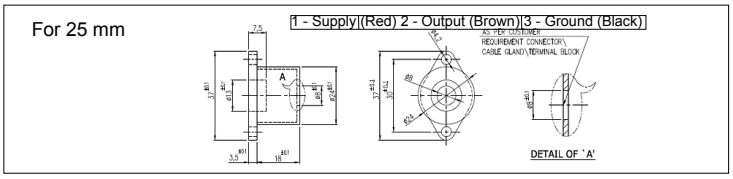
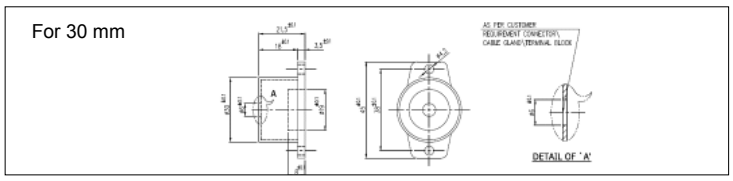
PRECISION ANALOG CONTACTLESS ROTARY POSITION SENSORS - KIT MOUNTING

Series 25A PP K
Series 30A PP K

Ø25 mm & 30 mm plastic robust housing
Hall CMOS technology
Analog output - Current / voltage and PWM output
Shock and vibration proof
No shaft , no bearing, no wear
Cable gland output connection





with connector

with cable gland

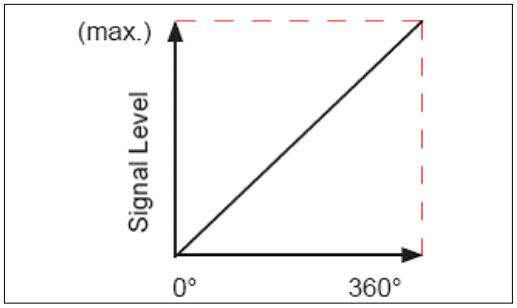
FUNCTION PRINCIPLE

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.

ELECTRICAL CHARACTERISTICS

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

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 failure of 0.3%. With supply voltages of 5VDC ± 10% ; 9 - 30VDC ; (24VDC) output signals of 0 - 5VDC ; 0 - 10VDC ; 0 - 20mA ; 4 - 20 mA at the sensor output are provided. A pulse-width modulated (PWM) signal can be generated by the analog interface. This signal can be processed by following connected electronics with PWM input.

MECHANICAL CHARACTERISTICS

Mechanical angle	360°
Electrical speed (max.)	160 rpm
Operating temperature range	- 40 to +85° C
Output connection	Cable gland (with 1 meter cable)
Weight	22 gm (25 / 30A RS K)

MATERIAL

Housing	Nylon 66, glass fibre reinforced
Cable	3 core round cable

OPTIONS AND ORDERING REFERENCES

Refer to electrical & mechanical options on page 2

25 & 30 mm Housing diameter	Analog output	Pewatron Angular Sensor	Kit - Version	Signal	0 - 5V (ratiometric) 0 Pulse width modulation (For 0505 type) - 5V 0 - 10V 4 - 20mA 0 - 20mA	2 Channel redundant output (For voltage)	Angle and electrical rotational direction	Angle and Clockwise (CW) Angle and Counter clockwise (CCW) O = without stop	Programming options for non - effective electrical angle	Delta 1/2 Low level High level Variable level	Programming Options	Multipoint	Special cable length (standard 1m cable)	Output connection	Cable gland (std) Miniature connector Terminal block (A- Axial & R - Radial)
25/30	A	PP	K	S 0505 S PWM S DC05 S 2410 S 2442 S 2420		2C		OxxxCW OxxxCCW	PEx	PE1 PE2 PE3 PE4	POx	POM	CVxx	OCx	OCG OCM OCT
xx	**A**	**PP**	**K**	**Sxxxx**		**2C**	**Oxxx CW / CCW**		**PEx**		**POx**		**CVxx**	**OCX**	

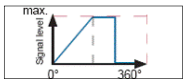
example with description - **25 A PP K S2410 O120CW POM** - 25 mm housing, analog output, kit version , 10 V output, without stop 120° clockwise, multipoint

Standard Version : 360° CW Electrical angle, OCG - Cable gland

ELECTRICAL OPTIONS FOR ANALOG VERSION 25/30A PP K

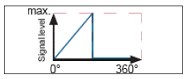
Non-effective Electrical Angle (PE1) - Delta 1/2

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)



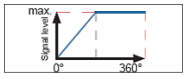
Low level (PE2)

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



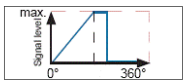
High level (PE3)

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



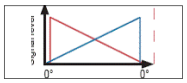
Variable level (PE4)

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.



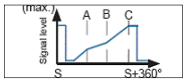
Direction of Rotation (CW/CCW)

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).



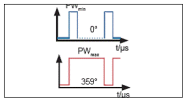
Multi Point Programming (POM)

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.



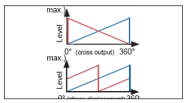
Pulse Width Modulation (PWM)

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).



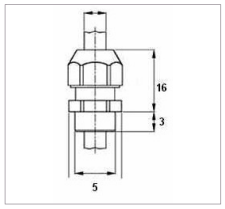
2 Channel Redundant Output (2C)

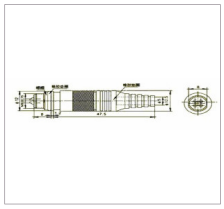
This is realized by a Hall sensor chip consisting of 2 galvanically seperated sensing elements. One magnet provides a magnetic field simultaneously for both elements. Both elements can be programmed identically, or channel 2 can also be programmed independently from channel1. (Valid only for 0505, DC05,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

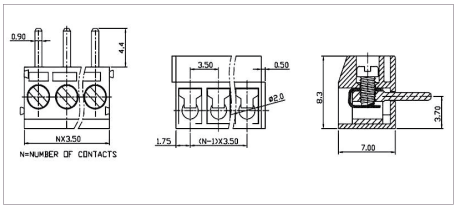


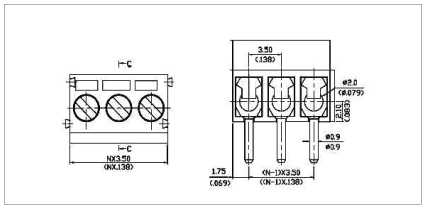
SPEEDCONNECT OUTPUT CONNECTIONS FOR ANALOG VERSIONS 25/30A PP K

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
3,5,6 core cable of 1 m length according to interface	3,5,6 pin in integrated socket with plug according to interface	3,5,6 sockets according to interface	3,5,6 sockets according to interface









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