



Flexible in City and Intercity use: New MAN Lion's Intercity LE sets benchmark in Low Entry class

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The Low Entry bus segment is growing rapidly at present. The new MAN Lion's Intercity LE now offers the best of both worlds, combining an optimised seating layout with low-floor genes and Intercity design concepts in a modern, attractive vehicle. The new member of the MAN bus family sets the benchmark in the class with its great flexibility – and with its looks too.

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- **Maximum flexibility of outfitting configuration for three lengths each in City and Intercity applications**
- **The new model series replaces three bus models, and starting in 2023 will also be fitted with the tried and proven MAN EfficientHybrid drive of the new Lion's City generation**
- **Powerful yet economical driveline, state-of-the-art connectivity and practical equipment packages make the Lion's Intercity LE the TCO champion**
- **Featuring the enhanced MAN "Smart Edge" design, the Lion's Intercity LE completes the current MAN bus family, setting new benchmarks in the Low Entry class**

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An attractive model offering maximum flexibility at a reasonable price – this specification from public transport operators and private bus companies in the price-sensitive Low Entry segment seems to be like squaring the circle. With decades of experience in the segment, and based on the latest MAN Lion's Intercity series and the innovative Lion's City bus, MAN Truck & Bus has nevertheless succeeded in designing and marketing a cost-effective modern entry-level model that meets all those demands.

To do so, the company's engineers combined the rear end design of the successful high-floor Lion's Intercity with the low-floor front end of the current Lion's City. This allows more forward-facing seats to be installed in the rear section of the bus especially, and means less complex – and so less costly

MAN Truck & Bus is one of Europe's leading commercial vehicle manufacturers and transport solution providers, with an annual revenue of more than 9,5 billion euros (2020). The company's product portfolio includes vans, trucks, buses/coaches and diesel and gas engines along with services related to passenger and cargo transport. MAN Truck & Bus is a company of TRATON SE and employs more than 37,000 people worldwide.



– state-of-the-art hypoid axles can be used. This modular design places the model's price point well below that of low-floor buses based solely on a low-floor City bus. Price is a key factor determining purchase decisions in this highly competitive segment. Yet the Lion's Intercity LE looks anything but "low-cost": its designers have updated the "Smart Edge" design, first launched in 2017 with the MAN Lion's Coach, in a sensitive, sustainable and highly recognisable way.

Six new buses replace three tried and proven series

The six versions of the new Low Entry model are replacing three tried and proven series: the LE series derived from the Lion's City low-floor City bus; the Lion's City Ü (A 20), also based on the City bus model; and, last but not least, the still very popular Lion's City LE/Ü (A 78). The first of those two legacy series will be discontinued at the end of 2021, and the third at the end of 2022.

The two Intercity versions – the Lion's Intercity LE 12 (42 C, 12.44 m) and Lion's Intercity LE 13 (43 C, 13.14 m) – are scheduled to go into production in early 2022. The City bus variants of the Lion's Intercity LE (32 C/33 C) in the same length will begin rolling off the production line from early 2023. The tried and proven EfficientHybrid module from the new generation of City buses will be launched at the same time. It also features a highly efficient automatic start-stop system and boost function – still a unique selling point in the market. The two 14.46 metre long three-axle Lion's Intercity LE 14 (34 C/44 C) models will follow in the third production phase in 2024. They will be based on a completely new electronics platform for the first time and will, of course, like all variants, optionally feature the EfficientHybrid system.

City or Intercity design: full configuration flexibility for the customer

The distinguishing features of the two variants are classic features in the segment and, with an identical exterior look, are closely geared to the different deployment profiles. The City version of the Lion's Intercity LE (32C/33C/34C) has a platformless design in the low floor area, and is equipped with 275/70 R22.5 tyres (320 mm entry height) in all variants. The Intercity version features that format only as an option. The standard tyres are 295/80 R 22.5 (380 mm entry height). It also always has platforms in the



front section (height at the front 1,425 mm, at the rear 1,875 mm), meaning it offers at least ten more seats than its City counterpart. A maximum of 102 passengers can be carried by the Intercity model, and up to 107 passengers in the City version.

The passenger capacities of the two three-axle models are 115 (Intercity) and 121 (City). All Lion's Intercity LE versions can be configured with modern overhead grab rails or optional height-adjusted luggage racks in open or closed versions, the latter also featuring modern service sets for light, air and service calls. The on-board luggage racks can be split very flexibly between the front and rear sections and the right and left sides of the bus.

The seats installed in the Intercity version are of the "MAN Intercity Basic" design, available either without seat belts or optionally with two- or three-point belts, depending on the classification. Three City seats with differing finishes and upholstery are available for the City variant. The optional "MAN City Comfort" seating variant is also available with a lap belt.

The City version features double-leaf inward-swinging front and centre doors as standard. The Intercity variant features an outward-swinging door as standard: single- or double-leaf on the front door, always double-leaf on centre door 2. All Lion's Intercity LE models are optionally available with double-leaf electric swing/sliding doors from the MAN modular technology system. A third door is only provided as standard for the three-axle City models. It is available for the other models as a customer special request.

Modern "Smart Edge" design speaks clear MAN language

The modern "Smart Edge" design, first featured in 2017 with the Lion's Coach, clearly identifies the Lion's Intercity LE as the new entry-level model in the current MAN family. "Smart Edge" means consistently clear, dynamic lines, chamfers and edges throughout the vehicle, though never resulting in aggressive or obtrusive shapes, but rather flowing harmoniously to create a holistic and self-contained design concept. The front and rear ends of the vehicle are assigned particular importance – after all, those areas are what imbue the large bus cube with its elegant and dynamic dominating presence, allowing the bus to present itself to the passenger in an inviting and friendly



way. As one example: the transition joint of the A-pillar is not set at a simple 90 degree angle to the roof, as is the customary design on the market, but – as in the Lion's City bus – first makes a dynamic, upward sweeping curve before then flowing into the horizontal roof line. The roof arch, marking the upper limit of the side wall, is additionally adorned with a precise contour edge running around the entire side of the bus like a protective and enclosing belt. "This creates a visual structure and clear proportions that imbue the bus with the typical and timeless MAN design language both on the outside and the inside," explains Stephan Schönherr, who as Vice President Styling Bus is responsible for the design of MAN and NEOPLAN brand buses.

The **front face** is deliberately kept sportily slim and horizontal, creating a powerful look. The black areas around the modern, optionally full LED headlights flow across the individual lights, embedding them in the typical brand style. They are sculpted around the front-end corners, flowing through into the side walls and breaking up the classic bus look to a certain extent. The typical black MAN fascia is now more strongly arrowed downwards, ideally matching the strongly accentuated horizontal surface which flows down into a three-dimensional form in the rims below the headlights. A small body-coloured front spoiler underlines this "sporty" front-end design in the contemporary style of an exclusive signature.

The **side graphic** picks up the dynamic flow of the black front-end elements, carrying it into the rim behind door 1 and then onwards horizontally. The powerful-looking wheel arches add further refinement to the side wall, enclosing the wheel in a circular shape and strongly enhancing the vehicle's three-dimensional impact. Their overall impression emphasises the load-bearing role of the wheels. A Low Entry bus, like any other model, has to look like it has been cast from a single mould, and this one definitely does – not least thanks to its low-reaching glass sections at the rear. The rear end very harmoniously reflects the modern MAN design language: wide, stocky rear pillars with downward-sweeping lines like a muscular back, together with the typical rear roof spoiler on top, present distinctive styling accents while also visually conveying a sense of safety and efficiency. The large LED rear light units from the Lion's Coach are fitted above the three-part rear bumper, imbuing the vehicle with a distinct coach-like character and creating a lighting



signature that is easily recognisable at night even from a distance. Here again, the opposing LED rear light unit array purposefully counteracts the hard edge of the vehicle. The rear flap is painted in body colour as standard, with an upper black section as a continuation of the side window line. A black engine compartment flap in the elegant look of the MAN bus family can also be ordered as an option. Designer Schönherr comments on the overall concept: “The concerted enhancement of our successful MAN Smart Edge design gives the price-sensitive LE segment a completely new stylish look. Practical buses can still be designed in an attractive way, to high quality standards. The new MAN Lion's Intercity LE combines the best of both worlds in the most appealing way!”

The interior: Functionality meets timeless elegance

The interior of the MAN Lion's Intercity LE has also been completely redesigned, with a firm eye on maximum customer benefit. Depending on customer requirements, it comes with or without platforms in the low floor area. The flexibly configurable luggage racks are height-adjusted so that smaller passengers can reach them too. The seats in the raised rear section slope gradually upwards, creating a theatre seating style reminiscent of premium coaches. The entire interior design is bright, sleekly smooth and friendly: “We designed every visible element with great care! The “Smart Edge” interior design, together with the matching colour and trim concept, make the interior a modern, bright and spacious experience, providing a pleasant, friendly impression of clarity and visual order for passengers,” comments Stephan Schönherr. Particular attention was paid to the high-quality and professional look of all visible surfaces. The colour scheme is typically MAN, contrasting shades to create an impression of spaciousness and distinguish the different functional areas. A new seating layout and modern overhead grab rails featuring an oval cross-section complete the interior design concept. In the City version, all seats and grab rails are attached to the side walls where possible, so as to ensure optimal floor cleaning.

Thanks to the state-of-the-art **lighting concept** – a first for a scheduled-service bus – featuring direct and continuous light, the interior appears very spacious, inviting and bright. The direct LED lighting in warm white ensures



uniform illumination, and creates a warm and pleasant ambience. A more powerful 100 lux lighting system is available as an option, as are stylish integrated service sets on the undersides of the enclosed luggage racks, which are also available with reading lamps, air vents and a service call button. Discreet ambient lighting is also available as an option.

Always the best climate and hygiene on-board

High-end state-of-the-art ventilation and air-conditioning systems are available in different variants for the MAN Lion's Intercity. The MAN Genuine antiviral interior air filters provide reliable hygienic protection. The microfilters actively protect against the transmission of viruses by significantly reducing the concentration of virus aerosols inside the vehicle. This is made possible by the structure of the system, which has several layers of filters. These layers effectively filter harmful gas emissions as well as inorganic and biological particles and aerosols, capturing and neutralising them. Their concentration in the air is reduced significantly thanks to the high level of filtration provided by the first two layers. The antiviral effect of the third biofunctional layer almost completely disables any remaining viruses. In times of increased hygiene requirements due to the coronavirus pandemic, a partitioning of the driver's area made of single-pane safety glass (ESG) or polycarbonate is also available to effectively protect the driver from any droplet infection while doing his or her job. In addition, high-quality disinfectant dispensers can be fitted in the step units or at the optional toilet.

The entry-level ventilation option features simple, generously sized vent windows, ensuring optimal ventilation at all times if no state-of-the-art air-conditioning system is installed. An additional feature is the front box for the driver, which has been made 10 kilograms lighter thanks to the aluminium heat exchanger. Performance data: Cooling output 7.5 kW, maximum heating power 19 kW. A new feature here is the air quality sensor (AQS), which automatically switches to recirculated air mode if the outside air is polluted. The fan-assisted convector heating on the walls of the passenger area and the roof heating provide pleasant warmth at all times. The tried and proven 30 kW auxiliary heater, run either on diesel or heating oil, can be selectively activated to provide peak power. Additional heaters on the steps and air curtains at the doors can be ordered as options.



The next level offers two roof heating systems with no climate control functionality. They are available from both Valeo and Konvekta, provide 40 kW of heating power, and save around 50 kilograms in weight compared to complete air-conditioning systems. The small air-conditioning systems are also available from both suppliers, and feature cooling capacities of 32 and 33 kW respectively. The larger versions have capacities of 40 and 39 kW respectively. The modular Valeo units are 30 millimetres lower than the Konvekta versions, which in turn are fully recyclable and somewhat more fuel-efficient.

A state-of-the-art cockpit providing an enviable workplace

The new MAN Lion's Intercity LE provides its driver with a modern workplace which, with its elegantly curved cab door, fits perfectly into the design concept. The passenger reception now resembles that of a hotel, and the rear-hinged door with its polycarbonate pane is also a safety feature. The colour scheme matches that of the passenger area: light colours above, darker shades prevailing further down, or where there is a heightened risk of dirt contamination, or where technical systems are housed. The driver's workplace has been raised by a substantial 120 millimetres compared to a purely low-floor bus, so the driver is sitting at the passengers' eye level. The previous "Euro box" above the driver gives way to a new IT compartment featuring standardised 19-inch racks for electrical installations or a WLAN router and RIO box. The front-end dome above the driver and entrance can be topped with a warm light directed down onto the payment counter if so desired.

Two versions of the driver's workplace are available: the classic version from the Lion's Intercity, and MAN's own fully VDV-compliant driver's workplace from the new Lion's City generation. The lower section can be adjusted together with the steering wheel as the driver needs. With a focus on ergonomics, comfort and safety, the VDV driver's workplace has also been optimised in terms of user-friendliness thanks to the layout of its switches and instruments. The controls are arranged in three zones according to



frequency of use, and an optional auxiliary instrument carrier on the right can accommodate additional DIN units or monitors. A cup holder and USB port are located in the side control panel, as is the prominently positioned spring-release lever. Additional storage options include a lockable pocket compartment, a waste bin or a newspaper net in the driver's door, available in several variants.

For improved ergonomics based on an optimal seating position, the driver's seat horizontal adjustment has been extended to 50 millimetres more than in the MAN Lion's Intercity. The instrument carrier moves synchronously with the movement of the steering wheel (+/- 110 mm; 20° tilt). Optimal visibility is additionally provided by the "Highline" high-resolution 4-inch colour monitor, featuring a stop menu display as standard, which now comes in a new coach-like styling and is even easier to read. To the left of the instrument panel, an additional monitor can now be installed to display the image from the rear-view camera or other sources.

Optimised mirrors, attached to a tubular frame as standard, provide the best view to the rear and side. They are available with or without a front-end observation mirror and separate school bus mirror at door 2, and are mounted as standard at a height of over two metres. The high-end full-fairing integral version from the Lion's City is also available on request.

Solid lightweight construction for enhanced efficiency

The engineers paid particular attention to weight saving, which directly influences fuel consumption. In designing the vehicle, a range of measures were implemented to significantly reduce weight, resulting in lower consumption and thus higher efficiency, as well as greater sustainability. The target weights of the Intercity variants going into production in 2022, for example, are 11.7 tonnes (42C) and 12 tonnes (43C) respectively – lighter than comparable competitor models. But those savings will in no way impact on safety. Even the weight of the redesigned integral rear end, featuring a firmer roll bar in compliance with the latest Rollover Regulation ECE-R 66.02, was fully compensated by other measures. The new models also feature the



familiar composite-material sandwich roof from the Lion's City. Weighing approximately 150 kg, it is around 25 percent lighter than a steel roof.

The weight saving on the rear skeleton is even more pronounced. Although it is essentially based on the ladder frame of the MAN Lion's Intercity, it has been significantly optimised and adapted to the integral design. Omitting some solid steel profiles saved about 300 kg in weight, while retaining the identical stability and handling. The optionally available segmented plastic side walls from the City bus save even more weight, can be replaced very quickly in the event of damage, and can even be pre-painted in the desired colour. Last but not least, weight has also been reduced in components such as the engine compartment and front flaps by dispensing with the previous steel frame and using a very solid thin-film GRP (glass-reinforced plastic) structure.

Powerful engines with minimal emissions

The new Intercity bus is also highly impressive in terms of its drive. Thanks to the D1556 LOH adopted from the new City bus generation, the Lion's Intercity LE boasts a powerful and comfortable driveline which is just as well suited to urban traffic as it is to occasional journeys or more demanding topography. The highly efficient 9-litre 6-cylinder engine is available in 280 hp (206 kW), 330 hp (243 kW) and 360 hp (265 kW) power classes, with a maximum torque of 1,200 to 1,600 Nm. The state-of-the-art Common Rail injection system now operates at 2,500 bar pressure. This power range makes the Intercity bus ideal for demanding topography.

The latest D15 generation offers even more advantages: Many auxiliary units such as the coolant pump and the new alternators with LIN interface are controlled according to demand, which contributes to a significant increase in efficiency. The oil change and particle filter cleaning intervals are very long, at 80,000 and 470,000 kilometres respectively, ensuring a low TCO. Except for the three-axle versions, all power unit variants are selectable (no 280 hp engine for 33C/43C). The new MAN engines are suitable for FAME fuel as well as for hydrogenated vegetable oils and synthetic fuels (XtL) without further adaptation.



From 2023, timed to the launch of the City version, the D15 engine for the City and Intercity variants can be optionally paired with the MAN EfficientHybrid system, which contributes significantly to reducing fuel consumption and thus emissions. A novelty in this segment. Additionally, the standard start-stop function of the MAN EfficientHybrid ensures extremely quiet stop phases at bus stops and traffic lights. The core of the system is the 12 kW crankshaft starter generator, an electric machine that converts mechanical energy into electrical energy during braking. The recuperated energy is stored in a roof-mounted UltraCap module with 40 watt hours (Wh) of storage capacity, which is significantly lighter and more compact than a battery of similar capacity. The energy stored in the UltraCap supplies the on-board power independently of the driveline, which not only relieves the load on the diesel engine but also enables it to be switched off while the vehicle is stationary. By reversing the way the crankshaft starter generator works, the MAN D15 engine can be restarted within just a few moments and boosted during subsequent acceleration with a maximum of 220 Nm of torque, which again significantly relieves the load on the engine, especially during the starting phase.

State-of-the-art automatic gearboxes for even greater efficiency and comfort

All MAN engines for the Lion's Intercity LE can be equipped with either the Voith DIWA.6 (four-speed) or the new ZF Ecolife 2 (six-speed) converter automatic gearbox to ensure the most efficient and relaxed running. This gearbox design is very popular with customers in the City segment, and is ideally matched to the various applications. MAN has entirely dispensed with a manual six-speed gearbox in this segment for the first time. Alongside extremely smooth gear-shifting, the energetic, uninterrupted power delivery is a further impressive feature of these tried and proven automatic gearboxes.

Active running gear made from top-quality components

The running gear of the new Low Entry Intercity bus has genuine unmistakable coach genes, naturally offering front independent wheel suspension, as well as standard-fit stabilisers which provide for a wide wheel turn angle of 56 degrees, thus ensuring a compact turning circle (53 degrees



with 295/80 R 22.5 Intercity tyres). The tried and proven bus-specific MAN hypoid axle HY-1350-B-03 is used as the drive axle, and can be delivered with different final drive ratios depending on the gearbox – so nothing stands in the way of optimal adaptation to its intended use. The trailing axle of the two three-axle MAN Lion's City Intercity LE 14 models (34C/44C) is electrohydraulically steered, which limits tyre wear and significantly reduces the turning circle (23.76 and 24.36 m respectively).

Just like all MAN buses, adaptive PCV (Premium Comfort Valve) shock absorbers are installed which ideally combine particularly safe and comfortable handling with low maintenance requirements. Thanks to a new oil flow design, many more parameters are available for specific tuning of each axle variant, which in turn leads to much more comfortable handling.

Comprehensive safety equipment on-board

Like every MAN bus, the Lion's Intercity LE also has comprehensive safety equipment. The Low Entry bus already complies with the amended ECE R66.02 body safety standard thanks to its significantly reinforced rear roll bar. It also already has ABS/ASR as standard, an effective brake assistant as standard, and the electronic stability program ESP. As an additional feature, the LED brake lights pulsate faster on sharp emergency braking. The Adaptive Cruise Control ACC and Lane Guard System LGS are optionally available in haptic or acoustic versions.

For effective fire protection, all interior materials are certified in accordance with the new ECE Regulation 118.03, and a fire extinguishing system is installed as standard in the engine compartment and other neuralgic installation locations. And last but not least, all tyres and their pressures can be optionally monitored at any time using TPM (tyre pressure monitoring).

As an effective measure to prevent accidents caused in a blind spot, the Lion's Intercity LE also features an optional active alert system with pedestrian detection when turning. A front camera as well as cameras on one or both sides of the vehicle monitor the traffic at all times, ensuring significantly less pressure for the driver in dangerous turning situations. Drivers are actively alerted to any dangerous situations or impending



collisions via multiple alert levels, with visual warnings from two displays installed in their field of vision and an additional, acoustic warning signal.

The headlights and rear lights on the new MAN Lion's Intercity LE are examples of the high safety standards it sets. The LED rear lights come as standard equipment along with LED daytime driving lights, and the headlights are optionally also available as full LED. The LED lamps in all lighting functions not only underscore the characteristic design of the new MAN Lion's Intercity LE by creating a special lighting signature, they also contribute to safety and help reduce operating costs. In addition to their high energy efficiency, the lamps have a long service life of up to 10,000 operating hours and are highly fail-safe, eliminating the need for expensive lamp replacements. They also enhance visibility: LED dipped and high-beam headlights are some 50 percent bright than halogens. LED light is also more diffuse, and has a much greater range. In addition, the bright white light is less tiring for the driver.

Digital and analogue services

MAN offers a range of analogue and digital services for the new Low Entry bus that make everyday life easier for bus drivers and operators. The right time for the next visit to a garage, for example, is monitored by a dynamic maintenance interval calculator. This shows when the next maintenance is due, depending on the type of deployment and load or motor run time. Service and maintenance contracts that are adapted to the specific deployment and optimised in terms of TCO can, of course, also be concluded for the Lion's Intercity LE. But there's more: extensive MAN Digital Services are made possible by the RIO Box, which among other things ensures secure data transfer from the vehicle to the RIO platform. As of October 2019, the state-of-the-art on-board connectivity module now comes as standard in all MAN and NEOPLAN coaches, intercity buses and city buses for the EU 27+3 states. Six digital services are available to bus customers so far, and further bus-specific applications are currently in preparation. The "Essentials", "MAN ServiceCare" services and the Pocket Fleet app, which enables easy monitoring of an entire bus fleet on a smartphone or tablet, are free of charge. All other chargeable services can be cancelled on a daily basis. As a result, customers have a risk-free way to test out the services and can add or



remove them individually on the RIO platform as and when each vehicle requires. Precisely as it should be for a highly flexible bus.

Technical overview: First Intercity variant SOP phase from 01/2022

Model	Lion's Intercity LE 12 (42 C)	Lion's Intercity LE 13 (43C)
Length (mm)	12,449	13,149
Width/height (m)	2,550/3,425	2,550/3,425
Overhang front/rear	2,849/3,300	2,849/3,300
Wheelbase (mm)	6,300	7,000
Turning circle (mm)	22,980/22,160 with 275/70 R22.5	24,880/23,960 with 275/70 R22.5
Entry height front/rear (mm)	340/425	340/425
Interior headroom (mm)	2,732	2,732
MAN D15 engine (206 kW/280 hp) 1,200 Nm	Series	Series
MAN D15 engine (243 kW/330 hp) 1,400 Nm	Optional	Optional
MAN D15 engine (265 kW/360 hp) 1,600 Nm	Optional	Optional
MAN EfficientHybrid	Optional from 2023	Optional from 2023
Gearbox	ZF Ecolife 2 / DIWA.6	ZF Ecolife 2 / DIWA.6
Tank capacity	245/350 l	245/350 l
AdBlue fluid/heating oil capacity	40 l/35 l	40 l/35 l
Front axle (7.5t)	Independent wheel; PCV	Independent wheel; PCV
Drive axle (12.6t)	Hypoid axle/stabiliser; PCV dampers	Hypoid axle/stabiliser; PCV dampers
Tyre size	295/80 R22.5 or 275/70R22.5	295/80 R22.5 or 275/70R22.5
GVWR	19.5 t	19.5 t
Seats/Standing places/Total	49/45/94	53/49/102
SOP	Q1 2022	Q1 2022