3 wire
SE05SPI	5V±10%	5V SPI - 4 wire
SE33SPI	3.3V±10%	3.3V SPI - 4 wire
S05SPI2C	5V±10%	2 channel 5V SPI - 3 wire
Frequency response	5 KHz	
Supply current	< 30 mA	
Update rate	0.6 ms	

MECHANICAL CHARACTERISTICS

Mechanical angle	360° (continuous)
Shaft diameter and length (FMS)	Metric 6 mm Ø X 20 mm
Operating torque (approx.)	0.05 Ncm
Protection	IP 40
Operating temperature	- 40 to +85° C
Operating life	~ 45 million rotations
Mechanical speed (max.)	9000 rpm
Weight	115 gm
Interconnection	5 core round cable 1 mtr long - 3 wire SPI 6 core round cable 1 mtr long - 4 wire SPI

MATERIAL

Housing	Anodized aluminium
Shaft	Stainless steel
Bearings	2 precision ball bearing

ORDERING INFORMATION

Housing diameter	Serial peripheral interface (SPI)	Metric Silverline (Shaft 6 mm Ø)	RotaCol	Servo mount with 2 ball bearings	Signal	Output	Without stop (default 360°)	Direction of Rotation	Programming options	Zero point	Special shaft length (default length - 20 mm FMS)	Special cable length - only for OCR, OCG (default 1 mtr long)	Output connections
50	P	MSL	RC	S	S05SPI SE05SPI SE33SPI S05PI2C	14 bit output	O360	CW CCW	POZ	Axx	CVxx	OCxx	5 Pins OCR OCR OCM OCG OCTA OCTR
50	P	MSL	RC	S	SxxSPI	S14	O360	CW/CCW	POZ	Axx	CVxx	OCxx	

Example with description - **50P MSL RCS 05SPI S14 O360 CW POZ OCG** - 50 mm diameter, SPI Interface , Metric Silverline (Shaft 6 mm Ø), RotaCol, Servo mount with 2 ball bearings, 5V SPI - 3 wire, 14 bit output, 360° clockwise, Zero point, cable gland with 1 mtr round cable

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.

