

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

Ø25 mm & 30 mm plastic robust housing

Direct Serial Synchronous Interface for direct input to PLC etc.

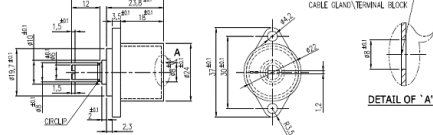
Flange mounting

Shock and vibration proof

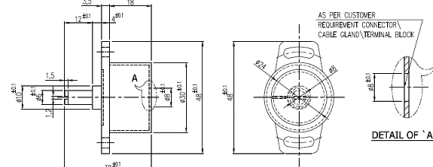
Alternative to optical encoder

[Supply(Red)] [Ground(Black)] [Clock+ve(Orange)] [Clock-ve(Brown)] [Data +ve(Green)] [Data -ve(Yellow)]

For 25 mm



For 30 mm



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

MECHANICAL CHARACTERISTICS

Mechanical angle	360°
Mechanical speed (max.)	3000 rpm
Electrical speed (max.)	1600 rpm
Operating life (approx.)	15 million rotations
Operating temperature	- 40 ... +85 °C
Operating torque (approx.)	0.5 Ncm
Output connection	Cable gland (with 1 meter cable)
Weight	12 gm (25Y RS F) / 30 gm (30Y RS F)

MATERIAL

Bearing	Polymer bearing
Housing	Nylon 66 Glass Fibre reinforced
Shaft	stainless steel
Cable	6 core round cable

Series 25Y PP F Series 30Y PP F



with connector

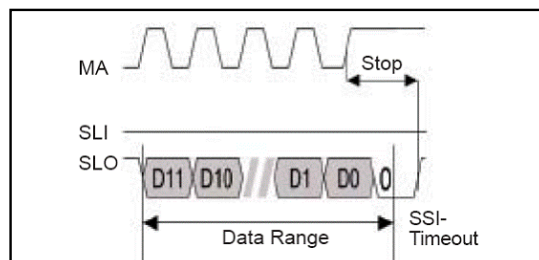


with cable gland

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.

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 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 & mechanical options on page 2

25 & 30 mm Housing diameter	Serial synchronous interface output	Pewatron Angular Sensor	Flange (shaft Ø 6mm) Flange (shaft Ø 6.35mm)	Signal 5 V 24 V	12 bit output	Clockwise (CW) Counter clockwise (CCW)	Programming options Zero point	Special shaft length (std 16 mm FMS)	Special cable length (std 1m cable)	Output connections Cable gland (std) Miniature connector Terminal block (A- Axial & R - Radial)
25/30	Y	PP	F1 F2	05 SSI 24 SSI	S 12	CW CCW	POx POZ	Axx	CVxx	OCx OCG OCM OCT
25/30	Y	PP	Fx	xx SSI	S12	CW / CCW	POx	Axx	CVxx	OCx
Example with description - 25 Y PP F2 24SSI S12 CW POZ - 25 mm housing, SSI output, Ecoline rota speedconnect, Flange - 6.35 mm shaft, 24V, 12 bit , clockwise , zero point										
Standard Version : 360° CW Electrical & Mechanical angle, OCG - Cable gland, LT - Low torque										

ELECTRICAL OPTIONS FOR SSI VERSION 25/30Y PP F

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 optoelectronic 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 it is 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.

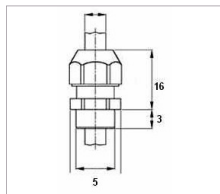
MECHANICAL OPTIONS FOR SSI VERSION 25/30Y PP F

Type / Series	Standard mechanical options	Customized mechanical options
25Y PP F	Sinter bronze bearing in steel, Mu metal cap	Special shaft length

SPEEDCONNECT OUTPUT CONNECTIONS FOR SSI VERSIONS 25/30Y PP F

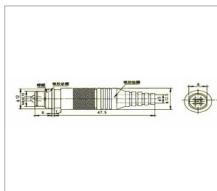
Cable gland (OCG)

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



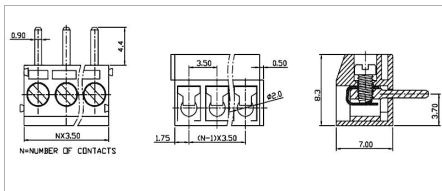
**Miniature connector
(OCM)**

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



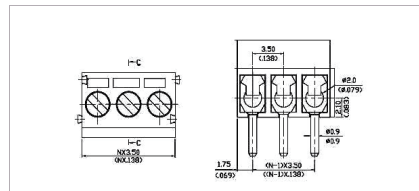
Terminal block - Axial (OCTA)
Wires leaving axial to shaft axis

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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