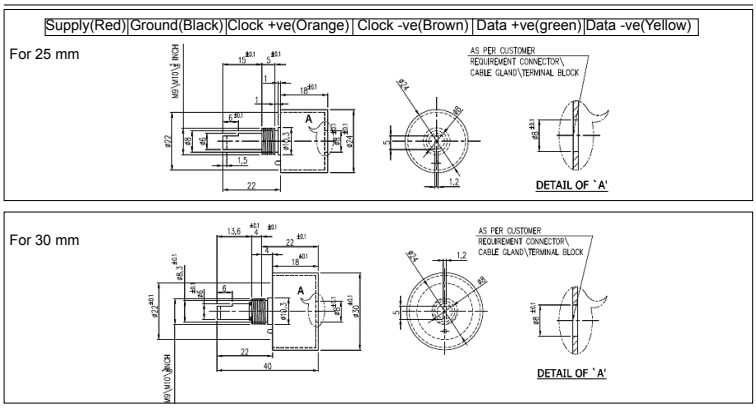
PRECISION DIGITAL SERIAL SYNCHRONOUS ABSOLUTE CONTACTLESS ROTARY POSITION SENSORS - BUSH MOUNTING

Series 25Y PP B
Series 30Y PP B

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

with terminal block

with cable gland



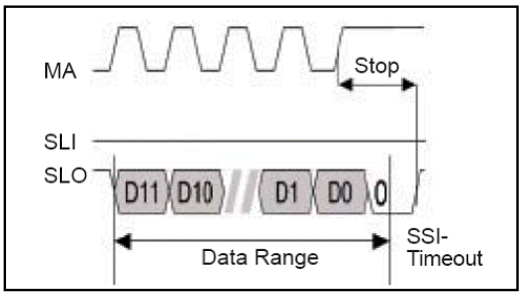
FUNCTION PRINCIPLE

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

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.

MECHANICAL CHARACTERISTICS

Mechanical angle	360°
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 (approx.)	1.2 Ncm ± 50%
Output connection	Cable gland (with 1 meter cable)
Weight	31 gm (25Y RS B) / 47 gm (30Y RS B)

MATERIAL

Bearing type: basic type	brass bearing with stainless steel shaft
Bearing type: option P	polymer sleeve bearing with SS shaft
Housing	Nylon 66 Glass Fibre reinforced
Shaft	stainless steel
Cable	6 core round cable

OPTIONS AND ORDERING REFERENCES

Refer to electrical and mechanical options on page 2

Housing diameter	Serial Synchronous Interface output	Pewatron Angular Sensor	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 Medium torque High torque	Polymer sleeve bearing (only for B1)	Special shaft length (std 22 mm)	Special cable length (std 1m cable)	Output connections	Cable gland (std) Miniature connector Terminal block (A- Axial & R - Radial)
25/30	Y	PP	B1 B2 B3		05SSI 24SSI		S12	CW CCW	POx	POZ	LT MT HT	P	Axx	CVxx	OCx	OCG OCM OCT
25/30	**Y**	**PP**	**Bx**		**xx SSI**		**S12**	**CW / CCW**	**POx**		**xT**	**P**	**Axx**	**CVxx**	**OCx**	

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

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

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ELECTRICAL OPTIONS FOR SSI VERSION 25/30Y PP B

PP Series 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 PP 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.

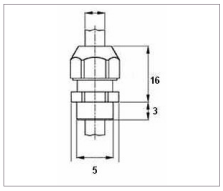
MECHANICAL OPTIONS FOR SSI VERSION 25/30Y PP B

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

SPEEDCONNECT OUTPUT CONNECTIONS FOR SSI VERSION 25/30Y PP B

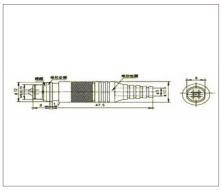
Cable gland (OCG)

3,5,6 core cable of 1 m length according to interface



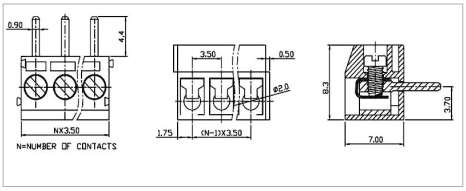
Miniature connector (OCM)

3,5,6 pin in integrated socket with plug according to interface



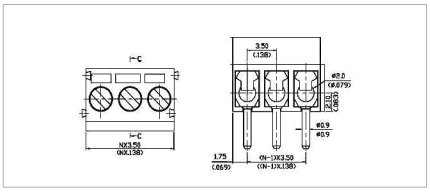
Terminal block - Axial (OCTA) Wires leaving axial to shaft axis

3,5,6 sockets according to interface



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

3,5,6 sockets according to interface



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