

Quick Feature Product Comparison	Sparton SP3002D	Sparton SP3004D	Honeywell HMR 3500	Honeywell HMR 3400	Honeywell HMR3300	Honeywell HMR 3000	PNI TCM2.6	PNI TCM2.5	PNI TCM5	PNI TCM3	Ocean Server OS5000 (replaces OS1000)
PERFORMANCE											
Heading Accuracy ¹ Deg. RMS	0.8°	0.3°	0.5° Level	1.0° Level	1.0° Level	0.5° < 20° Tilt	0.8° < 70° Tilt	0.8° < 70° Tilt	0.3° < 70° Tilt 0.5° > 70° Tilt	0.5° < 70° Tilt 0.8° > 70° Tilt	0.6°
Accuracy ² (Static / after 3-D Cal.)	0.8°	0.5°	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified
Accuracy ⁴ (Static / after 2-D Cal.)	1.5°	1.0°	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified
Heading Resolution (Deg.)	0.1°	0.1°	0.1°	0.1°	0.1°	0.1°	0.1°	0.1°	0.1°	0.1°	0.1°
Repeatability (Deg. RMS)	0.2°	0.05°	0.2°	0.2°	0.2° - 0.4°	0.3°	0.1°	0.1°	0.05°	0.05°	Not Specified
Tilt accuracy (Deg. RMS)	0.2°	0.2°	0.5°	.4°-> 0-30° / 1°-> 30-60°	0.4°->0-30° / 1.0°->30-60°	0.4°<20° / 0.6° >20°	0.2°	0.2°	0.2°	0.2°	< 1.0° (0-60°)
Maximum functional tilt angle	Unlimited	Unlimited	70°	60°	60°	40°	50°	50°	Unlimited	80°	80°
Tilt resolution	0.02	0.02°	0.04°	0.1°	0.1°	0.1°	0.1°	0.1°	0.1°	0.1°	0.1°
Dynamic Range (Gauss)	0.9	0.9	0.7	2	6	1	0.8	0.8	0.8	0.8	Not Specified
Resolution (milli-Gauss)	0.6	0.2	0.45	0.1	0.8	1.0	0.5	0.05	0.05	0.05	Not Specified
Data Update Rate (Hz)	10	10	up to 25	8	8	8	8	8	20	20	up to 40
Communication Baud Rate	1200 - 115200 (selectable)	1200 - 115200 (selectable)	4800 - 38400 (selectable)	2400 - 19200 (selectable)	2400 - 19200 (selectable)	1200 - 38400 (selectable)	300 - 115200	300 - 115200	300 - 115200	300 - 115200	4800 - 115000
PHYSICAL											
L x W x H (cm)	3.9 x 3.9 x 1.9	3.9 x 3.9 x 1.9	5.0 x 4.2 x 1.3	1.5 x 3.8	2.5 x 3.7 x 1.1	3.0 x 7.5 x 1.9	3.5 x 4.3 x 1.3	3.5 x 4.3 x 1.3	3.5 x 4.3 x 1.3	3.5 x 4.3 x 1.3	2.5 x 2.5 x .76
Mass (g)	30	30	17 w / o case 85 w / case	3.75	7.5	22 w/o housing 92 w/ housing	12	20	12	12	< 2
Encapsulated (Enclosure)	Yes	Yes	Cased option available	No	No	Cased option available	No	No	No	No	No
ENVIRONMENTAL											
Operating temp C	-40 - 85	-40 - 85	-40 - 85	-20 - 70	-20 - 70	-20 - 70	-20 - 70	-20 - 70	-40 - 85	-40 - 85	-20 - 70
Storage temp C	-40 - 125	-40 - 125	-55 - 125	-55 - 125	-55 - 125	-35 - 100	-40 - 85	-40 - 85	-40 - 125	-40 - 125	-40 - 85
Humidity resistance	95%, 70C, 240 hrs (MIL-STD-202G)	95%, 70C, 240 hrs (MIL-STD-202G)	Not Specified	Not Specified	Not Specified	Not Specified	non-condensing (MIL-STD-810F)	non-condensing (MIL-STD-810F)	non-condensing (MIL-STD-810F)	non-condensing (MIL-STD-810F)	20 - 80 % RH non-condensing
Shock resistance	1500 g's, 1ms (MIL-STD-202G)	1500 g's, 1ms (MIL-STD-202G)	30 g's 11ms (MIL-STD-810E)	30 g's 11ms (MIL-STD-810E)	30 g's 11ms (MIL-STD-810E)	30 g's 11ms (MIL-STD-810E)	Up to 2500 G per MIL-STD-810F	Up to 2500 G MIL-STD-810F	Up to 2500 G MIL-STD-810F	Up to 2500 G per MIL-STD-810F	10,000 g's
Vibration resistance	9.26 g's RMS (MIL-STD-202G)	9.26 g's RMS (MIL-STD-202G)	0-200Hz (MIL-STD-810E)	0-200Hz (MIL-STD-810E)	0-200Hz (MIL-STD-810E)	20-2000Hz (MIL-STD-810E)	Qual'd to MIL-STD-810F	Qual'd to MIL-STD-810F	Qual'd to MIL-STD-810F	Qual'd to MIL-STD-810F	Not Specified
ELECTRICAL											
Input voltage V, unregulated input ³	3.3, 5-20	3.3, 5-20	2.5, 5, 5.2	4.8, 5, 5.2	5, 6 - 15	5, 6 - 15	3.6 to 5	3.6 to 5	3.6 to 5	3.6 to 5	3.3, 3.3 to 5
Current (mA), Typical	11	11	50	15	22	35	20	20	20	20	30
Power (mW)	36	36	300	75	110 (120 max)	175	75-100	75-100	72	72	66
OTHER											
Able to use SPI	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes
Able to use RS-232	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tilt angle output	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3-D In-field calibration	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2-D In-field Calibration	Yes	Yes	Not Specified	Not Specified	No	Not Specified	No	No	No	No	No
Adaptive magnetic calibration	No	Yes	No	No	No	No	No	No	No	No	N
Able to maintain function when inverted	Yes	Yes	Not Specified	No	No	No	No	No	No	No	Yes
True Heading Output	Yes	Yes	Yes	No	No	No	No	No	Yes	Yes	Yes
Includes World Magnetic Model	No	Yes	Yes	No	No	No	No	No	No	No	No
Motion Stabilization	No	Yes	Not Specified	No	No	No	No	No	No	No	No
Selectable Digital Filter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RoHS Compliant Availability	Yes	Yes	No	No	No	No	No	No	No	No	Yes

Notes (applicable to Sparton Compasses only):

1. Factory calibration accuracy is valid for both horizontal and vertical mounting options. This applies to Sparton compasses for Pitch angles up to +/- 90 deg. And Roll angles up to +/- 180 deg.
2. Compass accuracy under dynamic motion conditions is dependant on the specific design application.
3. Voltage can be applied to either 3.3V (Connector 1, Pin 17) at 3.3V regulated or +VIN (Connector 1, Pin 19) at 5-20V unregulated, but not both.
4. Results will vary depending on geographic location, calibration method, and the quality of in-field calibration. Tilt angles greater than 0 will result in reduced accuracy.