## Air-condifioned Low Entry Starhus CNG. Providing the boost to BRTS.



TnTn
Startbus

Tata Marcopolo Motors Limited (TMML) is a joint venture between Tata Motors and Marcopolo, the Brazil-based global leader in body building for buses and coaches.

The manufacturing facility of TMML is located in Lucknow, U.P. Another facility is coming up in Dharwad, Karnataka, which is slated to be the world's largest bus body building plant. TMML combines technology and knowhow of both Tata Motors and Marcopolo.

This includes Tata Motors' long-standing expertise in aggregates and manufacturing of chasses and fully-built buses, and the expertise of Marcopolo in body design and manufacturing processes and systems.

The JV has since resulted in superlative offerings in buses and BRTS (Bus Rapid Transit
System) applications. The first landmark in TMML's BRTS foray is the sale of 525 ultra-modern, air-conditioned, low entry Starbus CNG buses to the Delhi Transport

Corporation, in 2007.


Passenger-friendly

Starbus makes it easy for passengers to enter and alight from the bus. The bus also comes with a kneeling option that enables women and elderly passengers to board the bus with ease. Moreover, a manually operated ramp enables easy entry of wheelchairs into the bus.

Comfort inside out

Starbus stands out for its bright, spacious interiors, comfortable seating and adequate legroom. There is also ample standing space for passengers.

Safety-on-wheels
Starbus incorporates several safety features for passengers. These include • grab handles with slip resistant covers • wide jackknife cross doors with a buzzer that must be closed before the bus can move

- crossbelt for wheelchair passengers • windows with rubber beading and rounded corners • emergency exit door that opens from top to bottom.

Cool rides
Starbus has wide, spacious window panes that offer a full and clear view of the passing scenery. It also has air curtains at both doors, so that the temperature inside remains cool even when the doors are frequently opened for boarding and alighting.


Low Entry Buses:

- Rear engine - Walk-in bus - Rear portion raised • Available in CNG

| Description | Low Entry CNG |
| :--- | :--- |
| Chassis | LPO 1623 CNG LE |
| Emission | BSIII/BSIV |
| Engine | 230 HP Cummins LB |
| Engine Position | Rear |
| Fuel Injection | ECU Controlled - Rotary FIP |
| Auto Transmission | Optional |
| Clutch G/box | 352 dia, G600 |
| Front Axle | Deep Throat Rigid |
| Rear Axle | RA 109RR |
| Suspension Front | Pneumatic |
| Suspension Rear | Pneumatic |
| Tyres | 11 R 22.5 Tubeless |
| Brakes Front | Disc Brakes |
| Brakes Rear | Drum Brakes |
| Retarder | In-built with transmission |
| Fuel Tank | 9 Cyl x 80 L = 108 kg Gas |
| Gear Shift | Cable (NA for Auto Transmission) |
| Power-assisted Clutch | Clutch Booster |
| Floor Height | 380 mm |
| Kneeling | Optional |
| Length | 12.0 m |
| Width | 2.6 m |
| Turning circle radius | 10,100 mm |
| Air-conditioning | Direct Drive for AC |
| Electrical System | $24 \mathrm{~V}, 180$ AH Battery |
|  |  |

## Urban Transit Bus

## Low Entry CNG

| Seating Layout | Option for Wheelchair <br> No. of Passenger Seats <br> Manual Foldable Ramp with Wheelchair Restraint | Optional $32^{*}$ Optional |
| :---: | :---: | :---: |
| Type of Seats | Anti-Vandalism Seats Cushion on Seat \& Backrest | Yes <br> Optional |
| Door | Twin 1200 mm Door Front \& Middle Mechanical Double Jackknife Door Pneumatic Double Jackknife Door | Yes <br> Yes <br> Optional |
| Window | Top One-third Fixed with Bottom Sliding <br> Tinted Glasses (for AC) <br> Roof Hatch in Front \& Rear | Yes Optional Yes |
| Flooring | Anti Skid Vinyl Flooring <br> Al Chequered | Yes Optional |
| Interiors | PVC Coated GP Panel <br> PVC Coated AI Panel <br> Slim Fluorescent Tubelights <br> Stop Switches on Stanchion Pipes | Yes <br> Optional <br> Yes <br> Yes |
| Exterior Panels | Roof GP Panel <br> Side GP Stretch and AL Skirt <br> FRP \& Rear Front Face \& Bumper | $\begin{aligned} & \text { Yes } \\ & \text { Yes } \\ & \text { Yes } \end{aligned}$ |
| Front | FRP Dashboard with Instrument Cluster <br> Panoramic Wipers <br> Overhanging Outer Rear View Mirror <br> Saloon Mirror <br> Half Driver Partition <br> Drop Down Sunvisor <br> 4-Way Adjustable Driver Seats | Yes <br> Yes <br> Yes <br> Yes <br> Yes <br> Yes <br> Yes |
| Electronics/Telematics | Electronic Destination Board at Front, Rear \& Side GPS Vehicle Tracking System <br> Public Address System with Stereo \& Speakers Automatic Ticketing System with Smart Card Reader | Optional <br> Optional <br> Optional <br> Optional |
| Safety Features | Fire Extinguisher <br> Roof Hatches <br> First Aid Box <br> Emergency Door \& Emergency Exit <br> Signalling Devices (Side, Top Markers, Warning Triangles) <br> Fire Retardant Upholstery, Plywood, Panels \& Dashboard | Yes <br> Yes <br> Yes <br> Yes <br> Yes <br> Yes |
| With Wheelchair |  |  |

## GPRS/GPS system. Installation of this

system helps in communicating the exact
location of a Starbus in realtime, to bus
stations. A central server controls all information which it receives through GPRS/GPS.


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For more information, please visit our website: http://buses.tatamotors.com. You can also contact our Sales Office: 26th Floor, Centre 1, World Trade Centre, Cuffe Parade, Mumbai 400 005. Tel: (022) 6656 1800; Fax: (022) 6636 0408/0409. Email: businfo@tatamotors.com

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