e-survey

EAS301 Pro

HYDRAULIC AUTO-STEERING SYSTEM

The eSurvey EAS301 Pro is an eSurvey hydraulic retrofit auto-steering kit. The EAS301 Pro noticeably improves the operation efficiency of agricultural machinery by the centimeter-level accuracy of repeated farming operations and 24-hour uninterrupted work even in the day with heavy UV lights or at night. It also reduces the labor intensity of drivers and increases the unit output.

Agriculture

Hydraulic Installation: Longer usage and Reserve Steering Wheel

Hydraulic retrofit kit merges auto-steering system into tractor hydraulic system, allowing users to use a longer time and will not change the current steering wheel.

Free from Terrain Worries

No longer need to worry about rough terrains, supported by our T3 terrain compensation technology. It minimizes skips and overlaps between each pass when working on complex and sloping fields.

Smart ECU: Easy configuration and upgrade

EAS301 Pro' s ECU is based on a Linux system, allowing users to view position status, set up working mode, and update firmware from the Web user interface with any smartphone, tablet, or PC.

Rich Optional Functions

Users can choose upgradable functions like 20 Hz DB9 NEMA direct output, dual camera, and ISOBUS-VT.

High Control Accuracy with Ultra-low Speed

Enable ±2.5 cm control accuracy even when the vehicle speed is as low as 0.2km/h, and no longer need to worry about fine planting vegetables and fruit crops.

24-hour Uninterrupted Work

Continuously work even in the day with heavy UV lights or at night. Free RTK aid function could maintain centimeter accuracy for 600 seconds when the EAS301 lost correction data.

Website

Social media

EAS301 Pro System

Accuracy	Dry land: 2.5 cm(≤ 9 km/h); Paddy land: 5 cm(≤ 9 km/h)
Line acquisition distance	<7 m
Vehicle velocity range	0.2 - 18 km/h
Correction data source	GSM, Radio, SBAS
NMEA output	GGA, GSV, VTG, GSA, ZDA, RMC, GST
Data formats	RTCM3.X
Optional accessory	External IMU, rear camera

Specification

ST6 Display

System	
Processor	AllWINNER T507 8-core @1.5GHz
OS	Android 10.0
RAM	2 GB LPDDR4X
ROM	16 GB eMMC

Screen	
Size	10.1" LCD
Resolution	1280 x 800
Brightness	750 nits
Touch panel	Capacitive touch screen, multi-point anti-glare

Communication	
Bluetooth	BT4.0 @BLE
Wi-Fi	802.11 a/b/g/n 2.4 GHz
GSM	■ CAT1 LTE ■ LTE FDD: B1/B3/B5/B7/B8/B20 ■ TD-LTE: B38/B40/B41 ■ GSM: B2/B3/B5/B8
Port	■ Serial port (6-pin) x 1 ■ Serial port (12-pin) x 2 ■ USB type-A (USB host) x 1 ■ USB (Micro-USB, USB device) x 1 ■ SIM card (SDHC) x 1 ■ Micro SD card (256G max) x 1 ■ GSM (Fakra D) x 1

Power Supply	
Input voltage	6 - 36 V dc

Physical Specification	
Dimension	269 mm × 190 mm × 41 mm
Weight	1300 g
Button	Power button x 1
Battery	None
Humidity	0-95% RH, non-condensing
Operating temperature	-20°C - +70°C
Storage temperature	-40°C - +85°C
Water/dust proof	IP65
Vibration	ISO 16750/MIL-STD-810G

MC5 ECU

GNSS Performance	
Channels	1408
Satellites tracking	■ GPS: L1C/A, L2P(Y)/L2C, L5 ■ BDS: B1I, B2I, B3I ■ GLONASS: L1, L2 ■ GALILEO: E1, E5a, E5b ■ QZSS: L1, L2, L5
Update rate	20Hz
Horizontal positioning accuracy	■ Single: < 1.5 m (RMS) ■ DGNSS: < 0.4 m (RMS) ■ RTK: 0.8 cm+1 ppm (RMS)
Heading accuracy	< 0.2° rms with 1.0 m baseline
Re-acquisition	< 1 second

Communication	
Bluetooth	4.2
Wi-Fi	IEEE 802.11 b/g/n
GSM	Global GSM/WCDMA/LTE
Port	■ 1 x serial port, 18-pin ■ 1 x SIM card ■ 1 x GNSS heading, TNC ■ 1 x UHF, TNC

Internal Radio	
Frequency range	410 - 470 MHz & Hopping 902.4 - 928 MHz
Channel spacing	12.5 KHz / 25 KHz
Protocol	HZSZ, TrimTalk 450S, PCC-GMSK, South

Environment	
Operating temperature	-40°C - +70°C
Storage temperature	-40°C - +85°C
Humidity	95%
Shock	EP 455 Section 5.14.1
Vibration	EP 455 Section 5.15.1 (Random)
Water/dust proof	IP67

Power	
Input voltage	9 – 28 V dc (ISO 16750 4.2 B-H)

Physical Specification	
Dimension	162.2 mm × 162.8 mm × 70.2 mm
Material	Magnesium alloy
Weight	1284±20 g

Specification

RC2 Hydraulic Control Box

Performance	
Output	■ PMW x 2 ■ H-Bridge x 2
Communication	CANBUS

Power Supply	
Input voltage	9 ~ 36V dc wide voltage

Environment	
Operating temperature	-40°C ~ +70°C
Storage temperature	-40°C ~ +85°C
Shock	Survive a 1 m drop on concrete floor
Vibration	EP455
Water / dust proof	IP67

Physical Specification	
Size	124 mm x 130 mm
Weight	245 g

iMM1 Angle Sensor (Standard) & iMM1 External IMU (Optional)

Performance	
Supply voltage	5.5 – 36 V
Supply current	30 mA/12 V
Power consumption	≤ 0.7 W
Water/dust proof	IP67
Measurement range	±90°
Measurement axis	X-Y
Resolution	0.002°
Accuracy	0.1°
Update rate	50 Hz
Initialization time	≤ 30 seconds

Working Environment	
Working temperature	-40°C ~ +70°C
Storage temperature	-40°C ~ +85°C
Shock	20000 g, 0.5 ms, 3 times/axis
Interface	CAN

Physical Specification	
Material	Aluminum alloy

Rear Camera (Optional)

Performance	
Water/dust proof	IP67
Input voltaget	12 V dc
Port	Female, 4-pin aviation
LED	8 LED light
Resolution	720P, 1024 x 600

Hydraulic Valve

Open Center(15L(Rated flow))	
Maximum flow(System flow)	25 LPM
Maximum input pressure	210 bar
Control voltage	12VDC ± 10%
Oil port size	M, M1 oil port is G1/4 ″ , T oil port is M22X1.5, and the remaining oil ports are M18X1.5
The required cleanliness of the working oil for conventional valves	NAS 7
The required cleanliness of the working oil for the proportional valve	NAS 6
Permissible ambient temperature	-20℃~90℃

Open Center(30L(Rated flow))	
Maximum flow(System flow)	30 LPM
Maximum input pressure	210 bar
Control voltage	12VDC ± 10%
Oil port size	M, M1 oil port is G1/4 ″ , T oil port is M22X1.5, and the remaining oil ports are M18X1.5
The required cleanliness of the working oil for conventional valves	NAS 7
The required cleanliness of the working oil for the proportional valve	NAS 6
Permissible ambient temperature	-20℃~90℃

Closed Center(15L(Rated flow))	
Maximum flow(System flow)	25 LPM
Maximum input pressure	210 bar
Control voltage	12VDC ± 10%
Oil port size	M, M1 oil port is G1/4 ″ , T oil port is M22X1.5, and the remaining oil ports are M18X1.5
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