Parameter Index

System Accuracy

Model	TLH-INS-370D-26A	TLH-INS-170M-26A	TLH-INS-150M-23A	TLH-INS-600M-21A
Azimuth accuracy	≤ 0.3°× Sec (Lati), 15min (north-seeking alignment) ≤ 0.1°, baseline of 1 m, dual antenna (satellite combination)	≤ 0.1°, baseline of 1 m, dual antenna Conditions: satellite combination	≤ 0.1°, baseline of 1 m, dual antenna Conditions: satellite combination	≤ 0.1°, baseline of 1 m, dual antenna Conditions: satellite combination
Attitude angle accuracy	≤ 0.02° (real-time); ≤ 0.015° (post-processing)	≤ 0.1°	≤ 0.1°	≤ 0.1°
Horizontal position accuracy	≤ 3.0‰ D (autonomous) ≤ 0.8‰ (GNSS unlocked for 30min)	≤0.2% (GNSS unlocked for 30 min)	≤0.2% (GNSS unlocked for 15 min)	≤0.2% (GNSS unlocked for 1 km or 120 s)
Data update frequency	≥200 Hz	≥200 Hz	≥200 Hz	≥200 Hz
Speed accuracy	≤ 3.0 m/s (1 h of pure inertia) ≤ 0.05 m/s (GPS and INS integrated Positioning)	≤ 0.1 m/s (satellite-guide combination)	≤ 0.1 m/s (satellite-guide combination)	≤ 0.1 m/s (satellite-guide combination)

System Parameters

Model	TLH-INS-370D-26A	TLH-INS-170M-26A	TLH-INS-150M-23A	TLH-INS-600M-21A
Initial alignment time	≤ 8min	/		
Restart alignment time	≤ 3min	/		
Zero speed correction time	≤ 0.5min	/		
Communication interface	RS232*2 (RTK and data line); RS422*2 (data line); CAN*1 (odometer and data line); PPS*1 (synchronization)	RS232*2 (RTK and data line); RS422*1 (data line); CAN*1 (odometer and data line); PPS*1 (synchronization)		
Operating temperature	-40℃～+65℃			-40℃～+85℃
Storage temperature	-50℃～+85℃	-50℃～+85℃	-50℃～+85℃	-50℃～+105℃
Vibration	5g@20~2000 Hz			
Impact	40g, 11ms, 1/2 Sine			
Maximum speed	120km/h			
Maximum angular velocity	90° /s			
Maximum gradient	It can find the north normally when the vehicle body tilts 15°	/	/	/
Power supply voltage	18V～36V; Rated voltage: 24V	9V～36V; Rated voltage: 12V	9V～36V; Rated voltage: 12V	9V～36V; Rated voltage: 12V
Power consumption	≤ 20W@24VDC	≤10W@12VDC	≤8W@12VDC	≤6W@12VDC
Dimensions (mm)	135*116*126	156*100*50.4	116*100*62	116*100*36
Weight (kg)	≤2	≤0.75	≤0.6	≤0.5

Inertial Device

Model	TLH-INS-370D-26A	TLH-INS-170M-26A	TLH-INS-150M-23A	TLH-INS-600M-21A
Gyro type	Type 70 fiber optic gyro	Type 70 fiber optic gyro+MEMS gyro	Type 50 fiber optic gyro+MEMS gyro	MEMS gyro
Gyro range	±500d deg/s	±500 deg/s	±500 deg/s	±300 deg/s
Gyro zero bias stability	≤ 0.03 deg/h,1σ	≤ 0.07 deg/h+10 deg/h,1σ	≤ 0.3 deg/h+10 deg/h,1σ	≤ 10 deg/h,1σ
Gyro zero bias repeatability	≤ 0.03 deg/h,1σ	≤ 0.07 deg/h+10 deg/h,1σ	≤ 0.3 deg/h+10 deg/h,1σ	≤ 10 deg/h,1σ
Gyro zero bias uncertainty	≤ 0.03 deg/h,1σ	≤ 0.07 deg/h+10 deg/h,1σ	≤ 0.3 deg/h+10 deg/h,1σ	≤ 10 deg/h,1σ
Gyro scale nonlinearity	≤ 50 ppm	≤ 10 ppm+100 ppm	≤ 10 ppm+100 ppm	≤ 100 ppm
Gyro angle random walk	≤ 0.009 deg/h1/2	≤0.004°/√h+0.25°/√h	≤0.02°/√h+0.25°/√h	≤0.25°/√h
Accelerometer range	±20 g	±6 g	±6 g	±6 g
Accelerometer zero bias stability	≤ 30 μg (1σ)	≤ 200 μg (1σ)	≤ 200 μg (1σ)	≤ 200 μg (1σ)
Accelerometer scale nonlinearity	≤ 40 ppm	≤200 ppm	≤200 ppm	≤200 ppm