

## Parameter Index

### System Accuracy

Model	TLH-INS-370D-26J	TLH-INS-370D-25J	TLH-INS-350D-23J
Pure inertial navigation	1.0 nmile/1h,CEP	1.5 nmile/1h,CEP	2.0 nmile/1h,CEP
Integrated navigation	20 m, 1 $\sigma$	20 m,1 $\sigma$	20 m,1 $\sigma$
Heading accuracy	4.5', RMS	4.5', RMS	4.5', RMS
Horizontal attitude	1.5', RMS	3', RMS	5', RMS
Pure inertial velocity	1.5 m/s, RMS	1.5 m/s, RMS	1.5 m/s, RMS
Integrated navigation speed	0.1 m/s, RMS	0.1 m/s, RMS	0.1 m/s, RMS

### System Parameters

Model	TLH-INS-370D-26J	TLH-INS-370D-25J	TLH-INS-350D-23J
Cold start alignment time	$\leq 8$ min		
Restart alignment time	$\leq 5$ min		
Air alignment time	$\leq 10$ min		
Operating time	$> 10$ h		
Communication interface	RS232*2 (RTK and data line); RS422*2 (data line); CAN*1 (odometer and data line); PPS*1 (synchronization)		
Data update frequency	200 Hz (configurable )		
Operating temperature	$-40^{\circ}\text{C} \sim +65^{\circ}\text{C}$		
Storage temperature	$-55^{\circ}\text{C} \sim +85^{\circ}\text{C}$		
Service height	20000 m		
Vibration	5g@20~2000 Hz		
Impact	40g, 11ms, 1/2 Sine		
Power supply voltage	18~36VDC		
Power consumption	$\leq 28\text{W}@24\text{VDC}$	$\leq 20\text{W}@24\text{VDC}$	$\leq 15\text{W}@24\text{VDC}$
Dimensions (mm)	148.5*148.5*145.5	135*116*126	104*97*72
Weight (kg)	4	1.5	1

### Inertial Device

Model	TLH-INS-370D-26J	TLH-INS-370D-25J	TLH-INS-350D-23J
Gyro type	Type 70 fiber optic gyro	Type 70 fiber optic gyro	Type 50 fiber optic gyro
Gyro range	$\pm 500$ deg/s	$\pm 500$ deg/s	$\pm 500$ deg/s
Gyro zero bias stability	$\leq 0.03$ deg/h,1 $\sigma$	$\leq 0.03$ deg/h,1 $\sigma$	$\leq 0.3$ deg/h,1 $\sigma$
Gyro zero bias repeatability	$\leq 0.03$ deg/h,1 $\sigma$	$\leq 0.03$ deg/h,1 $\sigma$	$\leq 0.3$ deg/h,1 $\sigma$
Gyro zero bias uncertainty	$\leq 0.03\text{d}$ deg/h,1 $\sigma$	$\leq 0.03$ deg/h,1 $\sigma$	$\leq 0.3$ deg/h,1 $\sigma$
Gyro scale nonlinearity	$\leq 50$ ppm	$\leq 10$ ppm	$\leq 1$ 0ppm
Gyro angle random walk	$\leq 0.009$ deg/h $^{1/2}$	$\leq 0.004^{\circ}/\sqrt{\text{h}}$	$\leq 0.02^{\circ}/\sqrt{\text{h}}$
Accelerometer range	$\pm 30\text{g}$	$\pm 20\text{g}$	$\pm 20\text{g}$
Accelerometer zero bias stability	$\leq 30$ $\mu\text{g}$ (1 $\sigma$ )	$\leq 50$ $\mu\text{g}$ (1 $\sigma$ )	$\leq 50$ $\mu\text{g}$ (1 $\sigma$ )
Accelerometer scale nonlinearity	$\leq 40$ ppm	$\leq 300$ ppm	$\leq 300$ ppm