

The Smart Assistant

# **Tower Crane Litronic**



# **LIEBHERR**



# Litronic – The Smart Assistant

Modern construction in the 21<sup>st</sup> century is characterised by ever greater complexity in less space, coupled with time and cost pressure. The demands on construction machinery and its operators are growing, especially in the area of tower cranes. To support crane operators in their work while boosting handling capacity, reliability and safety, our control comes with a series of modern assistance systems.

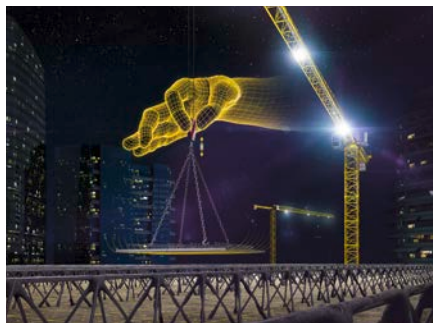








# Litronic – The Smart Assistant



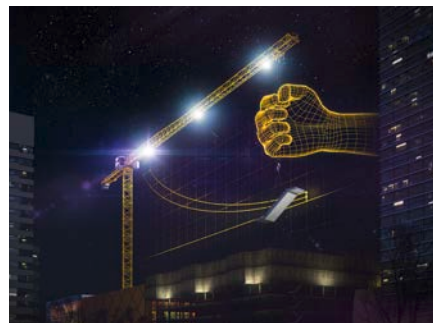
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Micromove

Proven fine positioning mode – even for the heaviest components.



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Operating-range limiting system

This allows you to define the non-critical working range with the highest precision.



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Load Plus

Ensures increased load capacities up to 20 %.



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Full control lever distance



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Wind force moment control

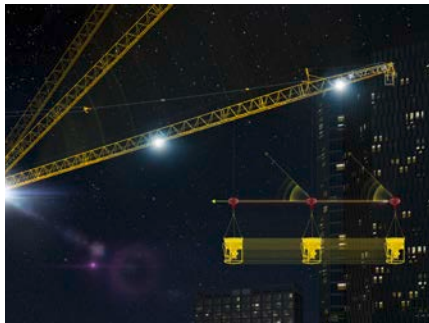


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Meet the construction site challenges.



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Work with the HC-L as with a trolley jib.



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# Micromove



## Litronic lets you handle the crane hook with finesse.

Brick after brick – this is fast becoming a thing of the past on today's construction site. Prefabricated components, such as filigree concrete covers, have long been part of everyday routine. Both cost and time pressure along with increasing safety requirements mean loads have to be handled with particular care.

The Micromove function allows the crane operator to perform positioning with sensitive precision.



To make work with critical components easier, Micromove fine positioning mode comes with two advantages: Firstly, the workpieces can be placed down with the utmost care and precision at micro-speed and full control lever distance. Secondly, components can be kept suspended without the brake taking effect. This guarantees a smooth and gentle re-start.



So as not to disturb concentration and avoid interruptions, the Micromove function can be activated directly at the control lever. No matter whether via radio-control or in the cabin – Micromove is always just the touch of a button away.

The heaviest components can be moved into place and positioned with millimetre precision. This ensures the greatest possible safety – for the building site, components and construction workers.



# Operating-range limiting system





## Protects what's important to you and others.

Above all in inner cities, construction sites are often small in terms of space and adjoin buildings that you need to avoid when slewing with loads on the hook. In particular traffic routes such as rail tracks and motorways as well as public facilities such as nurseries have to be kept out of the working range. As every metre counts for you, the Litronic operating-range limiting system now offers even more teaching points. This means you can define your working range with special precision.



The electronic monitoring system (EMS) allows erection engineers to delimit the precisely determined working area. An acoustic signal and display indicate to the crane operator when he is approaching such an area, allowing the crane to stop automatically before overslewing.

As a special feature, predefined areas can be overslewed with fully raised hook. This means low buildings can be protected, yet do not have to be fully bypassed.



20 polygon points for 10 polygonal chains: Trace existing obstructions exactly. Simply provide the corner points and the system will join these up automatically.



A definable square: Program the four corners of a building – the system will automatically delimit a square.



Three circle segments: For rapid programming – define two points and the system will map out the angles and radius in-between.

The operating-range limiting system allows you to automatically exclude areas requiring protection. This enhances safety enormously and also lets you utilise the free areas with metre precision – thereby boosting efficiency on the construction site.



# Load Plus



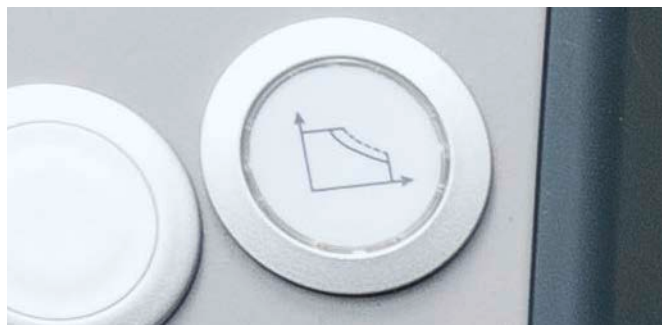


## Big power from a small button.

A tower crane works at the limit of its lifting capacity for the shortest time. The Litronic also enables additional power for certain individual hoisting operations involving heavy loads. The hoisting load can be increased by up to 20 % – at the press of a button.



The speed of the crane movements has a major effect on the maximum load capacity. To be able to increase this, the activated Load-Plus function reduces the speed of the crane drives. This means you can hoist up to 20 % more load.



To ensure a fast utilization, the Load-Plus function can be activated directly at the radio-control or control stand.

The Load-Plus function lets you increase the lifting capacity of your crane for individual hoisting. That means a smaller tower crane is often adequate with Litronic, as infrequent hoisting with heavy parts is nevertheless possible.



# Safety-monitored climbing



## So cranes can reach for the sky.

Climbing is one of the greatest challenges in crane operation. The stability of the construction is reduced and the wind-exposed surface area increased. Climbing also involves many individual steps that need to function smoothly. The Tower Crane Litronic allows you to control the climbing for each of these individual steps.



Activating climbing mode automatically limits crane operation, converting it to a special climbing load curve. This enables the climbing to be carried out safely, while reducing hazards due to improper actions.



Besides operating the climbing equipment, the climbing control panel lets you monitor the entire procedure. Visual signals provide information on the proper implementation and enable the next climbing step.



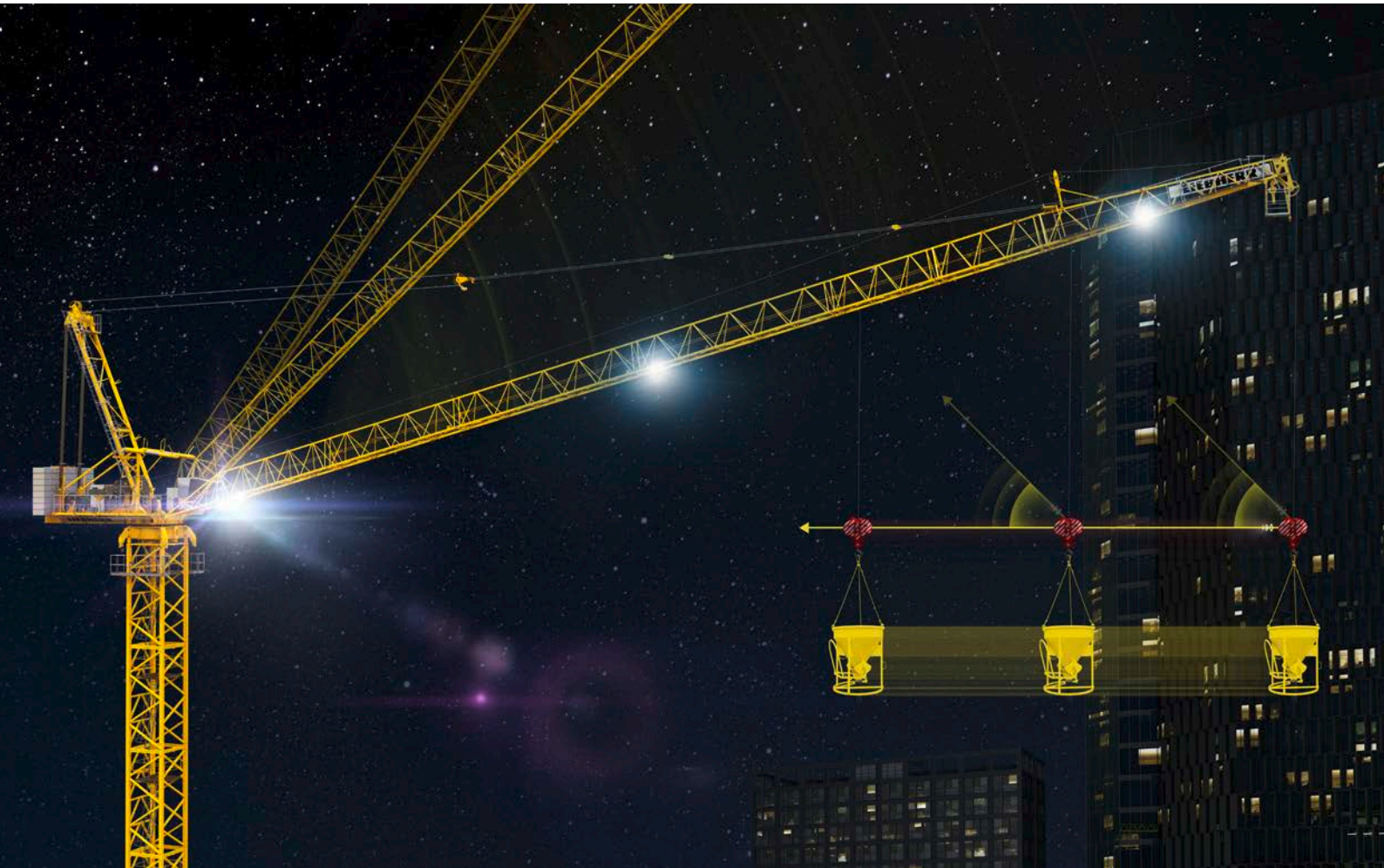
### Highly trained

Climbing trainings directly at the manufacturer:  
[www.liebherr.com/tc/training](http://www.liebherr.com/tc/training)

The monitored system increases safety during climbing. The clear release for the next step prevents unnecessary interruptions.



# Level luffing



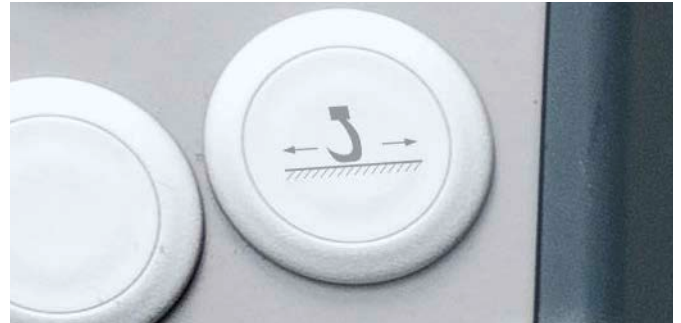
## Moves loads in a straight line.

Precise movement of loads is indispensable for efficiency and safety on the construction site. Filigree prefabricated building elements, the use of glass or light alloy components, concreting work under time pressure and the ever smaller construction sites are challenges that need to be mastered by crane operators.

The level luffing of the Litronic control system for HC-L luffing jib cranes enables straight load transport and highly precise positioning.



If the assistant is activated when moving the jib, the control system automatically readjusts the hoist gear. The exact calculation means the load can be moved along a horizontal line. Such precise work is possible with concreting work in particular.



The level luffing can be used flexibly. Depending on the type of hoisting, the crane operator can decide whether to use the assistant or not. The level luffing can also be activated or deactivated during hoisting.

The level luffing function makes the crane operator's work easier, as he does not have to readjust the height of the load manually. This allows him to concentrate on positioning the load. That makes work on the construction site more efficient and enhances safety for everyone involved.



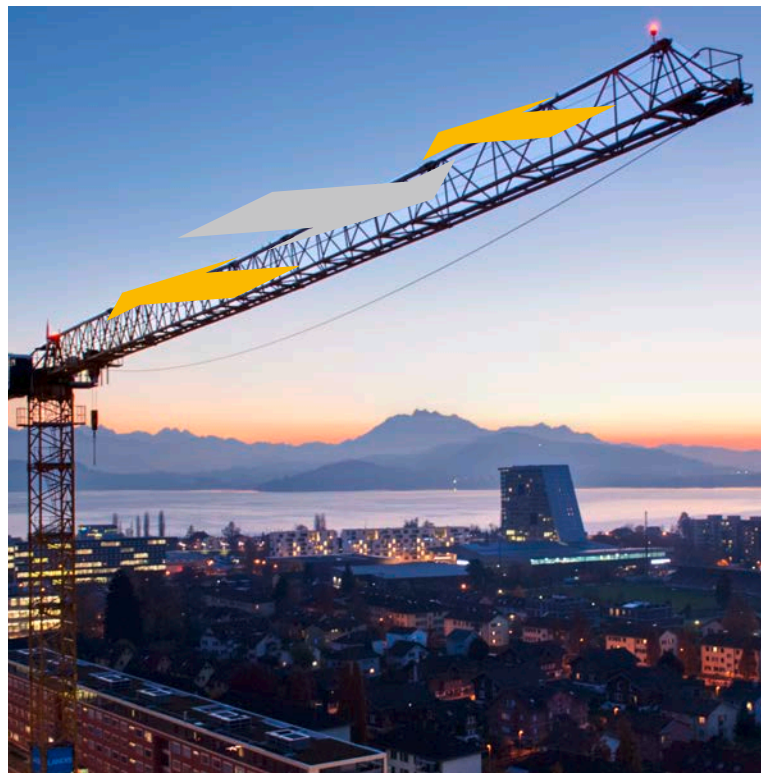
# Safety and comfort



## Full control lever distance available at all times

Heavy loads call for careful work in particular. That entails special challenges for the crane and operator. The Litronic control system means the full control lever distance is always available, irrespective of the potential speed – so you can master this perfectly.

You can therefore use the drive speed reduction to handle heavy loads with special care.



## Precision in the wind

Wind on the construction site is a crucial factor in crane operation. To enable the highest level of safety and precision at all times, Litronic cranes are equipped with wind force moment control. The control registers the movements of the jib via high-resolution sensors and counteracts the movements caused by the wind. In this way, the effect of the wind can also be reduced with large-area loads. As a result, safety and precision are increased on the construction site.



## Keep your load under control

High-speed slewing and braking manoeuvres can cause loads to swing. The integrated oscillation damping system compensates this automatically – a major step forwards for site safety since it increases the crane operator's control of the load.



## Slew however you wish

Every manufacturer follows their own philosophy for the crane control. That's especially noticeable when a crane operator changes the type and requires a longer familiarisation time. The Litronic consigns this problem to the past.

Every crane operator can opt for one of three slewing modes and adjust these to his situation, without the need for a service technician. That allows crane operators to adapt the slewing behaviour of the cranes to personal preferences.



# Large construction sites demand team work

The smart assistants of the Liebherr Litronic enable such a hazard-free and productive cooperation.









# Human-machine interface



# Electronic monitoring system (EMS)

Crane operators need to stay informed about the crane's operating parameters for their work. Here the EMS helps them to keep an overview of everything – even in difficult conditions. The personalised mask also provides precise information that is important in special situations.

That makes the display an important aid for every crane operator.



## The right view

Avoid distractions and show just what you need. Depending on requirements, the situation on the construction site and personal preferences, various operating parameters can be displayed or you can program a customised screen with your desired information. This can then be saved via a crane operator profile, which can be called up again when changing shift.

## Targeted relocation

The EMS display is a useful aid when positioning loads. Besides indicating the trolley position, reference points can also be set. Thus a definite working point can always be approached.

## During servicing

The display also helps to prevent downtimes. It shows warnings and error messages in plain text. This allows you to respond right away and avoid potential interruptions in advance.



# Control stand



## Ergonomic control stand

High strain during crane travel and long sitting mean you can often lose concentration. To help the crane operator remain concentrated and retain a high level of work performance, the Liebherr cabin contains a control stand that sets new benchmarks in the field of ergonomics. The seat can be adjusted in various directions so as to ensure the correct position and best view at all times. It also enables customised control levers and armrests, allowing you to retain sensitivity over the course of a long day. A sophisticated heating and air-conditioning system rounds off the equipment in the cabin.



### Control lever

The control levers, which have been designed jointly with customers and users, ensure access to all essential crane functions. In addition to all crane drives, the special functions Micromove and Load-Plus can also be activated during on-going operation. This keeps the workflow as smooth as possible.



### Radio control

Besides controlling the crane from the cabin, we also provide radio controls for all crane models. These have the same functions as are familiar from the cabin. Feedback from the crane is also shown on the radio control display. This allows the crane operator to move freely on the construction site, so as to avoid visual impediments for instance.



### Hook camera

You can keep the load in view at all times on the screen in the operator's cabin thanks to autofocus and zoom. The batteries are charged automatically to ensure that the camera system is always available.





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### **Want to master working with the Tower Crane Litronic?**

The training centre at Liebherr-Werk Biberach GmbH offers diverse trainings regarding all aspects of control and work with cranes.

More information at:

**[www.liebherr.com/tc/training](http://www.liebherr.com/tc/training)**

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