

RTA100

ANGLE ROTARY SENSOR

Hall effect absolute single turn encoder with shaft



DATASHEET - Rev.3 - 13062019



CHARACTERISTICS

Angle Range: 0° to 360°
Absolute measure
Redundant sensors
Linearity up to $\pm 0.6^\circ$
Plasting Housing
Shaft in AISI303 steel
High protection level IP67



ADVANTAGES

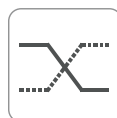
HALL Effect technology
High life time
High accuracy at economic prices
Compact dimensions
Simple adjustment with elongates holes
Many parameters configurable by CANopen (Offset, Counting direction, angle range 0°-360° or $\pm 180^\circ$)



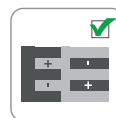
High protection level



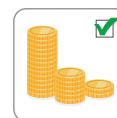
Shock/vibration resistant



Redundancy output



Reverse polarity protection



Cost saving



CANopen output



Functional safety



Directive 2011/65/EU



EU conformity

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PRODUCT DESCRIPTION

The RTA100 is a magnetic low-cost angle sensor used for very precise angle measurements and it is based on the contactless Hall measurement principle.

RTA100 is extremely reliable and ensures a long service life. It has excellent capabilities against mechanical shock and vibration.

The housing is made of a special high-grade temperature resistant plastic material. RTA100 is designed for applications like Harvester, Fork-lift, Operating table and Hydraulic pump.



PRODUCT CODE

RTA 100 . _^a . 2^b . 3 6 0^c . _^d . _^e . _^f **ORDER CODE**

a	Counting direction
1	◀ = CH1 & CH2 = CW
2	◀ = CH1 & CH2 = CCW
3	◀ = CH1 = CW, CH2 = CCW *
4	◀ = CH1 = CCW, CH2 = CW

b	Power supply
2	◀ = 9 ... 30 V DC

c	Angle degree
360	◀ = 360°

d	Output
6	◀ = CANopen redundant*
28	◀ = CANopen SIL2-Pld

f	Type of magnet
1	◀ = Shaft A*
2	◀ = Shaft B

e	Type of connection
1	◀ = Male connector M12x5, PUR cable 30cm*
13	◀ = Deutsch DT04-6P, PUR cable 30cm
20	◀ = Deutsch DT04-4P, PUR cable 30cm

* TSM standard

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TECHNICAL SPECIFICATION

Measuring range	0 ... 360°
Resolution	0.1° (settable 1° - 0.1° - 0.01°)
Linearity	±0.6°
Housing	Plastic (Blue)
Protection	IP67
Temperature drift	100 ppm/K
Temperature range	-40°C ... +85°C [-40°F ...+185°F]
Speed rotation	< 120 rpm
Max shaft rotation	radial 2.5 Kg and tensil 4.5 Kg
Torque	0.05 Nm [starting 0.25 Nm]
Weight	approx. 42 g [1.48 oz]
Shock resistance	acc. to CEI EN 60068-2-27
Vibration resistance	acc. to CEI EN 60068-2-6:2009

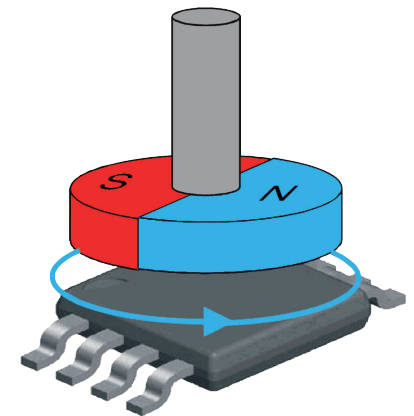
ELECTRICAL CHARACTERISTICS

Power supply	9 ... 30 V DC
Interface	CANopen
Profile conformity	CiA DS301
Electromagnetic compatibility	acc. to EN 61326-3-1(2017), EN 61326-1(2013) The electromagnetic environment envisaged for the use of the test equipment is: industrial electromagnetic environment
CE compliant	acc. to EMC guideline 2014/30/EU RoHS guideline 2011/65/EU

OPERATING PRINCIPLE

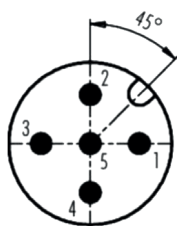
HALL effect

the production of a potential difference across an electrical conductor when a magnetic field is applied in a direction perpendicular to that of the flow of current.



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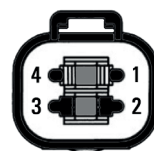
ELECTRICAL CONNECTION M12 X 5 PINS



Pinout

1	GND
2	+Vin
3	CAN-GND
4	CAN-H
5	CAN-L

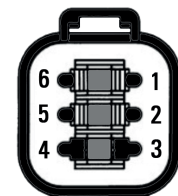
ELECTRICAL CONNECTION DEUTSCH DT04-4P



Pinout

1	CAN-L
2	CAN-H
3	+Vin
4	GND

ELECTRICAL CONNECTION DEUTSCH DT04-6P



Pinout

1	GND
2	+Vin
3	n.c.
4	n.c.
5	CAN-L
6	CAN-H

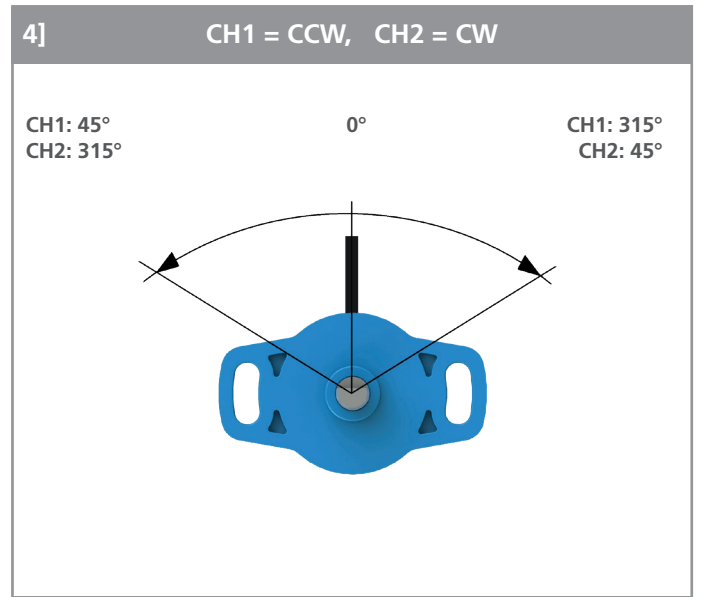
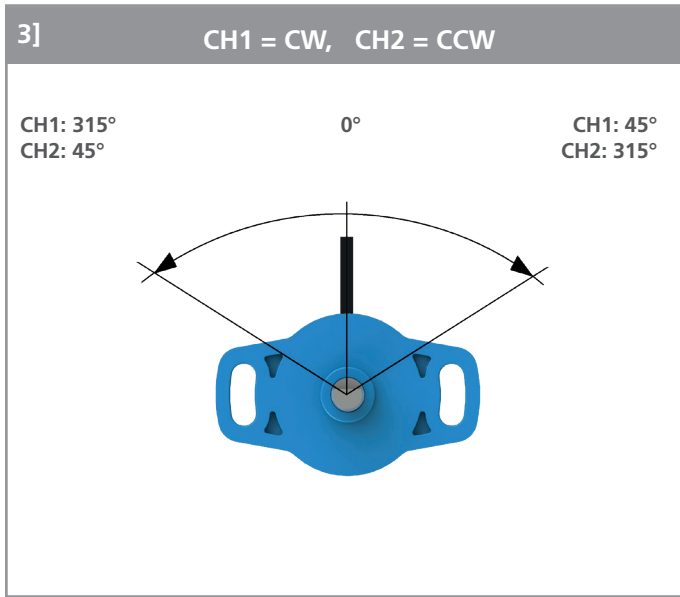
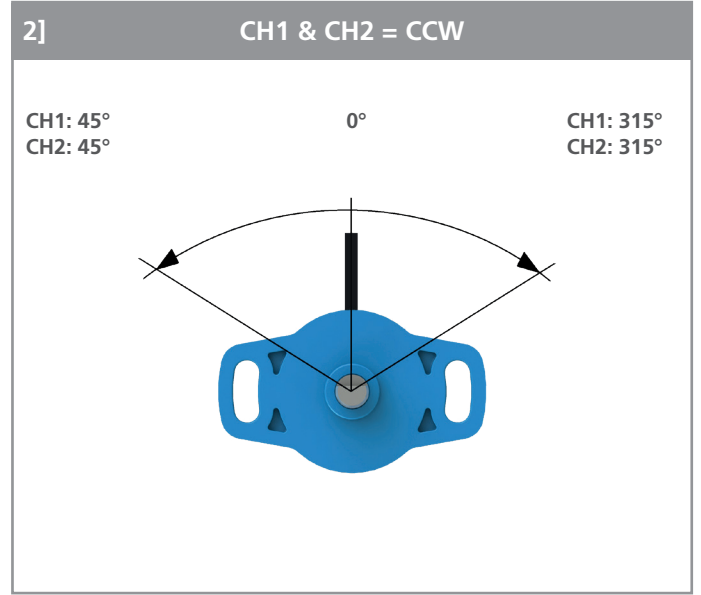
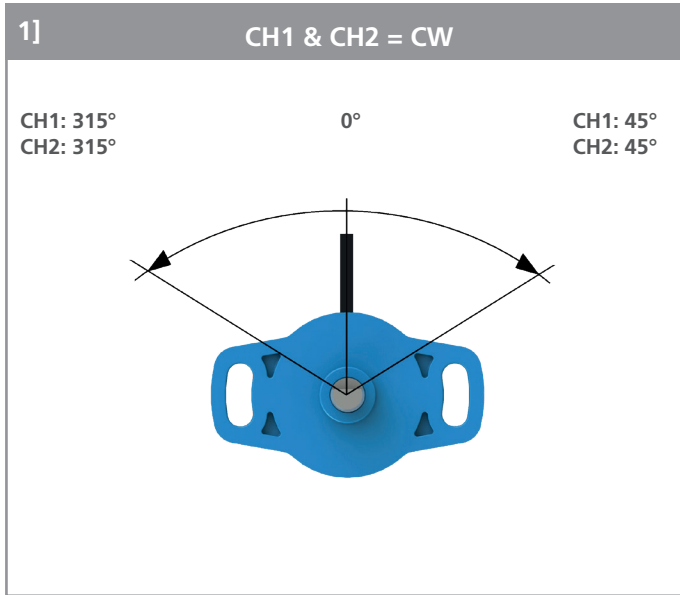
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COUNTING DIRECTION (SHAFT VIEW)



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DIMENSIONS [mm]

