



Electric Bus Brochure
電動巴士產品目錄

Alighter

TAIWAN
made to light up the city



唐榮商用車

Tangeng Advanced Vehicles Corp.



關於唐榮 About Us

唐榮車輛科技，成立與發展至今，擁有20年不凡的跨國國際合作經驗，曾經授權生產Volvo卡車與巴士有12年經驗，授權生產Bombardier台北市捷運文湖線電聯車有5年經驗。

唐榮電動巴士投放市場，於桃園市、台中市、台南市、金門縣等4個縣市商業營運，迄今已累積9年生產銷售與營運實績，經營電動巴士市區客運路線之營運擁有5年經驗與13條特許路權，對於國內公共運輸發展史，具有特殊的參與及貢獻。

Since its establishment and development, TAV has 20 years of extraordinary experience in cross international cooperation. It has authorized the production of Volvo trucks and buses for 12 years, and authorized the production of Bombardier Taipei MRT Wenhua line electric trains for 5 years. Tangeng electric buses were launched in the market and operated commercially in 4 areas and cities including Taoyuan City, Taichung City, Tainan City, and Kinmen County. So far, they have accumulated 8 years of production, sales and operation performance, and have operated electric buses for urban passenger routes for 5 years. The experience and 13 concession routes provides a special participation and contribution to the development history of Taiwan domestic public transportation.

PHOTO FROM TAV



Product Milestone 產品實績



2013 Volvo JV巴士 (柴油車)



台北市文湖線

2005 Bombardier電聯車



2004 Volvo巴士代工



2004 Volvo卡車代工



2014 唐榮純電動低地板巴士



2015 唐榮7m純電巴士



2021 Alichter LF12
唐榮鋁合金低地板電動巴士



PHOTO FROM TAV

Dimensions and Weights



尺寸與重量

Dimension

L x W x H (mm)	11,990×2,500×3,470
Curb weight (Kg)	13,000
Max weight (Kg)	17,800
Height from ground (mm)	≤320(without kneeling)
Wheelbase (mm)	5,900

Bodywork

Bodywork	Steel
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Door layout	2
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Drive train Technology

Chassis

傳動技術/底盤



Powertrain

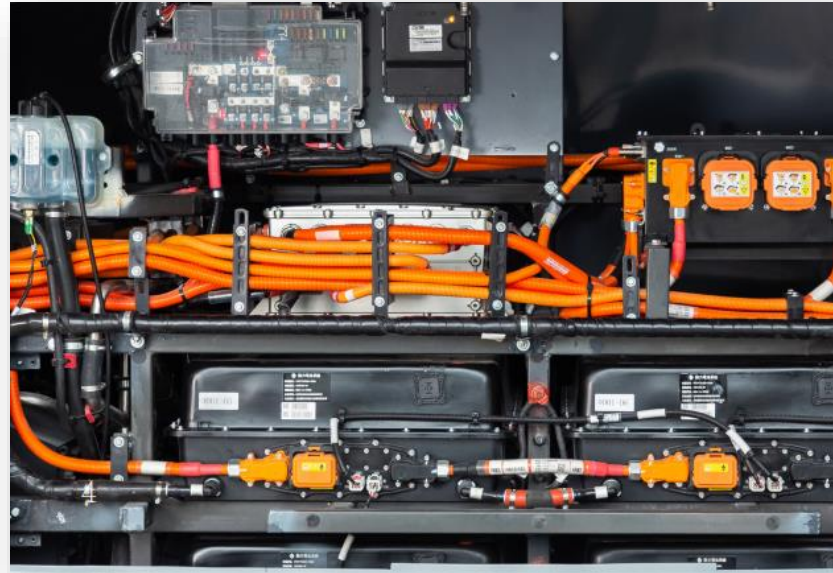
Manufacturer	SIEMENS, Germany
Technology type	Permanen Magnetic Synchronous
Nominal power (kW)	160
Peak power (kW)	230
Nominal torque (Nm)	1,400
Max torque (Nm)	3,000
Voltage DC (V)	650
Gradeability	>20 %

Chassis

Chassis model	Low floor design
Front axle	ZF RL82A, Germany
Rear axle	ZF AV133, Germany
Front suspension (mm)	2,700
Rear suspension (mm)	3,390
Steering System	BOSCH 8098, Germany
Smart Cockpit	ACTIA, France
Tyres	275/70 R22.5
Brake system	Wabco EBS+ESC, Germany

PHOTO FROM TAV





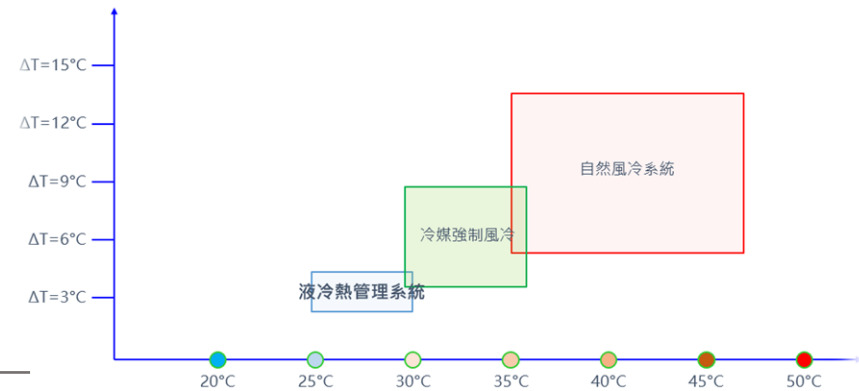
Electric bus battery system

電池Pack之液冷系統

Battery and Charging

Battery Technology	LFP
Battery capacity (kWh)	362
Installation location	Roof
Driving range (km)	>450 (normal condition)
Charging power (kW)	180 (DC)
Charging system	CCS1 / CCS2 / GB/T
Charging time (hr)	2 ~ 3
Cooling system	Liquid-cooling system

● 液冷熱管理系統 · 影響電池使用壽命甚鉅



Seating and Standard equipment

座位和 標準配備



Passanger area

No. of Passangers	88
No. of seats. Max	33+1

Safety and regulation

DSM (Driver Status Monitoring)

Alcohol Interlock

AVM (Around View Monitoring)

BSIS (Blind Spot Information System)

TPMS (Tire-Pressure Monitoring System)

HSA (Hill Start Assist)

ESP (Electronic Stability Program)

EAPM (Emergency Assist for Pedal Misapplication)

LDWS (Lane Departure Warning System)

AEBS (Advanced Emergency Braking System)

Air Conditioning System

Manufacture	DENSO
Cooling capacity (Kcal/h)	30,000

Safety equipment and System 車輛安全



ABS(Anti-lock Brake System)防鎖死煞車系統，在路面上緊急制動時，隨著制動力超過輪胎抓地力時，會產生打滑現象，失去控制能力，此時ABS會介入控制煞車力道，並以高速點煞的方式，使車輪在沒有鎖死的情況下停車。



ESP(Electronic Stability Program)車身動態穩定系統，全時監控車輛狀況，包含速度、輪胎抓地力.....等等，當偵測到車輪發生打滑或是車輛失控時，會介入控制對單輪或者四輪進行煞車，來達到穩定車身的功用。



LDWS(Lane Departure Warning System)車道偏移警示系統，當系統偵測到車輛慢慢偏離原始車道，駕駛人卻沒有介入控制時，會發出警告(警示音或視覺訊號)，提醒駕駛人盡快修正方向盤。



TPMS(Tire-Pressure Monitoring System)胎壓偵測系統，全時監控四輪胎壓，並將數值或是故障燈號顯示於儀表，使駕駛人可以得知胎壓裝況是否正常，減少因胎壓過高或過低發生的事故。



坡道輔助起步 HSA (Hill Start Assist)坡道輔助起步，當車輛位於斜坡而駕駛員鬆開煞車踏板時，系統會介入煞車約2-3秒，使駕駛員可以較容易前街油門踏板。



Driver Status Monitoring

防瞌睡系統 DMS(Driver Monitor Status)駕駛員狀態偵測系統，透過攝像頭來監控駕駛員精神狀態，當偵測到駕駛員有疲勞、分心、打瞌睡的情況，會即時的發出警示音，喚醒駕駛員。



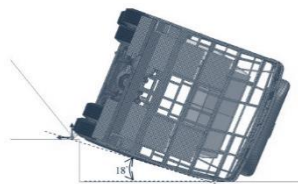
環景顯示系統 AVM (Around View Monitoring)環景顯示系統，藉由搭載於車上的攝影機，可以全時監控車體周圍的狀況，減少因視野死角發生的意外事故。



油門防誤踩 EAPM (Emergency Assist for Pedal Misapplication)油門防誤踩系統，當感測器偵測到障礙物時，若此時駕駛員將煞車誤踩成油門，導致車子失控加速 EAPM會立即介入，使油門失效。



AEBS (Autonomous Emergency Braking System)自動緊急煞車系統，當因駕駛分心，或有突發狀況，車輛有與行人或物體碰撞時，系統會偵測並煞車，可以減少碰撞的力道，或是直接避免碰撞的意外發生。



車身符合ECE-R 66: 客車車身的強度也是衡量客車被動安全水平的重要因素。唐榮設計之車身，通過高強度的鋁合金材料及整體化環形框架，可以減少事故發生時乘客受到的傷害。車身結構通過ECE-R 66，它規定了發生事故時結構設計必須保證的確切“生存空間”。



超長續航力 Long Range

首先，驚人長續航力450公里的國際水準。

國際上電動巴士產品的標配續航力為400公里以上，Alighter配置362 kwh高電量達成續航力450公里的國際水準佳績，離峰時段的電量，可以適時為電網反向V2G供電的彈性機能，使電網系統更加穩定的智慧效益。

First of all, the international standard with an amazingly long endurance of 450 kilometers.

The standard endurance of international electric bus products is more than 400 kilometers. Alighter is equipped with 362 kwh high power to achieve an international level of endurance of 450 kilometers. The power during off-peak hours can provide the power grid with the flexible function of reverse V2G power supply in a timely manner, so that the grid system More stable wisdom benefits.

PHOTO FROM TAY





電池組液冷技術 Liquid Cooling

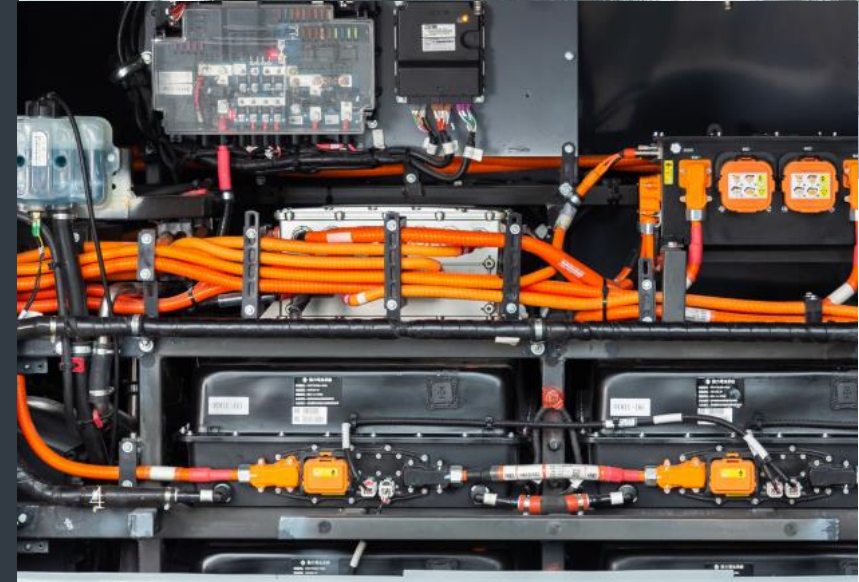
其次，電池組的智慧控制液冷技術

電池組的散熱技術攸關電池衰退與使用壽命，國際上電動巴士產品的電池組的散熱技術，已由第一階段風冷技術升級第二階段共用電空調冷氣製冷技術，到目前第三階段的智慧控制全循環液冷技術，顯見Alighter TAIWAN電動巴士在最關鍵的電池組技術的獨特性與優越性。

Secondly, the smart control liquid cooling technology of the battery pack

The heat dissipation technology of the battery pack is related to battery degradation and service life. The heat dissipation technology of the battery pack of the electric bus products in the world has been upgraded from the first stage air-cooling technology to the second stage shared electric air cooling technology, to the current third stage The intelligent control of full-cycle liquid cooling technology shows the uniqueness and superiority of the Alighter TAIWAN electric bus in the most critical battery pack technology.

PHOTO FROM TAY





智慧座艙技術 Smart Cockpit

第三，先進液晶儀表的智慧座艙技術

高達18項人機介面的智慧化項目與一機多屏智慧座艙，整合液晶儀表、HUD、車載資訊、語音或身分辨識與ADAS先進功能融合的特點，將透過「軟體」更新，獲得車輛最新的智慧化樣目升級功能與保養服務資訊等體驗，大幅改善過去偏向「硬體」之傳統駕駛座艙型態。

Fourth, smart cockpit technology with advanced LCD instruments

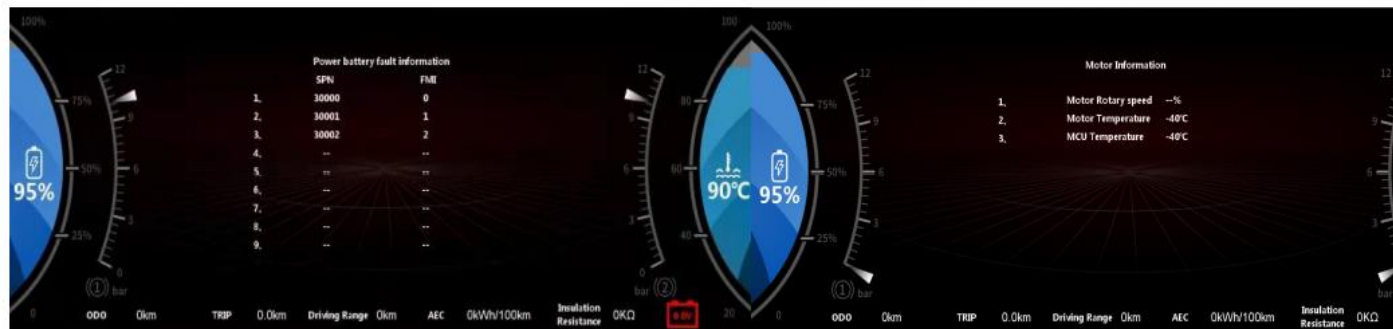
Up to 18 intelligent items of human-machine interface and one-machine multi-screen intelligent cockpit, integrating LCD instrument, HUD, car information, voice or body recognition and ADAS advanced functions, will be updated through the "software" to obtain the latest vehicle Experiences such as intelligent sample upgrade functions and maintenance service information have greatly improved the traditional cockpit type that was biased towards "hardware" in the past.

PHOTO FROM TAV

A Digital LED Display



B BMS Information1



C Fault Diagnosis Interface

D Motor Information





OTA創新技術 Over the air Technology

第四，OTA空中下載的創新技術

提供Over the air(OTA)創新技術之軟體升級服務，有效縮短車輛召回程序，大幅縮短維修時間並有效降低成本，積極面更達成主被動安全系統的安全性與可靠度上的大幅升級。

Fifth, the innovative technology of OTA over-the-air download

Provides software upgrade services of Over the air (OTA) innovative technology, which effectively shortens the vehicle recall procedure, greatly shortens the repair time and effectively reduces the cost, and positively achieves a significant upgrade in the safety and reliability of the active and passive safety systems.

PHOTO FROM TAV



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唐榮商用車

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