

RH0910

Hall Effect rotary sensor

The RH0910 compact rotary position sensor utilises non-contact Hall Effect technology. It operates from either a 5Vdc regulated or 6 to 30Vdc unregulated supply and is available with single, or dual outputs and up to 360° of electrical angle. Output options are analogue, PWM or serial CAN 2.0 and RS485.

The sensor has a 12-bit resolution (0.08°) over the measuring angle and an impressive update time of <2mS, making it ideal for dynamic control and measurement systems. The electrical angle and output signal direction (clockwise or anticlockwise) are specified by the customer.

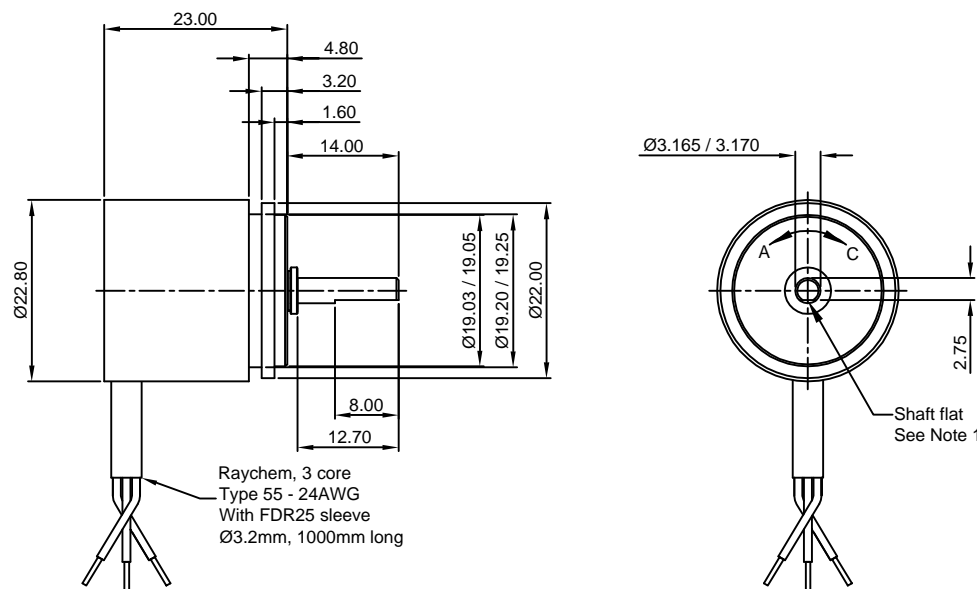
The sensor is housed in an aluminium casing and has a stainless steel operating shaft set within 'twin' stainless steel ball-race bearings. Every RH0910 sensor is heat cycled prior to final calibration to ensure survival when operated at elevated temperatures.

Other models in this range

- RH0510 - Miniature flange mount
- RH0520 - Miniature servo mount
- RH0920 - Servo mount dual output
- RH5210 - Sprung shaft
- RH5220 - Round shaft
- RH5230 - Blade shaft
- RH5240 - Dual output
- RH5310 - Triangular flange, sprung shaft
- RH5320 - Triangular flange, round shaft
- RH5330 - Triangular flange, blade shaft
- RH5340 - Triangular flange, dual output

Active
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Electrical & Mechanical Information

Electrical Angle	90 - 360		degrees
Supply Voltage (+Vs)	4.5 - 5.5	6 - 30	Volts
Operating Temp Range	-40 to +125	See graph below	°C
Maximum Sample rate - 4096	38		rpm
operating Sample rate - 1024	153		rpm
speed Sample rate - 256	610		rpm
Sample rate - 64	2441		rpm
Starting torque (approx)	60		gf-cm
Mechanical Travel	Continuous		
Sealing	IP65		
Weight. (approx.)	50		grams

Note1: When shaft marking is facing cable exit, instrument is mid-travel 2.5v. Note 2: Incorrect wiring may cause internal damage.

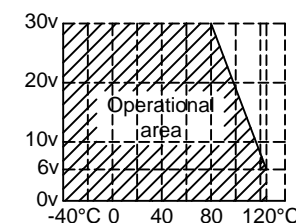
Ordering Information

RH0910-XX-XXX-X

L = 5Vdc input
H = 6 to 30Vdc input
A = Analogue. C = CAN 2.0
P = PWM. R = RS485
Electrical angle in degrees
C = Clockwise
A = Anticlockwise

Operating Temp Range

Input volts vs temp

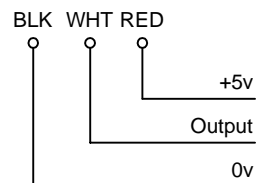


See page 2 for individual output specifications

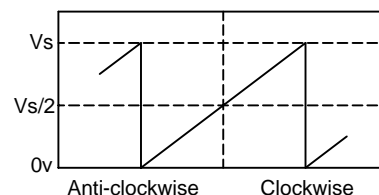
RH0900 output specification sheet

RH0900-XA-XXX-X

Electrical connections



Sensor output viewed on shaft
(Clockwise)

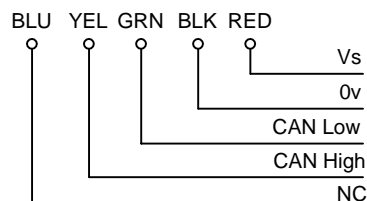


Electrical Information - Analogue

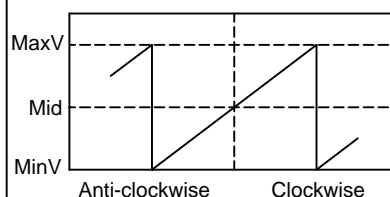
	-LA-	-HA-	
Output (Ratiometric with Vs)	0.00 to 5.00	0.00 to 4.096	Volts
Independent Linearity	0.25		%
Power Consumption	100		mW
Minimum Output Load	2000		Ohms
Bandwidth	250		Hz
Temp. Coefficient of Output Voltage	<20		ppm of span/°C

RH0900-XC-XXX-X

Electrical connections



Sensor output viewed on shaft
(Clockwise)

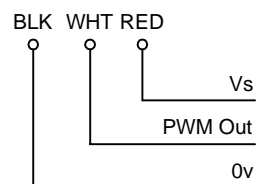


Electrical Information - CAN 2.0

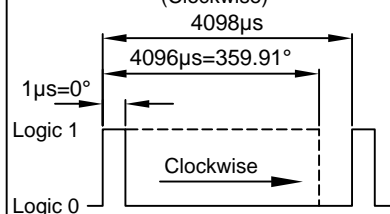
Power consumption (approx)	125	mW
Resolution	0.08°	Degrees
Independent linearity	0.25	%
Sampling frequency	<700	Hz
CAN version	CAN2A	.
BUS frequency	500	kHz
CAN ID	0x333	default
Temp. Coefficient of Output Voltage	<20	ppm of span/°C

RH0900-XP-XXX-X

Electrical connections



Sensor output viewed on shaft
(Clockwise)

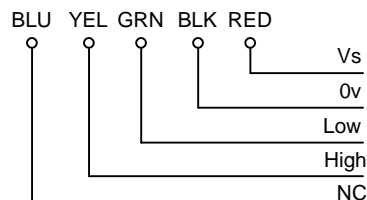


Electrical Information - PWM

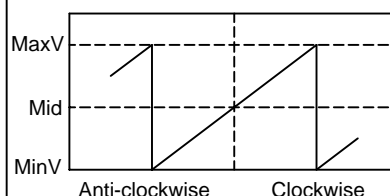
PWM frequency	244	Hz
Independent Linearity	0.25	%
Logic 0	<0.5	Volts
Logic 1	>2.0	Volts
Power consumption	80	mW
Minimum output load	2000	Ohms
Temp. Coefficient of Output Voltage	<20	ppm of span/°C

RH0900-XR-XXX-X

Electrical connections



Sensor output viewed on shaft
(Clockwise)



Electrical Information - RS485

Power consumption (approx)	125	mW
Resolution	0.08°	Degrees
Independent linearity	0.25	%
Sampling frequency	<700	Hz
BUS frequency	500	kHz
Device ID	0x333	default
Temp. Coefficient of Output Voltage	<20	ppm of span/°C

See page 1 for mechanical and additional electrical information