

EAS301 Pro



PRECISION AGRICULTURAL AUTO-STEERING SYSTEM

■ High control accuracy

Precisely complete your farm task owing to ± 2.5 cm control accuracy, supported by our high positioning accuracy and high torque and high-speed electric steering wheel.

■ Atlas & aRTK technology

Do not need to set up any base stations to achieve centimeter accuracy, and work without interruption even when RTK corrections fail, based on our Atlas correction service.

■ Free from terrain worries

Do not need to worry about rough terrains, for roll and pitch of the vehicle will be detected to ensure straight lines, supported by our terrain compensation technology.

■ NMEA message supported

Output messages GGA, GSV, VTG, GSA, ZDA, RMC and GST.

■ Rich optional accessories

- Angle sensor: it helps to control the vehicle at speed from 1 - 12 km/h to 0.1 - 18 km/h.
- External IMU: it helps to improve the performance of auto-steering when you drive the vehicle in too steep and rough terrain at high speed.
- Rear camera: it helps to conveniently check the status of implements without turning round even at night, supported by its LED.

EAS301 Pro is an auto-steering system that can adapt to different crops, regions and characteristics of agricultural equipment, relying on the advantages of the whole industry chain in the field of satellite positioning. It not only greatly 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 strong lights or at night, but also reduces the labor intensity of drivers and increases the unit output.

EAS301 Pro System

■ Accuracy	Dry land: 2.5 cm(≤ 9 km/h); Paddy land: 5 cm(≤ 9 km/h)
■ Line acquisition distance	<10 m
■ Vehicle velocity range	0.1 - 18 km/h
■ Correction data source	GSM, Radio, L-band, SBAS
■ NMEA output	GGA, GSV, VTG, GSA, ZDA, RMC, GST
■ Data formats	RTCM3.X, CMR, ROX
■ Optional accessory	Angle sensor, external IMU, rear camera



Specification

ST6 Display	
System	
Processor	Qualcomm SDM450, Octa-core ARM Cortex-A53 64-bit CPU @ 1.8 GHz
OS	Android 9.0
RAM	2 GB
ROM	16 GB
Screen	
Size	10.1" LCD
Resolution	1280 x 600
Brightness	750 nits
Touch panel	Capacitive touch screen, multi-point anti-glare
Communication	
Bluetooth	BT2.1+EDR/3.0/4.1/4.2 BLE
Wi-Fi	2.4G+5G, IEEE802.11 g/b/n/ac
GSM	<ul style="list-style-type: none"> ■ LTE FDD: B1/B3/B5/B8 ■ LTE TDD: B34/B38/B39/B40/B41 ■ TD-SCDMA: B34/B39 ■ WCDMA: B1/B8 ■ CDMA2000/EVDO: BC0 ■ GSM: 900/1800MHz
Port	<ul style="list-style-type: none"> ■ 1 x serial port, 12-pin ■ 1 x serial port, 12-pin ■ 1 x USB type-A, USB host ■ 1 x USB, Micro-USB, USB device ■ 1 x SIM card, SDHC ■ 1 x TF card, 128G max ■ 1 x GSM, Fakra D
Power Supply	
Input voltage	7 - 36 V dc
Physical Specification	
Dimension	270 mm × 190 mm × 40 mm
Weight	1.3 kg
Button	1 x power button
Battery	None
Humidity	90%
Operating temperature	-20°C - +70°C
Storage temperature	-30°C - +85°C
Water/dust proof	IP65
Vibration	ISO 16750/MIL-STD-810G

MC5 ECU	
GNSS Performance	
Channels	1100
Satellites tracking	<ul style="list-style-type: none"> ■ GPS: L1CA/L1P/L1C/L2P/L2C/L5 ■ BDS: B1I/B2I/B3I/B1C/B2a/B2b/ACEBOC ■ GLONASS: G1/G2/G3, P1/P2 ■ GALILEO: E1/E5a/E5b/E6/ALTBOC ■ QZSS: L1CA/L1C/L2C/L5/LEX ■ IRNSS: L5 ■ SBAS: L1/L5 ■ L-Band: Atlas H10/H30/Basic
Update rate	10 Hz standard, 20 Hz optional
Horizontal positioning accuracy	<ul style="list-style-type: none"> ■ Single: < 1.2 m (RMS) ■ DGNSS: < 0.3 m (RMS) ■ SBAS: < 0.3 m (RMS) ■ RTK: 8 mm+1 ppm (RMS) ■ Atlas H10: 0.04 m (RMS)
Heading accuracy	< 0.08° 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	<ul style="list-style-type: none"> ■ 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

EW1 Electric Steering Wheel

Motor	
Working voltage	9 - 16 V dc
Nominal voltage	12 V dc
Output torque	9 V dc : 6.5N.m; 12 V dc : 8.5N.m
Maximum output torque	13 N.m
Maximum power	< 200 W
Maximum rotation speed	100 RPM
Load steering error	< ±5°
Response delay	Full range: 10 Hz; Straight walking: 20 Hz

Working Environment

Operating temperature	-20°C - +70°C (-68°F - +158°F)
Storage temperature	-40°C - +85°C (-104°F - +185°F)
Mechanical shock	EP455 5.14.1
Vibration characteristics	EP455 5.15.1& 5.15.2

Communication

Interface	ALTW/1DC-06PMMS-LC7001
Communication protocol	SAE J1939/ISO11783 CAN BUS

EMC / Safety / Environmental Protection

Radiated interference	<ul style="list-style-type: none"> ■ Broadband: IAW ISO14982-2009 /6.4 ■ Narrowband: IAW ISO14982-2009/ 6.5
Radiation immunity	IAW ISO14982-2009/6.6
Electrostatic discharge (ESD)	IAW ISO14982-2009/6.7
Environmental protection standard	2011/65/EU RoHS 2.0

Physical Specification

Dimensions	Φ180 mm × 80 mm
Weight	4.6 kg

Rear Camera (Optional)

Performance

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

UA35 GNSS Antenna

Antenna Performance

Frequency	<ul style="list-style-type: none"> ■ GPS: L1/L2/L5 ■ BDS: B1/B2/B3 ■ GLONASS: G1/G2/G3 ■ GALILEO: E1/E5 ■ QZSS ■ SBAS ■ L-Band
Polarization	Right-handed circular
Axis ratio	≤2dB @Axial
Antenna gain	GPS L1: > 6 dBi GPS L2: > 5 dBi
Phase center offset	±2 mm

Physical Specification

Dimensions	Φ146 mm x 46 mm
Weight	500 g
Antenna interface	TNC-F
Radome material	ASA Plastic
Base material	Aluminum alloy
Mount	5/8-11UNC-2B

iMM1 Angle Sensor & 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
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