

CONTACTLESS ROTARY SENSOR

Model QMI-HX - 0..360° programmable

PROFIL

Model QMI-HX is a low cost angle sensor is ideally suited for application under severe ambient condition in presence of oil , dust , vibration The sensor utilize a new patented Hall technology and a thin ferromagnetic disk that make the sensor only sensitive to the magnetic flux density parallel to the chip surface . The CMOS circuit contains two pairs of hall elements for each of the two directions parallel with the chip surface X and Y, offset cancellation circuitry , current source , and chopper stabilized amplification circuit . The ferromagnetic disk amplifies the external magnetic field created by the rotation of the shaft and concentrates it on the hall elements. The result is in a very stable low noise sensor virtually immune on temperature and ageing effects, because of measuring the direction of the field and not the strength . Typical applications in dancer arm tensioning, labelling machines, robots, fork lifters, steering angle, throttle position, harvester, position detection of flaps, agriculture machines etc.. programmable

Main Characteristics

- Angle range 0-360 °
- Input Voltage 5 VDC \pm 10 % or 12-30VDC
- Resolution up to 0,09° (12 bit)
- Operating Temperature - 40°C +85°C
- Hall effect contact less
- High life
- Vibration Resistance (DIN IEC68T2/6 20g)
- High sensitivity and repeatability
- High frequency response
- Compact construction
- Output 0,5-4,5 Volt, 0-10 Volt, 4-20 mA, PWM



Description

- Dimensions (See drawing)
- Anodized aluminium case
- Shaft diameter 6 mm
- Double inox ball bearing
- Flange mount
- AMP connector
- Weight 150 gr

APPLICATIONS

- Labelling machines
- Robots
- Position detection of flaps
- Fork Lift
- Harvester
- Special purpose vehicles
- Agriculture machines
- Construction machines

North Europe Office:

Nordic Transducer DK-9560 Hadsund Denmark web: www.ntt.dk e-mail: sensor@ntt.dk

TECHNICAL SPECIFICATIONS

GENERAL

Programmable measuring range	°	10 to 359,9
Mechanical angle	°	360 continuos
Resolution	°	0.09 (=12 bit at 360 °)
Linearity	% FS	0.5 % of the measuring range
Hysteresis	°	0.03 Max
Repeatability	% FS	0,1 %
Frequency Response	Hz	> 250

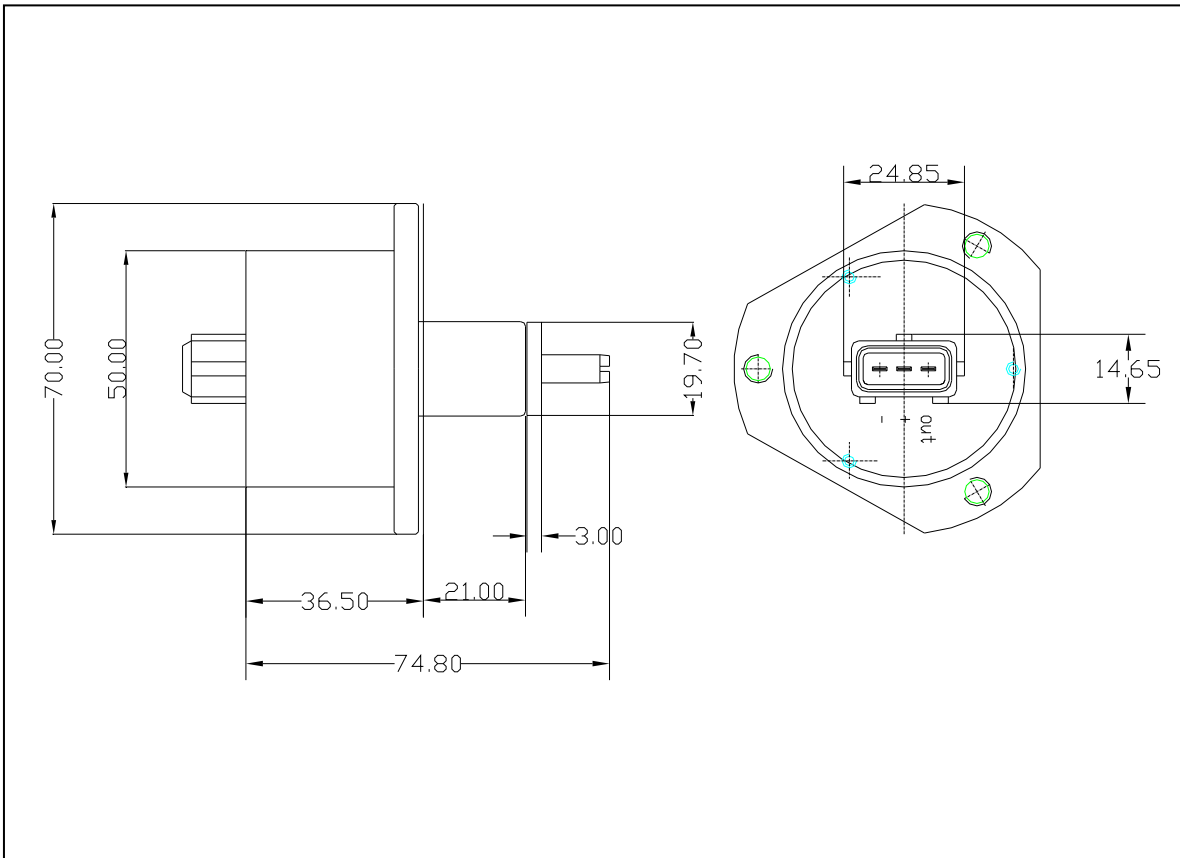
Electrical Parameters

Voltage supply	Volt	5 VDC± 10 % option 7...30 VDC
Max permitted over voltage	Volt	20 VDC (5 VDC version)
Current consumption	mA	20 max
Output voltage	Volt	0,5...4,5 Volt (ratiometric) 0-10 Volt , 4...20 ma PWM
Dielectric Strength	V	500 VDC 1 minute
Insulation Resistance	Mohm	>100 min at 50V
Ohmic load	Kohm	>10
PWM output 500 Hz TTL level	%	10...90

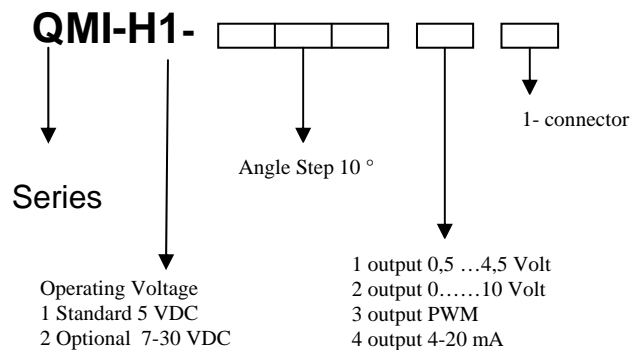
Enviromental Parameters

Life (at 60 RPM)	Mil Cycle	360
Max permitted tensil shaft loading	kg	6
Max permitted radial shaft loading	kg	4
Shaft		Diam 6 acciaio inox
Torque	N-cm	0.20
Starting torque	Ncm	0.30
Operating temperature range	° C	-40+ 85
Storage temperature (no damage)	°C	-40 to 85
Temperature coefficient	ppm	100 ppm / K
Shock Resistance	MIL- STD 202 E 213 B	50 G
Vibration Resistance	MIL STD 202E 204 C	20 g (10 to 2000 Hertz)
Wheight	gr	150
Protection class	IEC 529	IP 65 (IP 67 optional)

Mechanical drawing



Ordering specification



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