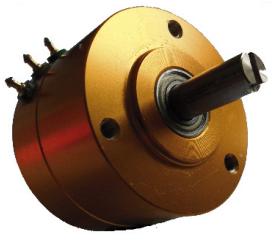
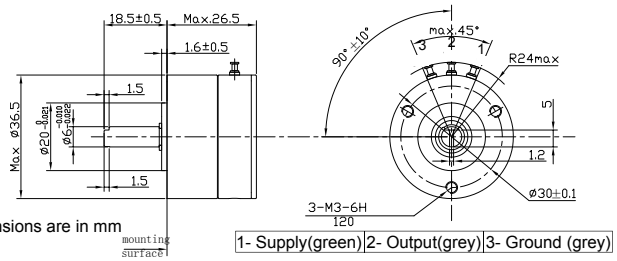
PRECISION ANALOG SERVOMOUNT CONTACTLESS LONG LIFE ROTARY POSITION SENSOR

Series 36A PBSL



Servomount case - 2 Ball bearings
Hall effect magnetic
Output : 0 - 5V(ratiometric), 0 - 5V, 0 -10V, 4 - 20mA, 0 - 20mA, PWM
Size 15, Precision robust aluminium housing
Shock & vibration proof
Measurement range 0° - 360°



All dimensions are in mm

1- Supply(green) 2- Output(grey) 3- Ground (grey)

ELECTRICAL CHARACTERISTICS

Electrical angle	0 - 360° , any angle from 0 - 20..0 - 360 programmable in steps of 1°	
Resolution	4096 step (12 bit)	
Signal type	Supply voltage	Output signal
0505	5V ± 10%	0 - 5V(ratiometric)
DC05	9 - 30V	0 - 5V
2410	15 - 30V	0 -10V
2442	15 - 30V	4 - 20 mA
2420	15 - 30V	0 - 20 mA
PWM	5V ± 10%	PWM
Supply current	< 25 mA	
Independent linearity tolerance	0.3%	

MECHANICAL CHARACTERISTICS

Mechanical angle	360° (continuous)
Starting torque (approx.)	0.4 Ncm
Protection	IP 40
Operating temperature	- 40 to +85° C
Operating life (approx.)	40 million rotations
Mechanical speed (max.)	9000 rpm
Electrical speed (max.)	160 rpm
Weight	60 gm

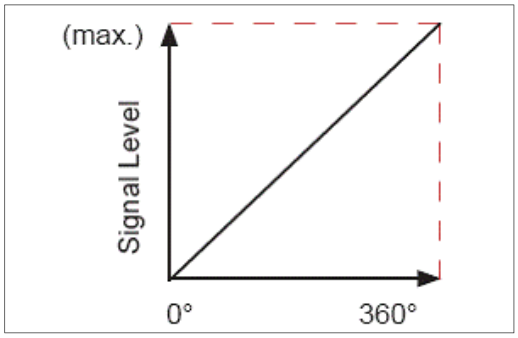
MATERIAL

Housing	anodized aluminium
Shaft	stainless steel
Terminals	3 pins brass gold plated
Bearings	2 precision ball bearing

FUNCTION PRINCIPLE

The determination of angular position and signal generation is realised by an intelligent CMOS Hall sensor. A diametrical polarised magnet induces its magnetic field into the sensor. It rotates and provides a conditioned signal to the integrated electronic.

ANALOG INTERFACE



At the output of the sensor a variable voltage or variable current is provided proportional to the position of the shaft / axis over a complete angle range of 360 ° or a subrange. The contactless sensor electronic guarantees a steady signal level and a very low linearity error of 0.3%. With supply voltages of 5VDC ± 10% ; 9 - 30VDC ; 15 - 30V (24VDC) output signals of 0 - 5VDC; 0 -10VDC; 0 -20mA; 4 -20mA at the sensor output are provided. Besides this a large variety of electrical options such as Zero point programming, Centre point programming, Multipoint programming, PWM, 2 Channel redundant are provided.

OPTIONS AND ORDERING REFERENCES

Refer to electrical and mechanical options on page 2

Housing diameter	Analog output	Pewatron Angular Sensor	Servomount Goldline	Signal	0 - 5V (ratiometric) 0 - 5V 0 - 10V 4 - 20mA 0 - 20mA	Angle and electrical rotational direction	Angle and Clockwise (CW) Angle and Counter clockwise (CCW)	Programming options for non - effective electrical angle	Delta 1/2 Low level High level Variable level	Programming options	Zero point Center point Multipoint	Pulse widthth modulation	2 Channel redundant output (only for voltage output)	Output connections	3 Pins (standard) 3 Core Flat cable Miniature connector Cable gland with 1m round cable Terminal block (A- Axial & R - Radial)
36	A	PB	SL	S 0505 S DC05 S 2410 S 2442 S 2420		xxx CW xxx CCW		PEx	PE1 PE2 PE3 PE4	POx	POZ POC POM	PWM	2C	OCx	OCP OCF OCM OCG OCT
36	**A**	**PB**	**SL**	**Sxxxx**		**xxx CW / CCW**		**PEx**		**POx**		**PWM**	**2C**	**OCx**	

example with description - **36A PBSL S2410 300 CCW PE3 2C OCP -** 36mm diameter, analog output, Servomount Goldline Signal - 0 -10V, 300 angle and counter clockwise, High level, 2 channel redundant output, 3 pins

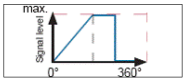
Standard Version : 360° CW Electrical and Mechanical angle, OCP - 3 pins

ELECTRICAL OPTIONS FOR ANALOG VERSION 36A PBSL

The following options are electrically programmable & are available very cost effective, with short delivery time

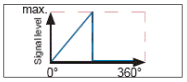
Non-effective Electrical Angle (PE1) - Delta 1/2

If the electrical effective angle is programmed smaller than 360°, the remaining electrical non-effective angle is divided in two equal parts : high level & low level (Delta 1/2)



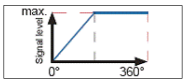
Low level (PE2)

If the electrical effective angle is programmed smaller than 360°, after reaching the maximum, the signal level falls to low level.



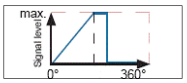
High level (PE3)

If the elecrical angle is programmed smaller than 360°, the signal level remains high after reaching the full level.



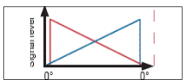
Variable level (PE4)

If the electrical angle is programmed smaller than 360°,remaining electrical non effective angle can be divided into high and low level in any ratio according to customer request.



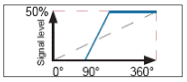
Direction of Rotation (CW/CCW)

By default the direction of rotation is clockwise (CW). With this option it is also possible to change the direction from clockwise(CW) to counterclockwise (CCW).



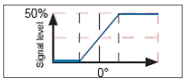
Zero point Programming (POZ)

Mechanical zero point is aligned with marking on the sensor housing. Electrical zero point can be aligned to mechanical zero point. Zero point can be programmed at any offset.



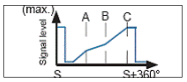
Center Point Programming (POC)

Effective electrical angle is aligned with the mechanical zero point in such a way that equal effective angles in both rotating directions are achieved. Center point can be programmed at any offset.



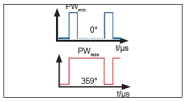
Multi Point Programming (POM)

Output characteristics : 3 to 6 rising or falling linear segments. Min and max signal level can be defined within the total electrical angle. First and last linear segment (min/max) is always horizontal.1 to 3 setable calibration points.



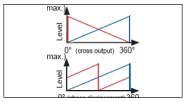
Pulse Width Modulation (PWM)

PWM provides a constant carrier frequency which defines high to low ratio. The ratio between high & low corresponds to the signal characteristics. It is in a fixed relation to the angle. Generally, for further signal processing, no A/D converter is required because many microcontrollers already have PWM input (valid only for 0505 output).



2 Channel Redundant Output (2C)

This is realized by a Hall sensor chip consisting of 2 galvanically seperated sensing elements. One magnet provides a magnetic field simultaneously for both elements. Both elements can be programmed identically, or channel 2 can also be programmed independently from channel1. (Valid only for 0505, DC05, and 2410 outputs).



MECHANICAL OPTIONS FOR ANALOG VERSION 36A PBSL

Type / Series	Standard mechanical options	Customized mechanical options
36A PBSL	Cable gland (OCG) ; Terminal Block (OCTA / OCTR) ; Miniature connector (OCM)	Special shaft length ; Special cable

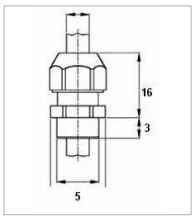
INTERCONNECTIONS

Standard Interconnections - 3 Pins

Other Interconnection options

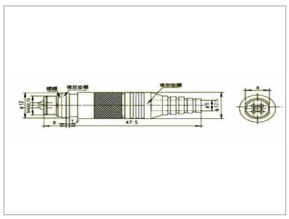
Cable gland (OCG)

3,core cable of 1 m length



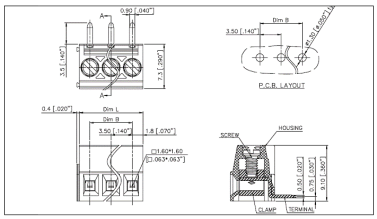
Miniature connector (OCM)

3 pin in integrated socket with plug



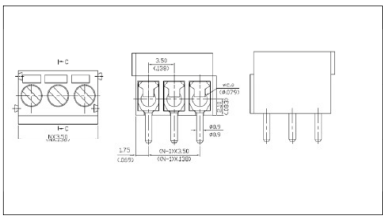
Terminal block - Axial (OCTA)
Wires leaving axial to shaft axis

3 sockets



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

3 sockets



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