

RotaCol® - Ecoline Speedconnect

'SSI' Interface Precision Contactless Rotary Position Sensors

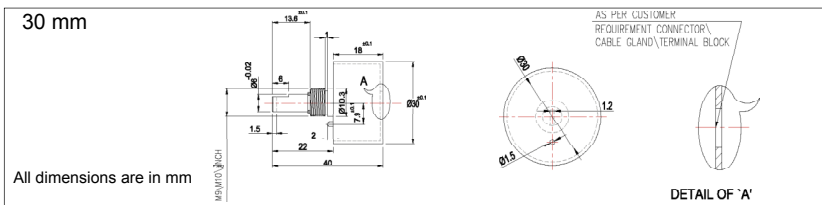
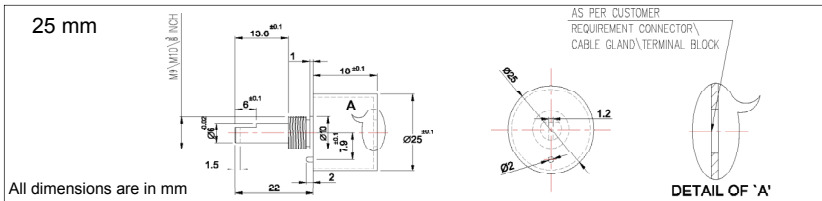
Bush Mounting - Sleeve bearing

Series 25Y RSB
Series 30Y RSB

25 mm & 30 mm Ø plastic robust housing - Bush mounting
Direct Serial Synchronous Interface for direct input to PLC etc.
Following interconnections are available :

Round cable, Cable gland, miniature connector and terminal block

1-Supply (Red); 2-Ground (Black); 3-Clock +ve (Orange); 4-Clock -ve (Brown); 5.Data +ve (Green); 6.Data -ve (Yellow) : **For OCR, OCG**
 1-Supply; 2-Ground; 3-Clock +ve; 4-Clock -ve; 5-Data +ve; 6-Data -ve : **For OCM, OCTA, OCTR**



with terminal block

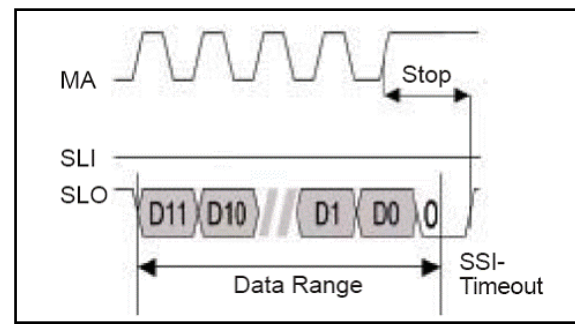
with connector

For full range of Rotary Sensors 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 in Grey-code for SSI interface.

SERIAL SYNCHRONOUS INTERFACE



With the SSI interface the absolute angular position is provided serially and synchronous to a receiving electronic which has an SSI input (PLC indicator etc). The main advantage of the SSI interface is that long cable distances can be overcome by very few data lines. The actual angle of position is provided in 2 byte WORD Grey code with 12 bit over 360°. The receiving electronic provides pulse sequences and thus determines the transmission rate. With the first following signal of the pulse sequence, the angular position is detected and kept. The following rising ramps control the bit-wise transmission of the data word. After a small pause a new angular value can be transmitted.

Default Version :

Bush mount, SSI Interface, 360° Electrical & Mechanical angle CW

ELECTRICAL CHARACTERISTICS

Electrical angle	0 - 360°	
Electrical speed (Max.)	1600 rpm	
Resolution	12 bit (4096 steps)	
Signal	Supply voltage	Output signal
S05SSI	5V±10%	5V SSI
S24SSI	9-30V DC	24V SSI
Frequency response	10 KHz	
Supply current	< 30 mA	
Update rate	0.1 ms	

MECHANICAL CHARACTERISTICS

Mechanical angle	(O) 360° without stop (S) 320° +5° / - 0° with stop
Mechanical speed (max.)	800 rpm (brass) ; 3000 rpm (polymer bearing)
Shaft diameter x length (FMS)	6 mm or 1/4 inch Ø X 22 mm
Life: with brass sleeve bearings	~ 15 million rotations
Life: with polymer sleeve bearings	~ 20 million rotations
End stopper strength	Max 80 Ncm
Operating temperature	- 40 ... +85 °C
Operating torque	0.3 to 0.5 Ncm (low) 0.5 to 1 Ncm (medium)
Vibration (IEC 68-2-6, Test Fc)	±1.5 mm/20g /2000Hz/16cycles
Mechanical shock (IEC 68-2-7, Test Ea)	50g /11ms /half sine (3X6 shocks)
Weight (25YRSB) - (gm)	60 (OCR), 70 (OCG), 30 (OCTA/R), 36 (OCM)
Weight (30YRSB) - (gm)	65 (OCR), 76 (OCG), 35 (OCTA/R), 45 (OCM)

MATERIAL

Bushing	Brass
Bearing type: Standard	Brass bearing
Bearing type: option P	Polymer sleeve bearing
Housing	Nylon 66 Glass Fibre reinforced
Shaft	Stainless steel

ORDERING INFORMATION

Refer to electrical and mechanical options on page 2

xx	Y	RS	Bx	SxxSSI	S12	O360 / Sxxx	CW / CCW	POZ	xT	P	D	Axx	CVxx	OCxx			
25 / 30	Y	RS	B1 B2 B3	S05SSI S24SSI	S12	O360	CW CCW	POZ	LT MT HT	P	D	Axx	CVxx	OCxx			
Housing diameter		Serial Synchronous Interface (SSI)		Ecoline RotaCol Speedconnect		Bush mounting		Thread M10x 0.75 / Shaft 6 mm Ø Thread M9 x 0.75 / Shaft 6 mm Ø Thread 3/8"X32 UNEF / Shaft 1/4" Ø		Signal		5 V SSI 24 V SSI		12 bit output			
Without stop (default 360°)		With stop (default 320°) options 90°, 180°, 270°		Direction of Rotation		Clockwise (CW) - default Counter clockwise (CCW)		Programming options		Zero point		Low torque (0.3 to 0.5 Ncm) Medium torque (0.5 to 1 Ncm) High torque (1.5 to 3 Ncm) - price adder		Polymer sleeve bearing (only for B1)		Shaft seal IP65 (not for "P" option)	
Special shaft length (default 22 mm)		Special cable length (default 1m long)		only for OCG & OCR (default 1m long)		Output connections		Cable gland with round cable 1m long Miniature connector 6 core round cable 1 mtr long Terminal block Axial Terminal block Radial									

Example with description - **30Y RSB2 S24SSI S12 O360 CW POZ LT OCM**- 30mm housing, SSI interface, Ecoline RotaCol speedconnect, Bush mounting - Thread M9 X 0.75 / 6 mm shaft, 24V SSI, 12 bit, without stop 360° clockwise, zero point, low torque, 6 pin miniature connector

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.

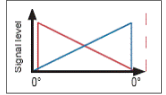
ELECTRICAL OPTIONS FOR SSI VERSION 25/30Y RSB

RotaCol® are the latest development in rotational position sensors and contactless devices. Modern Hall IC's in combination with special magnets and RISC processors provide intelligent customizing of output signals and interfacing. Not only precision potentiometer but also optoelectronic incremental and absolute encoders are replaced. The RotaCol® series is divided into 3 groups : analog types with analog output (replacement for precision potentiometer), incremental output (replacement of optoelectronic encoders), absolute digital SPI and SSI output. Because of wide variety of mechanical and electrical options it is possible to use them in almost any automation and control application where rotary angular sensing is required. Regardless of the wide variety of existing technical features, the price is relative low.

SSI - Serial Synchronous Interface is wide spread in industrial applications with absolute angle sensors. There are a lot of programmable logic controls (PLC) or other peripheral appliances like counters available that can be easily configured for this communication. Furthermore this interface is very insensitive against electromagnetic interferences because of the differential signals that should be transmitted via twisted pair leads.

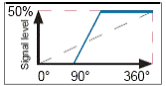
Direction of Rotation (CW / CCW)

The standard configuration of rotation is clockwise (CW). It is also possible to change the direction of turning to counter clockwise mode (CCW) (Price Adder).



Zero Point Programming (POZ)

Standard configuration is zero point without orientation. The electrical zero point is at the beginning of the signal rise. If a shaft marking is brought in line with the housing marking, the electrical zero point can be set to that position (Price Adder).



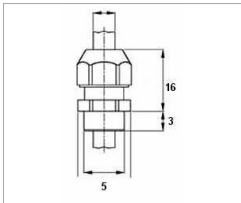
MECHANICAL OPTIONS FOR SSI VERSION 25/30Y RSB

Type / Series	Standard mechanical options	Customized mechanical options
25/30Y RSB	High torque (HT); Endstop at 90°, 180°, 270°, Mu metal cap, Special cable length	Special shaft length; Special endstop angle

SPEEDCONNECT OUTPUT CONNECTIONS FOR SSI VERSION 25/30Y RSB

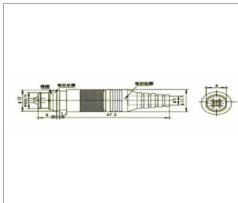
Cable gland (OCG)

6 core round cable 1m long



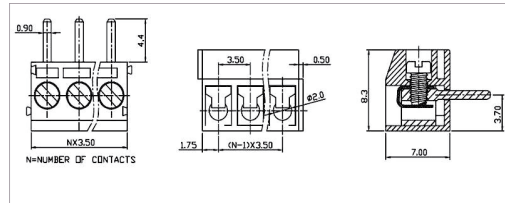
Miniature connector (OCM)

6 pin in integrated socket with plug



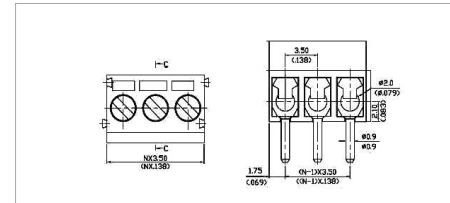
Terminal block - Axial (OCTA) Wires leaving axial to shaft axis

6 sockets



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

6 sockets



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