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**YUTONG T13E**  
Efficient and Eco-friendly, Galloping Freely

# WHO WE ARE:

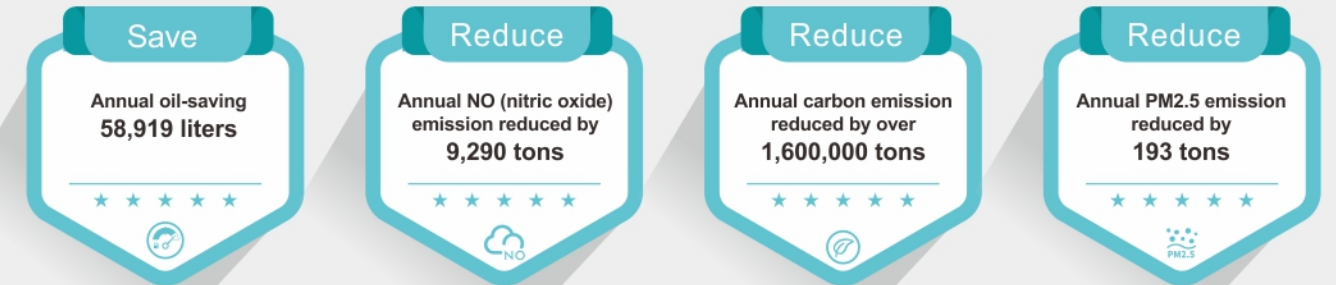
A mainstream global bus supplier and the No.1 bestselling bus brand in the world.

- Comprising 4 major bus manufacturing bases.
- Factory campus totaling 3,590,000 square meters.
- Average daily bus production capacity up to 445 units.
- Maximum daily production capacity for new energy bus over 375 units.
- 5 m to 18 m long, products cover transportation of passenger, public, group, tourism, school buses, and special vehicles.
- New energy buses were successfully promoted in over 300 global cities, selling over 130,000 units.



# OUR MISSION

Fantastic Travel to the Public, Greater Value for Customers



Annual saving 26.88 million euros for 100 vehicles with daily running 250 km in 350 days a year.

Vehicle Type	13 m diesel road	T13E	Total saving
Fuel consumption per hundred kilometers	34L	100KWH	
Average annual mileage (km)	250 km * 350 days = 87500 km		
Fuel price	1.5 euro/L	0.126 euro/kWh	
Converted fuel cost (euro /km)	0.51	0.126	0.354
Fuel cost for 1 year (ten thousand euros)	4.4625	1.1025	3.36
Fuel cost for 8 years (ten thousand euros)	35.7	8.82	26.88
Fuel cost for 100 vehicles (ten thousand euros)	3570	882	2688

	Oil/gas/electricity consumption per hundred kilometers	Co <sub>2</sub> emission per hundred kilometers	PM emission per hundred kilometers	No <sub>x</sub> emission per hundred kilometers	8 years CO <sub>2</sub> emission	8 years PM emission	8 years NO <sub>x</sub> emission
13 m traditional diesel bus	34L	91.12kg	13.94g	5.1kg	637.5t	97.58kg	35.7t
Battery electric bus	100kWh	0	0	0	0	0	0

Social benefits of each battery electric bus	Emission reduction (CO <sub>2</sub> ): 79t/year Equivalent to trees planting efforts: 572 trees/year						
Social benefits of 100 battery electric buses	Emission reduction (CO <sub>2</sub> ): 7900t/year Equivalent to trees planting efforts: 57200 trees/year						

Remarks: 1L diesel consumption emits 2.68 kg CO<sub>2</sub>, 0.15kg NO<sub>x</sub> and 0.41g PM while 1 tree absorbs 138 kg CO<sub>2</sub>/year.



## EFFICIENT AND ECO-FRIENDLY, GALLOPING FREELY **YUTONG T13E**

Powered by new energy technology, Yutong T13E battery electric bus enables smart, efficient, energy-saving and eco-friendly travel, its users feasting their eye on picturesque scenery along the way.

# HANDSOMELY CONTOURED, A HIGHLIGHT ITSELF

Inspired by the European design philosophy, perfect fusion with the modern aesthetics, it was crowned the Busworld Design Award, a scenic highlight itself.

# PROTECTED BY POWERFUL CRAFT WITH HIGH COST EFFICIENCY

Enabled by cutting-edge craft, Yutong T13E has been tested repeatedly on water-proof functions, proven an ideal corrosion-proof, rust-proof, and waterproof. Economical, energy-effective, and further navigation is accomplished through technology advance.



### ◇ Cathodic Electrophoretic Process

Empowered by 16 cathodic electrophoretic processes, Yutong T13E comes out super corrosion-resistant, damp-and-heat-resistant, and rust-proof, its anti-corrosion extending to 8-10 years.

### ◇ Robot Automatic Spraying Process

More uniform and precise spraying brings out smooth and bright outfit, with no loss of light or discoloration within 5 years.



### ◇ Innovative Appearance Design

Simple operation with elaborate design, steady driving with dynamic experience, combination of superior quality and European aesthetic fashion. Hollow glass design decreases heat exchange, a targeted effort on energy consuming reduction.



### ◇ All LED lights

Trendy integral headlights, illuminous, economical and practical, spanning 50,000 hours.



### ◇ Reversible structure of the front wall

The maintenance convenience of the front wall is improved, in comprehensive consideration of the operation.



### ◇ Annular body made of high strength steel

The bus body strength is greatly enhanced with professional CAE analysis, and certified by the EU rollover test.

## A PLEASANT DRIVE WITHIN TRANQUIL ENVIRONMENT

Humanized spacial design, coupled with safe and smart control, and acoustic packaging, reaches a smooth drive and cosy ride.



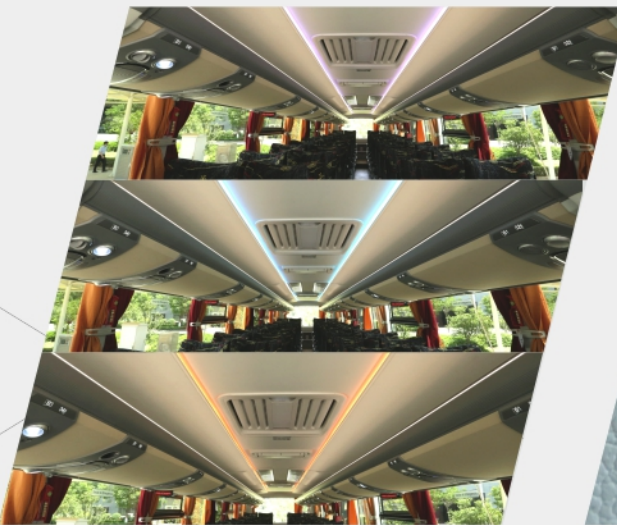
### Full Airbag Driver Seat

Multi-directional adjustable, perfect performance of heating, ventilation, massage, good shock absorption and strong support.



### Ergonomic Seat

Design is customized to satisfy Latin American users, providing an easeful and buoyant ride.



Integrated Interior Ambient Light  
Chic ambient light, fresh and elegant.



USB interface is convenient for charging  
Mobile devices chargeable at any time.



Airbag Suspension  
The front 2 and rear 4 airbags are effective in shock absorption, ensuring a steadier ride.



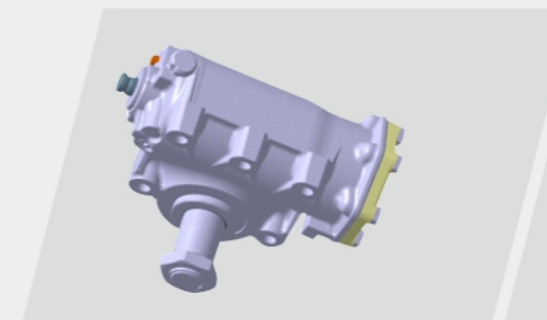
## STRONG POWER ENSURING EASY CLIMB

With high energy power, Yutong T13E features superior climbing performance, as smoothly as walking on the ground.



### ◇ Climbing Performance

Equipped with super power motor, its climbing degree can reach 20%, scenic landscape easily accessible and available.



### ◇ Bosch Steering Gear

Maintenance-free, light and flexible low-speed steering enhances the stability at high speed.



### ◇ Front and Rear Axles

ZF front and rear axles adopted, lightweight design, and large turning angle ensure higher reliability and better passability.



## ROCK-SOLID SAFETY PROTECTION

Core technology "ReCtrl" independently developed by Yutong New Energy is exploited, "3S" safety technological standards for electric bus are conducted, highest industrial professional protection IP68+IP6K9K is reached, and the European standards are met, all guaranteeing a safe drive.



Fireproof, Waterproof, and Electric Shock Proof  
Safety of the vehicle in dusty and wading areas improved ( $\leq 0.3m$ ).



### Liquid Cooling System Battery

Having been subjected to such safety performance tests as squeezing, acupuncture, dropping, overcharge, over-discharge, high temperature, soaking, etc., the battery remains safe and controllable without causing fire or explosion. Functional running even in the adverse cold and heat ranging from  $-35^{\circ}C$  to  $50^{\circ}C$ .



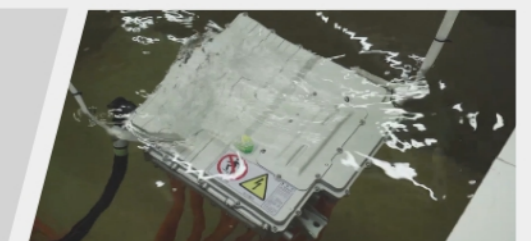
### Vehicle Control Unit

Real-time monitoring the vehicle status, managing vehicle energy and optimizing braking energy, with a service life of up to 15 years.



### Integrated Motor Controller

The HV nodes and volume are reduced by more than 50% through integrated design; the controller maintains highly waterproof and dust-proof after being tested, the vehicle proven safe and reliable.



### Vehicle Wading Test

New Energy System features highly waterproof, the vehicle fulfilling the wading requirements.



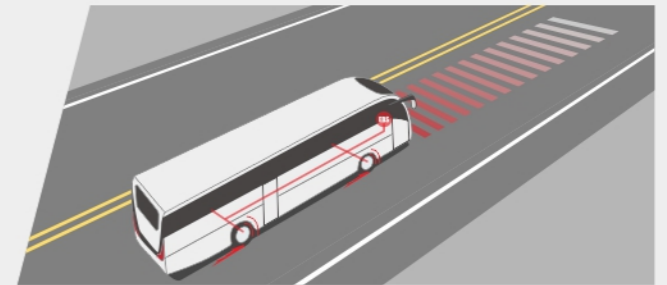
### Battery Pack Wading Test

New Energy System features highly waterproof, the vehicle fulfilling the wading requirements.

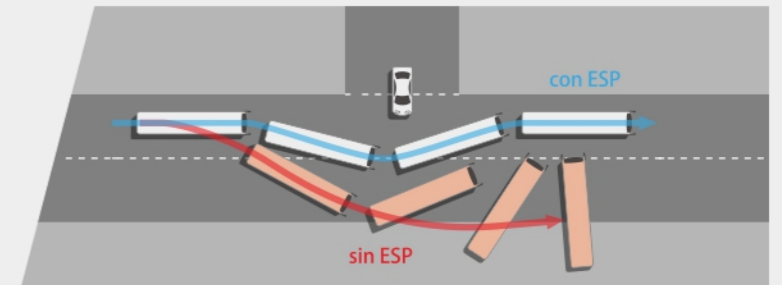


# INTELLIGENT PROTECTION REALIZING FULL ESCORT

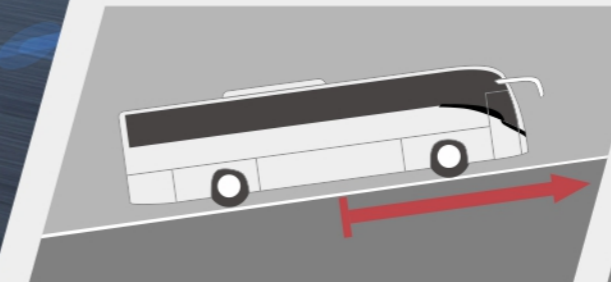
Installed with cutting-edge technology, Yutong T13E battery electric bus contributes to intelligent safety guard, making it smarter and reassuring.



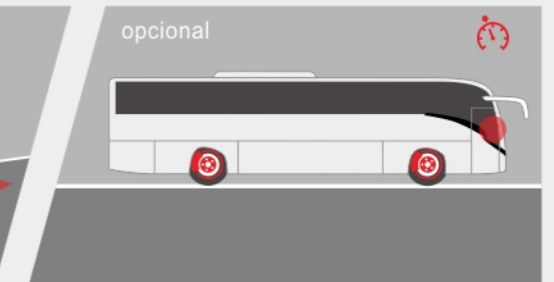
◇ EBS (Electronic Brake System)



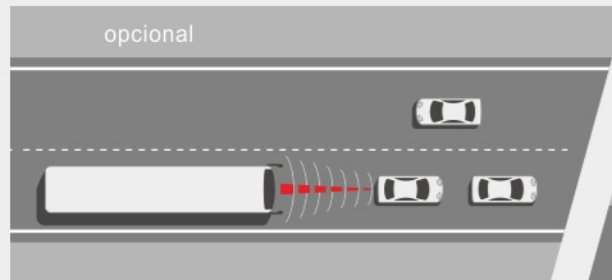
◇ ESP (Electronic Stability Program)



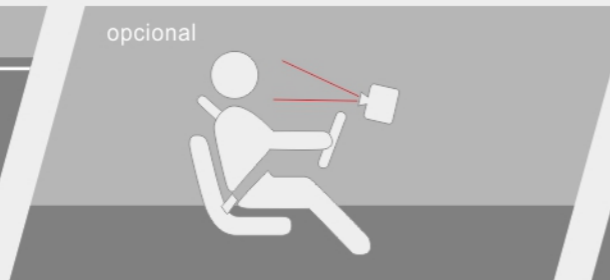
◇ HSA(Ramp Start Assist system)



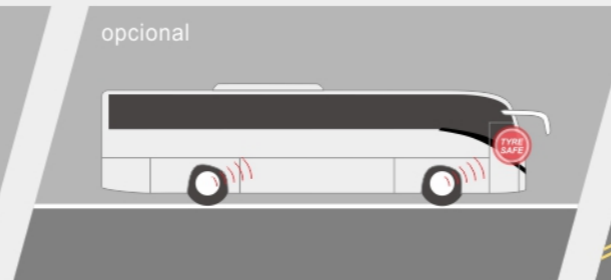
◇ Equipped with industry-leading safety control system



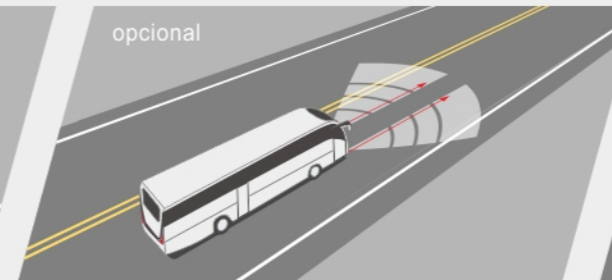
◇ EBA (Electronic Brake Assist)



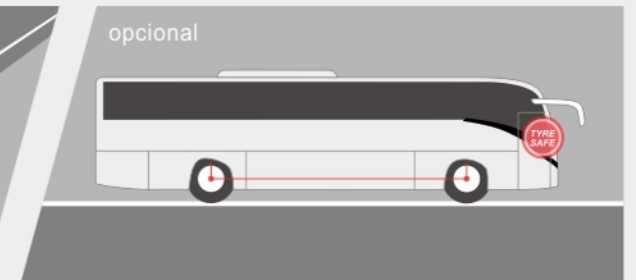
◇ BAWS (Driver Fatigue Monitoring System)



◇ TPMS (Tire Pressure Monitoring System)



◇ LDWS (Lane Departure Warning System)



◇ ALD (Axle Load Display)





## PRAGMATIC CHARGING AND EFFICIENT KINETIC ENERGY

In light of travelling tendency, tremendous breakthroughs are striven in the New Energy charging field, ensuring a carefree charging and green travel.

### ◇ European Standard\National Standard DC Charging System

250A (National standard)\200A (European standard) high charging current, real-time monitoring of the charging socket temperature, elevated protection standard, all making for the safe and reliable travel.



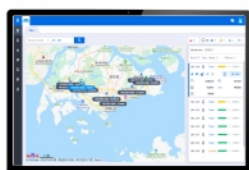
European Standard



National Standard

## BRILLIANT MOBILE CONNECTIVITY

Installed with the V+ intelligent management system, Yutong T13E battery electric bus integrates modern communication with internet technology, creating a interwoven and complete information network connecting vehicles, users, operators, backstage and road conditions, accordingly, the operators' management efficiency boosted, cost lowered, readily harnessing the smart travel.



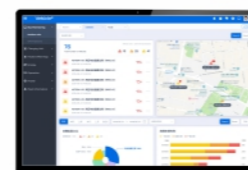
### ◇ Real-Time Data Monitoring

Instant information is available of the fleet conditions, energy consumption and faults. Prompt recognition and decision are made to react to what might happen.



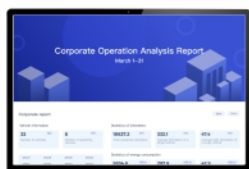
### ◇ Vehicle Energy Consumption Management

Energy consumption amount is acquired in real time through big data analysis, effectively cutting the energy cost.



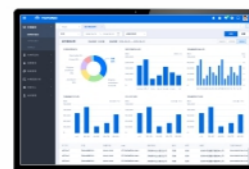
### ◇ Remote Fault Diagnosis

Remote fault diagnosis of parts and components allows quick recovery of vehicle operation.



### ◇ Enterprise Operation Report

Multi-dimensional knowledge are available of daily/ weekly/monthly operation conditions, upon driving mileage, energy consumption and duration by means of big data analysis.



### ◇ Power Battery Analysis Report

Comprehensive information on the status of power battery makes possible suggestions for improvement, usage habits optimization and extended battery lifespan.



### ◇ Driving Behavior Analysis

Evaluate the driver's behaviour through safety, energy saving and comfort so as to foster good driving habits.



# GLOBAL APPLICATION CASES



● **Five Nordic countries**  
-Finland/Iceland/Norway/Denmark

Arctic-alpine  
Winter: -14°C-3°C ; summer: 13°C-17°C

In the five Nordic countries enveloped by the mysterious aurora borealis, Yutong battery electric vehicles have been embraced by customers there for its good adaptability and premium service. In October 2020, Norway has witnessed the largest release of battery electric buses.



● **Dubai**

High-temperature  
The highest temperature in summer: 45°C ~ 48°C

YUTONG E12, from August to November, 2019, the highest summer temperature of 45°C ~ 48°C is covered by the trial release, with 100% attendance.



● **Yunnan, China**

Mountainous region  
An average elevation of around 2000 m

Yutong leads you to the most appealing Yunnan, from Kunming, Lijiang, Dali, Tengchong to Xishuangbanna.



● **Hainan Sanya, China**

High temperature, high humidity and high salt  
The maximum temperature reaches about 41°C.

Tropical coastal city, Oriental Hawaii, hop on the Yutong double-deck battery electric sightseeing bus, and set off now for a hearty coast sightseeing in Sanya !



● **China Everest Base Camp**

High temperature, high humidity and high salt  
4,657 meters to 5,168 meters above sea level

5143.41 meters above the sea! Yutong is entitled with the Guinness World Record of "electric bus running on the highest altitude"!



● **Kazakhstan**

Arctic-alpine  
-40°C to -14°C in Winter

The second coldest capital in the world; intelligent heating + rapid heating + vehicle warmth, all-round response to the extremely cold weather in Kazakhstan in winter.



● **Guizhou, China**

Mountainous area  
Karst terrain,  
92.5% of which is mountains and hills

Beautiful Guiyang, convergence of the present and past, with diverse natural scenery. Anshun, Guizhou, encompassed by mountains and rivers, with an extending history. Tongren, Guizhou, a historical treasure with unique customs. Wherever the earthly beauty may be, you will reach it on Yutong.

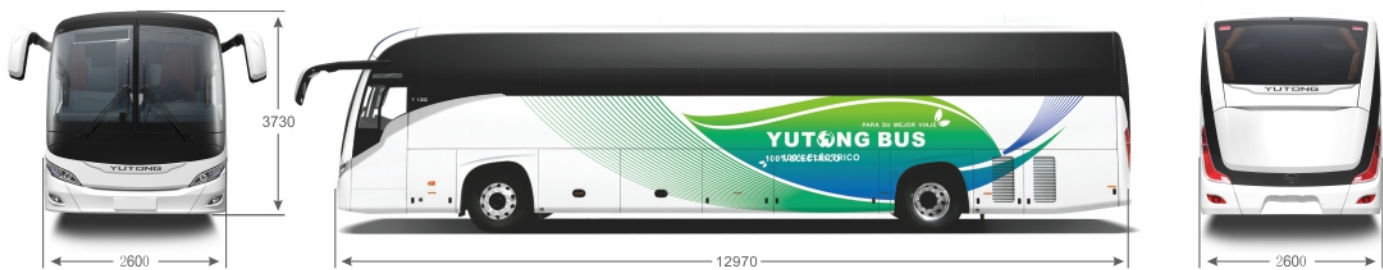


● **Mexico**

Plateau city  
The highest metropolitan city above the sea

Mexico, the highest metropolitan city, witnessed the perfect integration and inheritance of ancient Mayan civilization and modern technology.

## CONFIGURACIÓN(MM)



Length * Width * Height (mm)	12970*2600*3700
Interior height (mm)	1950
Minimum turning diameter (m)	21
Approach angle/Departure angle (°)	8.5/8.5
Maximum gradeability (%)	20
Battery type	Lithium iron phosphate LFP
Energy storage system (kWh)	350.07
Maximum speed (km/h)	100
Maximum passenger seating capacity	48
Driving range (km)	300 (C-WTVC working condition, flat road, no A/C)

Please refer to the actual vehicle for the information above is for reference only, and Yutong reserves the right of final interpretation.