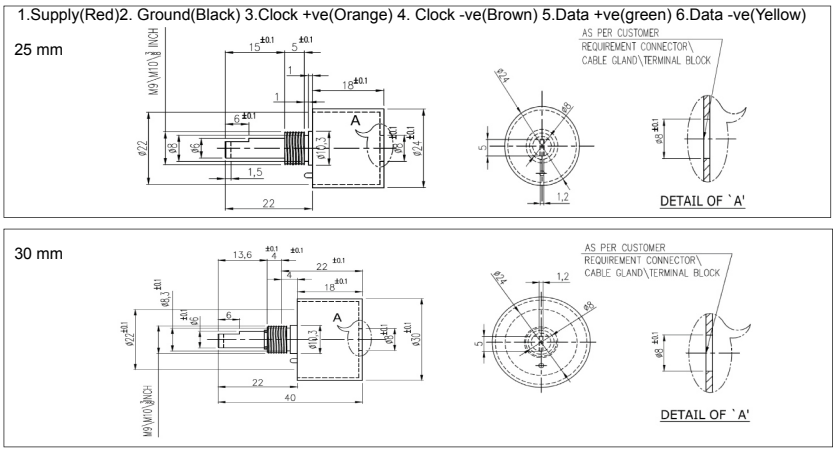
RotaCol® - *Ecoline Speedconnect*
PRECISION DIGITAL SERIAL SYNCHRONOUS ABSOLUTE CONTACTLESS ROTARY POSITION SENSORS - BUSH MOUNTING

Series 25Y RSB
Series 30Y RSB

Ø25 mm & 30 mm plastic robust housing
Direct Serial Synchronous Interface for direct input to PLC etc.
Bush mounting
Shock and vibration proof
Alternative to optical encoder
Output connections - OCG, OCM, OCTA, OCTR



with terminal block

with connector

www.rotacol.info/25yrsb.pdf

www.rotacol.info/30yrsb.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.

ELECTRICAL CHARACTERISTICS

Electrical angle	0 - 360°
Resolution	12 bit (4096 steps)
Output signal	SSI 5V / 24V
Frequency response	10 KHz
Supply voltage	5V ± 10% / 9 - 30 VDC
Supply current	< 30 mA
Update rate	0.1 ms

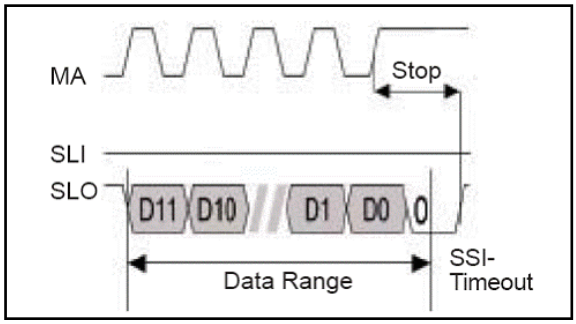
MECHANICAL CHARACTERISTICS

Mechanical angle	360° (S) 320° +5° / - 0° with stop
Mechanical speed (max.)	800 rpm (brass) ; 3000 rpm (polymer)
Electrical speed (max.)	1600 rpm
Life: with brass sleeve bearings	~ 10 million rotations
Life: with polymer sleeve bearings	~ 15 million rotations
Operating temperature	- 40 ... +85 °C
Operating torque (For medium)	0.5 - 1 Ncm (std)
Vibration (IEC 68-2-6, Test Fc)	±1.5 mm/20g /2000Hz/16cycles
Mechanical shock (IEC 68-2-7, Test Ea)	50g /11ms /halfsine (3X6 shocks)
Output connection	OCG, OCM, OCTA, OCTR
Weight	31 gm (25Y RSB) / 47 gm (30Y RSB)

MATERIAL

Bearing type: Standard	brass bearing
Bearing type: option P	polymer sleeve bearing
Housing	Nylon 66 Glass Fibre reinforced
Shaft	stainless steel

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.

OPTIONS AND ORDERING REFERENCES

Refer to electrical and mechanical options on page 2

Housing diameter	Serial Synchronous Interface output	Ecoline RotaCol Speedconnect	Bush mounting: Thread M10 / Shaft Ø 6mm; Thread M9 / Shaft Ø 6mm; Thread 3/8" / Shaft Ø 6.35mm	Signal: 5 V; 24 V	12 bit output	Clockwise (CW); Counter clockwise (CCW)	Programming options: Zero point	Low torque (< 0.5 Ncm); Medium torque (0.5 - 1Ncm) -std; High torque (1-1.5 Ncm)	Polymer sleeve bearing (only for B1)	Special shaft length (std 22 mm)	Special cable length (std 1m cable)	Output connections: Cable gland (with 1m cable); Miniature connector; Terminal block Axial; Terminal block Radial
25/30	Y	RS	B1 B2 B3	05SSI 24SSI	S12	CW CCW	POx POZ	LT MT HT	P	Axx	CVxx	OCxx OCG OCM OCTA OCTR
25/30	**Y**	**RS**	**Bx**	**xx SSI**	**S12**	**CW / CCW**	**POx**	**xT**	**P**	**Axx**	**CVxx**	**OCxx**

Example with description - **25 Y RS B2 05SSI S12 CW POZ** - 25mm housing,SSI output, Ecoline RotaCol speedconnect, Bush mounting - Thread M9 / 6 mm shaft, 5V, 12 bit, clockwise, zero point

Standard Version : 360° CW Electrical & Mechanical angle, MT - Medium torque

For complete RotaCol Contactless Rotary Sensor product range refer - www.rotacol.info/rotamec.pdf

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 optoelectronical 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 direction of rotation is clockwise (CW). It is also possible to change the direction of turning to counter clockwise mode (CCW).

Zero Point Programming (POZ)

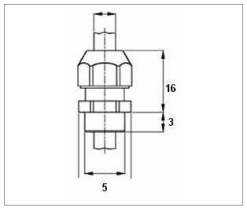
The electrical zero point is at the beginning of the signal rise. If a shaft marking is brought in line with the housing marking, the electrical zero point can be set to that position. Beside that is it also possible to position the zero point at any position within the mechanical angle. In any case it is necessary to have a reference to the shaft marking.

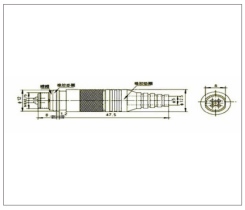
MECHANICAL OPTIONS FOR SSI VERSION 25/30Y RSB

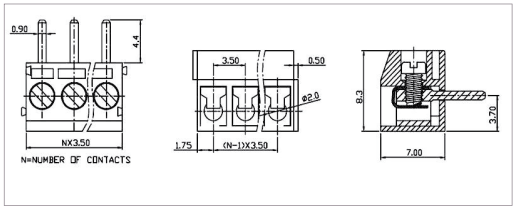
Type / Series	Standard mechanical options	Customized mechanical options
25/30Y RSB	Low torque (LT), High torque (HT)	Special shaft length

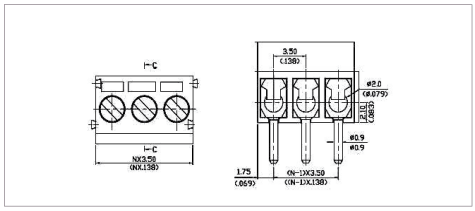
SPEEDCONNECT OUTPUT CONNECTIONS FOR SSI VERSION 25/30Y RSB

Cable gland (OCG)	Miniature connector (OCM)	Terminal block - Axial (OCTA) Wires leaving axial to shaft axis	Terminal block - Radial (OCTR) Wires leaving radial to shaft axis
6 core cable of 1 m length	6 pin in integrated socket with plug	6 sockets	6 sockets









European Sales & Technical Support

MegAuto KG
Am Tummelsgrund 48
D 01156 Dresden, Germany
Tel : +49 351 6587894 0 Fax : +49 351 6587894 9
Email : info@megauto.de / www.megauto.de
a MegAuto Group Company

Worldwide Technical & Marketing Center

MegAuto International, Sensall Division
Div. of . Sendap Precision Electronics PVT. LTD
3, Electronic Sadan - I, MIDC, Bhosari, Pune - 411026, INDIA
Tel : +91 20 30681190 , +91 20 30626126
Email : mail@megacraft.net / www.sensall.info
a MegAuto Group Company