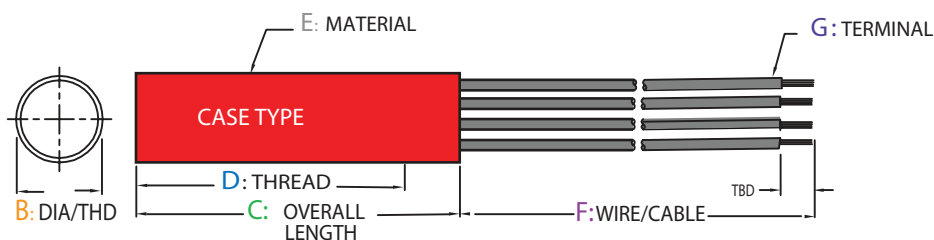
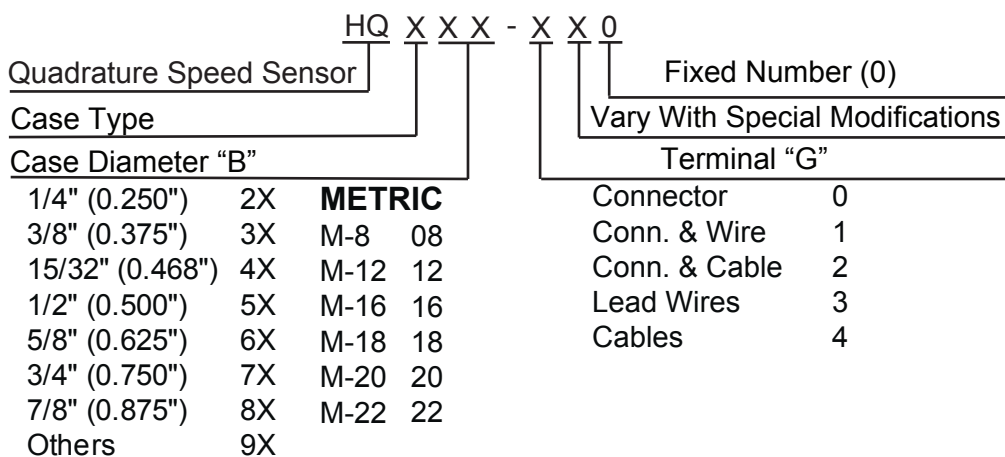


HQ Part Number Nomenclature

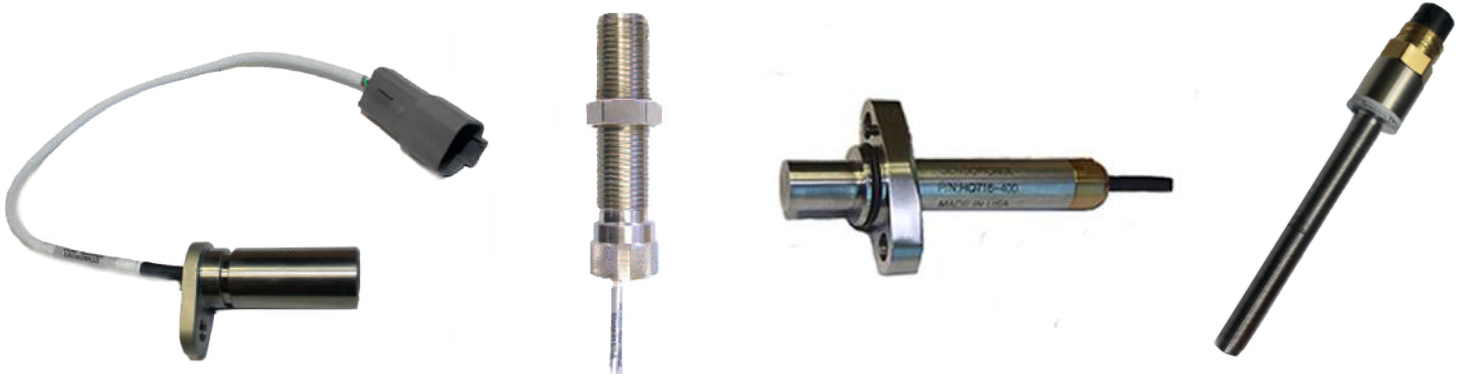
The standard part number includes the sensor type, case type, case diameter, terminal type as well as any special modifications. Please contact Sensoronix if you need more detailed information.



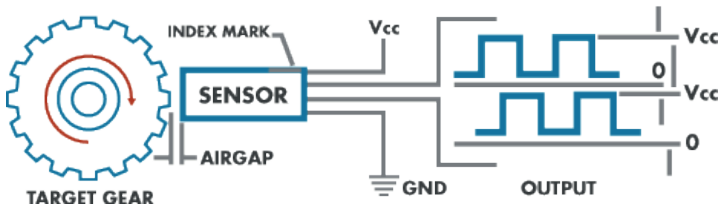
CASE TYPES	DESCRIPTION	A
	SMOOTH	0
	ALL THREAD	1
	HEX HEAD	2
	KNURL HEAD	3
	CONNECTOR HEAD	4
	WRENCH FLAT HEAD	5
	SMOOTH / THREAD	6
	WITH FLANGE	7



Hall Effect Quadrature Sensor (HQ)



Non-contact magnetic sensors that measure the distortion of magnetic field created by a ferrous target. Quadrature sensors provide two 90° out of phase digital outputs to record speed and direction. When the target wheel or gear is rotating clockwise, the output signal # 1 leads output signal # 2, and when the target is rotating counter clockwise, the output signal # 2 leads output signal # 1. Both output signals will be 50% duty cycle with proper alignment of sensor and target gear.



Target: Ferrous Material Gear Tooth with range of Min 4 to 32 Gear Pitch

Frequency: 15 kHz Max

Output Type: Digital (Square Wave) TTL compatible

Quadrature Phasing: 90° +/- 20%

$$P = \frac{N + 2}{OD}$$

P = Gear Pitch
N = Num. of Teeth
OD = Outside Diameter

Gear Pitch vs. Airgap Graph

Gear Pitch	Airgap (IN)
8	0.085
12	0.065
20	0.055

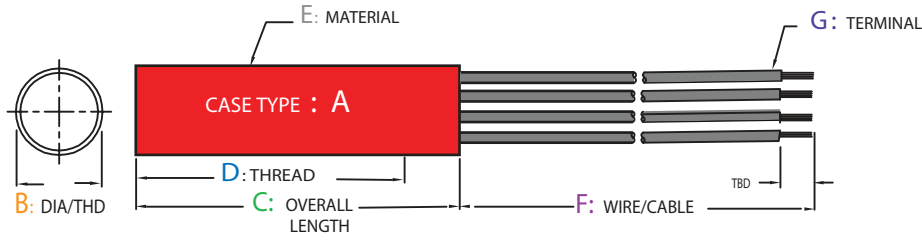
Example of Common Applications

Aviation, Aerospace, Off Highway, Agriculture & Construction

Applications: Tractor, Train Speed and Direction, Crane, Dynamometer, Boat Speed and Direction Measurement, Transmission, Traction Control, Fan Control, Engine Control, Switches, Crank Shaft, Cement Mixers, Lifters, Tractors, Harvesting Machines, Trucks.



Standard (HQ) Products Available



Please contact Sensoronix for more detailed information on the standard sensors listed below.
All products are custom designed to meet your exact specification requirements.

PART #	MECHANICAL SPECIFICATIONS						ELECTRICAL SPECIFICATIONS						ENVIROMENT		
	A	B	C	D	E	F	G	INPUT VOLTAGE (VDC)	INPUT CURRENT (mA)	V OUT HIGH (VDC)	V OUT LOW (VDC)	OUTPUT CURRENT (mA)	PULL UP RESISTOR (K Ohm)	FRONT SEALED	TEMP RANGE (°C)
3/8" Diameter Series															
* HQ130-200	1	3/8 - 24	1.50	1.50	303 S.S.	18 ± .5	22 AWG, 4 COND. CBL. W/ TEFF. INS. AND CONN: M12X1, 4 PINS	5.5 to 36	12	V Input	0.6	25 Sink	Open	Epoxy	-25 to 125
HQ130-400	1	3/8 - 24	1.70	1.70	303 S.S.	12 ± 1	22 AWG, 4 CON. CBL. W/ SHLD TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 100
HQ230-400	2	3/8 - 24	1.50	1.25	303 S.S.	12 ± 1	22 AWG, 4 CON. CBL. W/ SHLD TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 125
HQ230-410	2	3/8 - 24	1.50	1.25	303 S.S.	12 ± 1	22 AWG, 4 CON. CBL. W/ SHLD TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	303 S.S.	-25 to 125
HQ230-420	2	3/8 - 24	1.50	1.25	303 S.S.	36 ± 1	22 AWG, 4 CON. CBL. W/ SHLD TEFF. INS.	4.5 to 24	12	V Input	0.6	25 Sink	Open	303 S.S.	-25 to 150
5/8" Diameter Series															
HQ160-400	1	5/8 - 18	1.00	1.00	303 S.S.	72 ± 3	22 AWG, 4 CON. CBL. W/ SHLD TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 100
HQ360-400	3	5/8 - 18	2.72	2.14	303 S.S.	120 ± 3	22 AWG, 4 CON. CBL. W/ SHLD TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 100
HQ460-000	4	5/8 - 18	3.00	2.14	303 S.S.	-	CONN. M12 X 1, 4 PINS	4.5 to 24	12	V Input	0.6	20 Sink	4.7	303 S.S.	-25 to 125
HQ560-400	5	5/8 - 18	2.37	2.00	Alum.	12 ± .25	22 AWG, 4 CON. CBL. W/ SHLD TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 125
HQ560-410	5	5/8 - 18	2.37	2.00	303 S.S.	180 ± .25	22 AWG, 4 CON. CBL. W/ SHLD TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 125
3/4" Diameter Series															
HQ070-300	0	3/4	2.00	-	303 S.S.	12 ± .25	24 AWG, (X4) LEAD WIRES W/ PVC INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 100
HQ270-400	2	3/4 - 16	2.30	1.87	Alum.	72 ± 3	22 AWG, 4 CON. CBL. W/ SHLD TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 100
HQ770-200	7	.745	2.05	1.86	303 S.S.	12 ± 1	22 AWG, 4 CON. CBL. W/ SHLD, TEFF. INS. AND DEUTSCH CONN: DT-04-4P.	4.5 to 24	12	V Input	0.6	25 Sink	Open	303 S.S.	-40 to 125
HQ570-400	5	3/4 - 20	3.00	2.75	303 S.S.	12 ± .25	22 AWG, 4 CON. CBL. W/ SHLD, TEFF. INS.	4.5 to 24	15	V Input	0.4	30 Source	Open	303 S.S.	-40 to 125
M10 Diameter Series															
HQ110-400	1	M10 x 1.0	2.81	2.81	303 S.S.	24 ± .5	22 AWG, 4 CON. CBL. W/ SHLD, TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	303 S.S.	-40 to 150
M12 Diameter Series															
HQ412-000	4	M12 x 1.0	5.06	4.00	303 S.S.	-	CONN. M12 X 1, 4 PINS	4.5 to 24	12	V Input	0.6	20 Sink	4.7	303 S.S.	-25 to 85
M16 Diameter Series															
HQ516-400	5	M16 x 1.0	2.14	1.77	303 S.S.	36 ± 3	22 AWG, 4 CON. CBL. W/ SHLD, TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 100
M18 Diameter Series															
HQ218-400	2	M18 x 1.5	4.25	3.50	303 S.S.	36 ± 1	20 AWG, 4 CON. CBL. W/ SHLD	4.5 to 24	12	V Input	0.6	25 Sink	Open	303 S.S.	-40 to 125
* HQ518-200	5	M18 x 1.0	2.00	1.75	303 S.S.	6 ± 1	22 AWG, 4 CON. CBL. W/ SHLD, TEFF. INS. CONN. P/N: DT-04-4P	5 to 36	12	V Input	0.6	25 Sink	Open	303 S.S.	-25 to 100
HQ518-400	5	M18 x 1.5	2.14	1.89	303 S.S.	36 ± 3	22 AWG, 4 CON. CBL. W/ SHLD, TEFF. INS.	4.5 to 24	12	V Input	0.6	20 Sink	4.7	Epoxy	-25 to 100
* HQ518-410	5	M18 x 1.5	2.14	1.77	303 S.S.	12 ± .25	22 AWG, 4 CON. CBL. W/ SHLD, TEFF. INS.	5 to 36	12	5.0	0.6	30 Source	4.7	Epoxy	-25 to 125
* HQ518-420	5	M18 x 1.0	2.00	1.75	303 S.S.	6 ± 1	22 AWG, 4 CON. CBL. W/ SHLD, TEFF. INS.	8 to 36	12	V Input	0.6	25 Sink	Open	303 S.S.	-25 to 125
M24 Diameter Series															
* HQ524-400	5	M24 x 1.5	3.00	2.60	303 S.S.	24 ± 1	22 AWG, CBL. W/ SHLD, TEFF. INS.	5 to 36	12	5.0	0.4	20 Sink	4.7	303 S.S.	-40 to 125

*Electrical Protections
Supply Voltage : 40VDC
Reverse Polarity : -50V Reverse Transient
Load Dump : 60V

