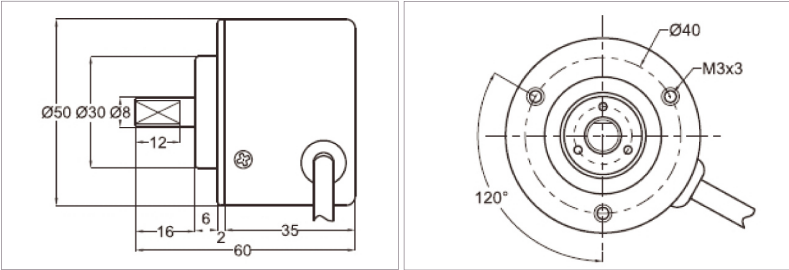


RotaCol® - Diamondline PRECISION DIGITAL SERIAL SYNCHRONOUS ABSOLUTE CONTACTLESS LONG LIFE ROTARY POSITION SENSOR SSI

50Y DRCW



Servomount case - 2 Ball bearings
Hall effect magnetic
Direct serial synchronous interface for direct input to PLC etc.
Robust metal aluminium housing with ball bearing
Clamping flange with 3 screws.
Measurement range 0° - 360°



www.rotacol.info/50ydrw.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.

1. Supply(Red) 2. Ground(Black) 3. Clock +ve(Orange)
 4. Clock -ve(Brown) 5. Data +ve(Green) 6. Data -ve(Yellow)

ELECTRICAL CHARACTERISTICS

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

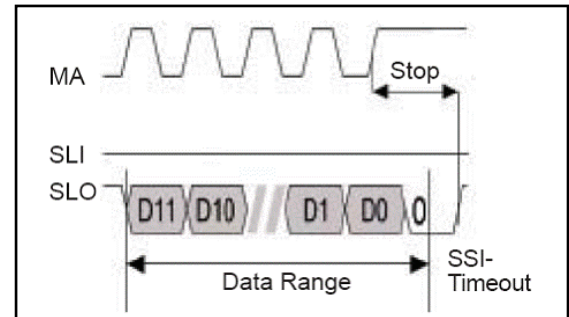
MECHANICAL CHARACTERISTICS

Mechanical angle	360° (continuous)
Shaft diameter	8 mm
Protection	IP 54
Operating temperature	- 20 to +80° C
Operating life	~ 75 million rotations
Mechanical speed (max.)	5000 rpm
Electrical speed (max.)	1600 rpm
Weight	270 gm

MATERIAL

Housing	anodized aluminium
Shaft	stainless steel
Cable	2.5 long round cable - radial
Bearings	2 precision ball bearing

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 output	Diamondline	RotaCol	Clamping flange with 3 screws	Signal	Rotational direction	Rotational direction	12 bit output	Programming options	Zero point	Output connections
50	Y	D	RC	W	SSI 5 V 24 V	Clockwise Counter clockwise	CW CCW	S 12	POX POZ		2.5m long round cable - radial Miniature connector Cable gland with 2.5m round cable Terminal block Axial Terminal block Radial
50	Y	D	RC	W	xx SSI	CW / CCW	S12	POx	OCxx		OCR OCM OCG OCTA OCTR

Example with description : **50Y DRCW 05SSI CW S12 POZ OCG** - 50mm diameter, SSI output, RotaCol sensor, Diamondline , Signal - 5V, clockwise direction, 12 bit output, Zero point, Cable gland with 2.5m round cable

Standard Version : 360° CW Electrical & Mechanical angle, 2.5m long round cable - radial

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

Please note: The specification and information in this datasheet cannot consider all special demands that are caused by the application. Because of this, they are no general description of the properties of the product. Megacraft does not assume any responsibility for damages due to improper application of our products. The user has to ensure on his own, that the products used are suitable for his application. Megacraft does not warrant the reproducibility of published information. The specifications can be changed any time without notice.

ELECTRICAL OPTIONS FOR SSI VERSION 50Y DRCW

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 putput signals and interfacing. Not only precision potentiometer but also optoelectronic 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 50Y DRCW

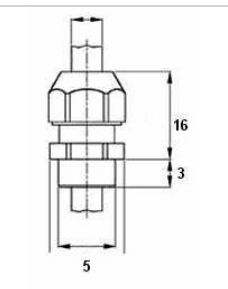
Type / Series	Standard mechanical options	Customized mechanical options
50Y DRCW	Cable gland (OCG) ; Terminal Block (OCTA / OCTR) ; Miniature connector (OCM)	Special shaft length ; Special cable

INTERCONNECTIONS

Standard Interconnections - 6 Core round cable - 2.5m long radial

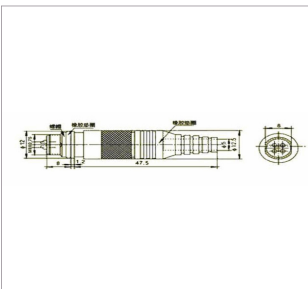
Cable gland (OCG)

6 core cable of 2.5 m length



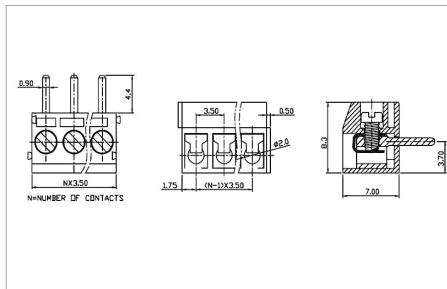
Miniature connector (OCM)

6 pin in integrated socket with plug



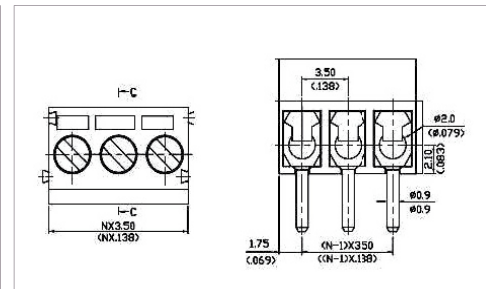
Terminal block - Axial (OCTA) Wires leaving axial to shaft axis

6 sockets



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

6 sockets



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