INDRO ROBOTICS



SCOUT 2.0

FOUR-WHEEL DRIVE

INDEPENDENT SUSPENSION

COOLING SYSTEM

EXTERNAL EXPANSION

SECONDARY DEVELOPMENT

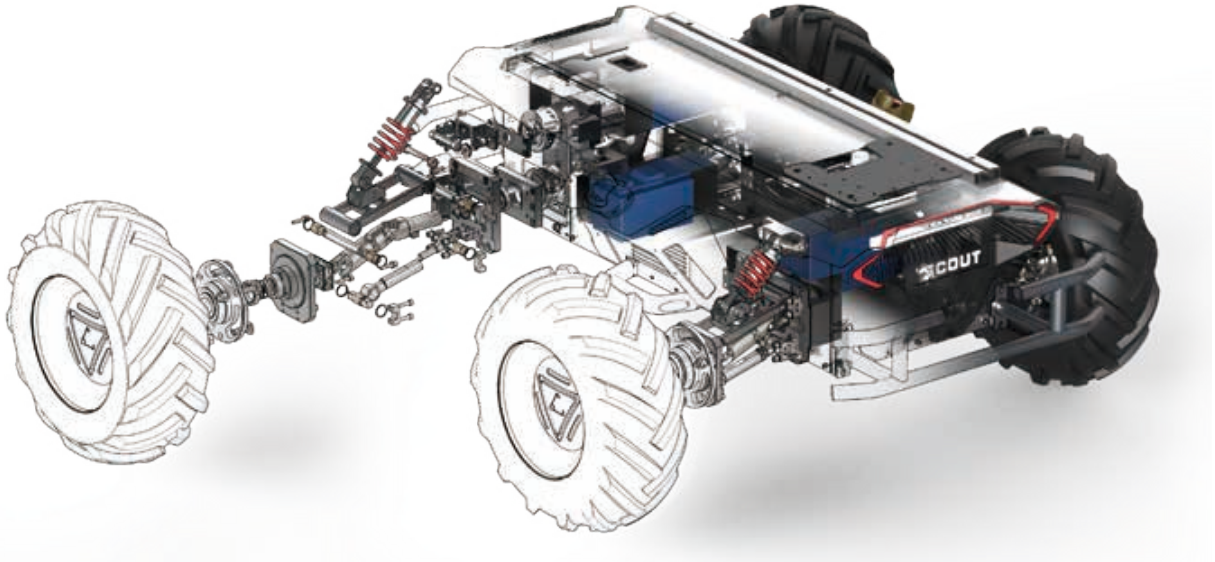
Steer-by-wire Chassis

SCOUT is an outdoor chassis designed for industrial applications. SCOUT2.0, with remolded structure design, under the newly upgraded cooling system and safety system, still adheres to the concept of being suitable for any application environment. The more compact design expands the indoor scenarios again; the independent suspension can adapt to various rugged paths; the zero turning radius can easily control the narrow environment; and the standardized protocols and interfaces facilitate rapid secondary development. This chassis can be installed with different upper load and navigation system for inspection, transportation, teaching and other scenarios.



Structural Advantages

The core of the structural design of SCOUT series is always compact. Under the premise of guaranteed function, the body size of SCOUT2.0 is reduced by 25% from that of SCOUT1.0, adding infinite possibility to its application environment again: its compact body can enter the ordinary elevator room; it can realize the free switching between indoor and outdoor; it is suitable for any car trunk; it can be quickly put into use on the site.



SCOUT 2.0 carries forward the four-wheel drive feature of SCOUT1.0. Each wheel adopts independent 200w brushless servo motor and adopts double-transverse arm independent suspension, which can greatly improve the adaptability of the body to the terrain while ensuring the power, and ensure the stability and anti-interference ability of the load. As a result, it can easily surmount 10cm obstacles and work easily in the outdoor.

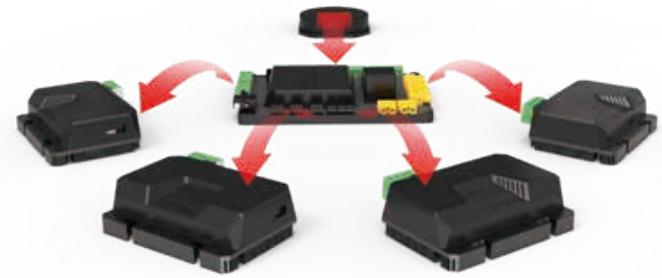
UPGRADING OF COOLING SYSTEM



In respect of the fully upgraded cooling system of SCOUT2.0, the internal and external circulation cooling systems are integrated; and the heat conduction module is additionally provided with directional cooling for driving module and power unit. Under the premise of ensuring the IP level of protection of the body, a strong fan module is provided, effectively improving the operating duration of the chassis and adapting to the high-temperature environment. There are also real-time temperature monitoring and other security measures, providing more secure and reliable protection for the chassis in real time.

EXTERNAL EXPANSION AND SECONDARY DEVELOPMENT SUPPORTED

SCOUT 2.0, with independent main control system, can accomplish its own motion control, and can customize the complex operation mode. The master control provides serial port / standard CAN busbar as the communication interface and provides open source SDK,ROS_PACKAGE.





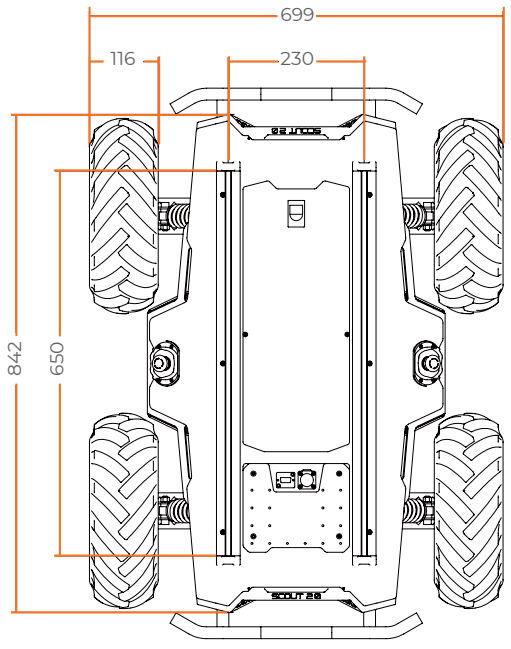
A bus interface is reserved around the body, and the top design with standard aluminum profiles is convenient for customers to match and access a series of external equipment such as differential GPS, binocular camera, laser radar, infrared/ultrasonic obstacle avoidance sensor, etc., allowing customers to complete customized in-depth secondary development.

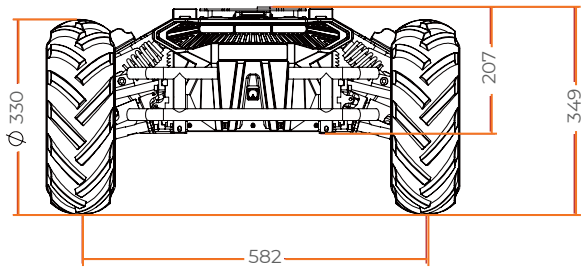
SCOUT 2.0 also supports access to more advanced self-driving systems, such as ROS, Baidu Apollo, etc., which can be used as a mobile platform for application development.

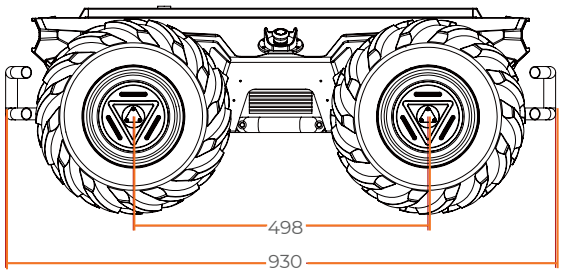
SPECIFICATIONS

Model	SCOUT 2.0
Dimensions	930mm x 699mm x 348mm
Wheelbase	498mm
Front/rear wheel base	582mm
Gross Vehicle Weight	62KG
MIN Ground Clearance	135mm
Rated Progressive Load	50KG Friction coefficient 0.5 ground test
MAX speed	6km/h
MIN Turning Radius	0m
Gradability	<30° with loading
Obstacle-Surmounting	15cm
Performance	0.2m
MIN Braking Distance	6km/h -> 0km/h
Braking Way	Servo Brake

MAX Range	15km
Drive Form	Four Wheel Independent Drive Four Wheel Differential Steering
Suspension Form	Front Double Wishbone-Independent Suspension Rear Double Wishbone- Independent Suspension
Safety Precautions	Collision Avoidance Tube
Working Temp	0~40℃
Charger	AC 220V Independent Charger
Charging Period	2.5~3H
Voltage	24V
Battery	24V / 30Ah
Motor	4 x 200W Brushless Servo Motor
Code Disc	1024 wire Incremental Photoelectrical Encoder
Interface	Standard CAN 232 Serial Port
Protection Level	IP22 Customizable IP44 IP64







SUCCESS CASE: PARK LOGISTICS



Based on SCOUT chassis and self-driving technology, with laser radar, binocular camera and ultrasonic wave to construct multi-sensor fusion navigation scheme, it can complete timely and accurate logistics delivery task in semi-closed environment such as park, factory area, etc., realize unmanned operations, reduce manpower input and improve logistics efficiency.



FEATURES

- End-to-end unmanned distribution
- One-click delivery and pick-up
- Multi-task management supported
- Intelligent planning of travel routes, real-time optimization of paths

SUCCESS CASE: SECURITY PATROL



It is the security robot based on SCOUT chassis and security inspection system and suitable for indoor and outdoor inspection through quick secondary development. The solution is mainly composed of camera, central control computer, GPS, laser radar and microphone audio. It can realize video recording and playback, real-time face recognition, voice intercom, remote control and so on. Moreover, APP programs can be customized according to the scenario requirements.

FEATURES

- Self-driving, autonomous obstacle avoidance
- Image/video real-time transmission (4G/5G)
- Sound and light alarm, two-way voice
- Customized task module extendable



OTHER CASES



With mechanical arm for scientific research, teaching and competition, etc



With station instrument module for mining survey, architectural topographic survey, etc.

With spraying kit for field operation, disinfection and epidemic prevention



With environmental monitoring kit for environmental monitoring and pollutant testing



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