**Product advantages mobile crane**

Max. load capacity: 400 t  
Max. height under hook: 130 m  
Max. radius: 100 m

**Probedruck**

**LTM 1400-7.1**

- **Max. load capacity**: 400 t
- **Max. height under hook**: 130 m
- **Max. radius**: 100 m

**Electric/electronic crane control with integrated safe load indicator**

- Control of the winches, the slewing gear as well as the lifting gear
- Visually controlling the LICCON system via PLC control
- Joystick selector with vibrating motion detectors
- Slewing motion controllable from 0 – 1.5 min⁻¹, additionally 6 steps between 10 % and 100 % preselectable by the LICCON control
- Electrohydraulic interlocking system of the superstructure over front and over rear

**The LICCON test system**

- The LICCON test system assists the servicing personnel in quickly localizing errors of the crane’s sensory system without the need of measuring instruments
- Error description by error codes and error descriptions on the display screen
- Convenient interactive functions permit the observation of all inputs and outputs of the general system by different representations of the sensory area during crane operation
- Selection and activation of error inputs and error actions to the system as well as their function on the display screen

**The LICCON area limitation**

- Relieves the crane operator, especially in situations where the handling of loads requires the full attention, by controlling the work area limits. Work areas can be restricted by buildings, bridges, cranes, high tension power lines, pipes or adjacent lifting and handling machines
- The automatic work area limitation is easily be programmed. Four different limitation functions are programmable
- Height limitation of the pulley head
- Radius limitation
- Angle limitation
- Limitation of edges

**The LICCON work planner**

- The LICCON work planner consists of a software program for planning, simulation and documentation of crane applications on the display screen (optional)
- The work planner permits the planning of building to write lists and to represent a crane model true to scale including its entire working motions within a fictional construction site
- The work planner enables the preparation of more transparent offers, it facilitates the handling of the crane operator and can be run on a laptop at the construction site

**Optional features contribute to an expansion of the application spectrum and increase comfort and safety**

**On the carrier**
- Eddy-current brake
- Outrigger control
- Rope box
- Air-conditioning system
- Radio preparation
- Seat heating for driver’s and co-drivers seat
- 3rd seat
- Maneuvering coupling
- Fog lamps
- CD radio set

**Further optional features by request**

LIEBHERR Werk Ehingen GmbH  
Postfach 1361, 89582 Ehingen, Germany  
+49 73 91 5 02-0, Fax +49 73 91 5 02-33 99  
www.liebherr.com, E-Mail: info.lwe@liebherr.com

**LICCON monitor**

- Slewing gear
- Transmitters
- Sensors
- Joystick
- Engine control

**LICCON control**

- Single-stage telescoping ram
- Control block
- LICCON engine D936L A6

**On the crane superstructure**
- Air-conditioning system
- Seat heating
- Video control of the winches
- Work area limitation program
- Working projector Xenon on the telescopic boom base section
- GSM module for tele diagnostic
- CD radio set

**Further optional features by request**

LIEBHERR-Werk Ehingen GmbH
Postfach 1361, 89582 Ehingen, Germany
+49 73 91 5 02-0, Fax +49 73 91 5 02-33 99
www.liebherr.com, E-Mail: info.lwe@liebherr.com
Compact, maneuverable and safe

- Overload safety system (1, 2, 3, 4, 5)
- Overloading angles, front to 11°, rear to 10°
- Steadied turning radii, active rear-end steering, 13.6 m in
  corner, 14.00 R 25, 19°
- Driving tenons (patented internal locking system)
- Telescopic boom guying system can technically carried along
  by the crane
- For safe displacement, in addition to the service and parking
  brakes, a safety brake (optional)
- Safe and light weight telescoping system, thus load capacity
  and turning radius
- Drive 14 x 8, axles 1, 3, 5 and 6 driven; 6th axle activatable
  for off-road displacement
- Efficient, with differentials for laterally steering to increase
  the off-road quality
- Load capacity, front and rear load distribution 72/28 due to
  optimal weight distribution
- Lateral force and maintenance free suspension rams, rams
  protected against damage by plastic pipes
- Reliable cut-off device when exceeding the admissible load
  capacity values for any boom intermediate length
- Automatic cushioning of the telescopes in end positions
- VERY COMPACT AND LIGHT-WEIGHT TELESPOCING SYSTEM, THEREFORE LOAD CAPACITY AND TURNING RADIUS
- Telescopable loads are displayed on the LICCON operating
  picture, the interlocking positions are precisely shown on the
  operating picture, the interlocking positions are precisely
  shown on the operating picture
- Representation of all essential data by graphic symbols on
  the operating picture
- Setting of the configuration by convenient interactive functions
- Setting of the configuration by convenient interactive functions
- Reliable cut-off device when exceeding the admissible load
  capacity values for any boom intermediate length
- With integrated wind speed measuring system
- Drive 14 x 8, axles 1, 3, 5 and 6 driven; 6th axle activatable
  for off-road displacement
- Efficient, with differentials for laterally steering to increase
  the off-road quality
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  optimal weight distribution
- Lateral force and maintenance free suspension rams, rams
  protected against damage by plastic pipes
- Reliable cut-off device when exceeding the admissible load
  capacity values for any boom intermediate length
- Automatic cushioning of the telescopes in end positions
  during telescoping and retracting to preserve the structural
  integrity
Axles 4 – 7 provided for "active rear-axle steering". 5 steering methods are preselectable by fixed programs (P):

P1 Road displacement steering
Axles 1 – 3 are steered mechanically by means of the steering wheel with hydraulic assistance. Axes 4 and 5 are steered "actively", speed-dependent up to 30 km/h in relation to the degree of lock of the front axle, and set and blocked to straight displacement at over 30 km/h. Axes 6 and 7 are steered "actively", speed-dependent up to 60 km/h, in relation to the degree of lock of the front axles, and set electrohydraulically to straight displacement up to 60 km/h. The modification of the steering angle in dependence of the speed guarantees a precise and flexible displacement quality and reduces the abrasion of the pneumatics.

P2 All-wheel steering
Axles 4 – 7 are locked in conformance with the steering angle of the 1st axle by means of the steering wheel to realize the smallest turning radii.

P3 Crab steering
Axles 4 – 7 are locked in the identical sense of axles 1 – 3 by means of the steering wheel. The raising of the axles is not necessary for crab steering as all axles are steered.

P4 Steering without swerving out
Axles 4 – 7 are locked in relation to the steering angle of the 1st axle to prevent any swerving out of the rear of the carrier.

P5 Manual crab steering
Axles 1 – 3 are steered by means of the steering wheel, axles 4 – 7 are steered independently from the steering lock of axles 1 – 3 by pushbuttons.

In case of a failure of the active rear-axle steering, it is reduced reflexion and the rear axles are set to straight travel by the programming data.

Two independent hydraulic circuits with wheel and engine driven hydraulic pumps, thus minimum safety standard.

Self-manufactured Liebherr bus systems (LSB), specially matched for the requirements of the mobile crane.

The entire steering concept with "active rear-axle steering" is networked by electric and electronic components interconnected by the most modern data bus transmission technology.

The electric systems of the carrier and the crane as well as all control functions, the safeguard system and the boom sensory system are interconnected by a Liebherr system (LSB).

Comprehensive diagnostic facilities, quick error localization, opening error indications

Set programs for functional test of the keyboard and display units as well as for the testing of the components by interactive diagnostics equipment.

The electric and electronic components are interconnected by the most modern data bus transmission technology.

Self-manufactured Liebherr bus systems (LSB), specially matched for the requirements of a mobile crane.

The crane's data technology distinctly increases the functionality and efficiency of this mobile crane.
Setting crane on outriggers – quick, convenient and safe

• Supporting basis: 10 m x 9.5 m or 10 m x 6.23 m
• Frame consisting of integral outrigger system
• Height-adjustable outrigger feet
• Level control of the outrigger via operator-friendly control panel and/or digital inclinometer
• Elevation of the outrigger on 2 levels (5 and 10 degrees), adjustable under load
• Interchangeable outrigger systems are identical
• Additional outrigger with monorail system for transportation

Comfortable driver's cab of outstanding functionality

• Modern driver's cab of outstanding functionality and convincing design. Corrosion resistant steel sheet version, compactly designed, seat and seat belt mounted on shock absorbing paneling
• Safety glass all around, generally tinted side windows
• Heated and electrically adjustable outer rear mirrors
• Air-conditioned driver's and co-driver's seat with headrests, driver's seat with pneumatic lumbar support
• Safety belts for driver's and co-driver's seat
• Height and inclination adjustable steering wheel
• Standardised, digital operating and control instruments
• Neutral position indicator for outrigger system
• Neutral position indicator for travel winch
• Monitor in the crane cab with digital display and graphic user interface

Multi variable boom configuration system

• Telescopic boom T, 15.4 m – 60 m
• Telescopic boom guying system TY, 5.25 m wide "spacer" for TYSF and TYSN mode
• Fixed lattice jib TF (TYSF), 7 m - 56 m, mountable at 0°, 20° or 40° on the 15.4 m – 56.4 m long telescopic boom
• Lattice luffing jib TN (TYSN), 14 m – 84 m, mountable on the 15.4 m – 56.4 m long telescopic boom
• Continuous load capacity interpolation during luffing of the boom configuration TYSN between 82° and 68° telescopic boom inclination
• Intermediate sections TF and TN equipment are identical, intermediate sections can be slid into one another for transportation
• Auxiliary winch on the counterweight frame for easy reeving of the hoist and luffing ropes
• Rigging of the jib can be performed in suspended condition on restricted sites
• Winch 2 for 2-hook operation on the lattice jib
• Winch 3 for jib variation. The variation winch forms one unit with the variation block. The variation rope remains reeved during transportation.

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• Supporting basis: 10 m x 9.5 m or 10 m x 6.23 m
• Frame consisting of integral outrigger system
• Height-adjustable outrigger feet
• Level control of the outrigger via operator-friendly control panel and/or digital inclinometer
• Elevation of the outrigger on 2 levels (5 and 10 degrees), adjustable under load
• Interchangeable outrigger systems are identical
• Additional outrigger with monorail system for transportation

Comfortable driver's cab of outstanding functionality

• Modern driver's cab of outstanding functionality and convincing design. Corrosion resistant steel sheet version, compactly designed, seat and seat belt mounted on shock absorbing paneling
• Safety glass all around, generally tinted side windows
• Heated and electrically adjustable outer rear mirrors
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• Rigging of the jib can be performed in suspended condition on restricted sites
• Winch 2 for 2-hook operation on the lattice jib
• Winch 3 for jib variation. The variation winch forms one unit with the variation block. The variation rope remains reeved during transportation.
**Outstanding boom technology**

- 5-section, 60 m long telescopic boom in light-gauge design, weight-optimized by FEM processing
- Material stability with high safety factors by the application of ultra-high grain refined steels, boom bottom shell of S 1100 QL (1100 N/mm²)
- Optimised, oviform boom profile with continuous curvature in the bottom shell and upper offset joint, high stability against deflection for maximum load capacities
- Outstanding functionality of the boom system due to the automated, electronically controlled telescoping system
- Patented internal locking system of the telescopes – reliable and maintenance-free
- Optimum utilisation of the telescopic boom due to a multitude of telescoping variants under partial load
- Y-guying system for the telescopic boom for a distinctive increase of the load capacity
- Self-assembly of the Y-frames, carrier width/height with fitted and laterally hinged Y-guying system: 3.03 m/4.07 m

**Comfortable crane cab of outstanding functionality**

- Crane cab in corrosion-resistant, galvanized sheet steel version, powder-coated, with sound and heat insulating internal panels, interior of modern design, tinted window panes all-round, front knockout window with large and block wiper and wash/wash device, skylight of bullet-proof glass with retracted windows, front wiper device, telescopic adjustment of windshield
- Greenish tinted front and side windows for heat absorption
- Pneumatically operated lateral foot board for safe access to and egress from the cab
- Crane cab tiltable to the rear by 20° to improve the sight
- 1 working projector 70 Watt, at the cabin front
- Comfortable crane cab of outstanding functionality

- Spring-mounted and hydraulically cushioned crane operator’s seat with pneumatic, backrest support and headrest
- Operator-friendly armrest-integrated controls, vertically and horizontally adjustable master switch consoles and armrests, ergonomically adjustable operating consoles
- Ergonomical control levers with integrated winch and slewing indicators
- Modern instrument support with integrated LICCON monitor, display of all essential operating data on the LICCON display
- Additional heater with engine preheating
Crane drive with field-proven components

- Crane engine: 6-cylinder Liebherr turbo-charged Diesel engine type D936L, type of 240 kW / 326 hp, exhaust gas emissions in accordance with the directives 97/68/EG stage 3 and EPA/CARB Tier 3, robust and reliable, electronic engine management, optimised fuel consumption, exhaust gas system of special steel
- Variable axial piston pumps with servo-control and capacity regulation, auxiliary pumps for central feeding with variable displacement, electric driven oil cooler
- Standard high-efficiency noise absorption of the diesel-hydraulic crane drive

Winch technology by Liebherr

- Self-manufactured Liebherr winches (1, 2 and 3) with special grooving and incorporated planetary gears and spring-mounted multi-disk brakes as static brakes

Winch 1
- Main hoist gear

Winch 2
- Auxiliary hoist gear, required for 2-hook operation with luffing lattice jib

Winch 3
- for variation of the luffing lattice jib

Auxiliary winch
- Driving of the hoist gear within a "closed oil circuit", i.e. during lowering of the load, the oil motor is propping itself up on the variable displacement pump due to the closed oil circuit (hydraulic shaft). The potential energy is not converted into heat, but can be re-employed for an additional movement. Besides a saving in fuel, the hydraulic oil is less thermically exposed than in an "open oil circuit"

- Axial-piston variable displacement motor of own manufacture, especially laid out for crane operation, exposed to tough fatigue test and field-proven

- Display of the rotary motion of the winch on the LICCON display screen
- Non-rotating hoist rope, standard rotation absorber
- Overall control of the winches standard in conjunction with the jib variation winch

Counterweight assembly – just a matter of minutes

- 140 t total counterweight, 100 t basic counterweight, 40 t additional counterweight
- Hydraulic balancing device on the counterweight frame
- "60-t-package" of just 3 m transport width, mountable by one lift
- Hoist gear 2 ft from the counterweight frame
- All galvanized parts 3 ft from the counterweight frame
- The counterweight radius can be reduced from 6.6 m to 5.6 m
- Reeving winch (auxiliary winch) on the counterweight frame as standard equipment

60 t-package with winch 3
- Luffing jib mode, counterweight radius 2.6 m or 6.6 m

Partial counterweight, radius 2.6 m
• Crane engine: 6-cylinder Liebherr turbo-charged Diesel engine type D936L A6 of 240 kW/326 h.p, exhaust gas emissions in accordance with the directives 97/68/EG stage 3 and EPA/CARB Tier 3, robust and reliable, electronic engine management, optimized fuel consumption, exhaust gas system of special steel
• Hydraulic system with 5 variable axial piston pumps with servo-control and capacity regulation, auxiliary pumps for central feeding and ventilation lines, electric driven oil cooler
• Standard high-efficiency noise absorption of the diesel-hydraulic crane drive

**Winch technology by Liebherr**

• Self-manufactured Liebherr winches (1, 2 and 3) with special grooving, with incorporated planetary gears and spring-mounted multi-disc brakes as static brakes
  
  Winch 1
  - main hoist gear

  Winch 2
  - auxiliary hoist gear, required for 2-hook operation with luffing lattice jib

  Auxiliary winch
  - for variation of the luffing lattice jib

  Winch 3
  - for reeving of the hook block and for the erection of the lattice jib

• Drive of the hoist gear within a "closed oil circuit", i.e. during lowering of the load, the oil motor is propping itself up on the variable displacement pump due to the closed oil circuit (hydraulic shaft). The potential energy is not converted into heat, but can be re-employed for an additional movement. Besides a saving in fuel, the hydraulic oil is less thermally exposed than in an "open oil circuit"

• Axial-piston variable displacement motor of own manufacture, specially laid out for crane operation, exposed to tough fatigue test and field-proven

• Display of the rotary motion of the winch on the LICCON display screen

• Non-rotating hoist rope, standard rotation absorber

• Video control of the winches (standard in conjunction with the jib variation winch)
Outstanding boom technology

- Robust, 5-section telescopic boom in light-gauge design, weight-optimized by FEM processing
- Material stability with high safety factors by the application of ultra-high grain refined steels, boom bottom shell of S 1100 QL (1100 N/mm²)
- Optimized, oviform boom profile with continuous curvature in the bottom shell and upper offset joint, high stability against deflection for maximum load capacities
- Outstanding functionality of the boom system due to the automated, electronically controlled telescoping system
- Patented internal locking system of the telescopes – reliable and maintenance-free
- Optimal utilization of the telescopic boom due to a multitude of telescoping variants
- Y-guying system for the telescopic boom for a distinctive increase of the load capacity
- Safety of the crane operator is guaranteed by an emergency stop switch located at the crane roof, which can be reached without leaving the cab
- Self-assembly of the crane; crane width/height with fitted and laterally hinged Y-guying system: 3.03 m/4.07 m

Comfortable crane cab of outstanding functionality

- Crane cab in corrosion-resistant, galvanized sheet steel version (powder-coated, with sound and heat insulating internal paneling, interior of modern design, tinted window panes all round, front knockout window with large and blanked wiper and wash/wash device, slatted of burlap-look glas with integrated windscreen wiper and wash/wash device, skylight of bullet-proof glas with large parallel windscreen wiper and wish/wash device, roller blinds on front window and skylight, space-saving sliding door)
- Greenish tinted front and side windows for heat absorption
- Pneumatically operated lateral footboard for safe access to and exit from the crane cab
- Crane cab tiltable to the rear by 20° to improve the sight
- 1 working projector 70 Watt, at the cabin front
- 5-section, 60 m long telescopic boom in light-gauge design, weight-optimized by FEM processing
- Material stability with high safety factors by the application of ultra-high grain refined steels, boom bottom shell of S 1100 QL (1100 N/mm²)
- Optimized, oviform boom profile with continuous curvature in the bottom shell and upper offset joint, high stability against deflection for maximum load capacities
- Outstanding functionality of the boom system due to the automated, electronically controlled telescoping system
- Patented internal locking system of the telescopes – reliable and maintenance-free
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• Crane cab in corrosion-resistant, galvanized sheet steel version (powder-coated, with sound and heat insulating internal paneling, interior of modern design, tinted window panes all round, front knockout window with large and blanked wiper and wash/wash device, slatted of burlap-look glas with integrated windscreen wiper and wash/wash device, skylight of bullet-proof glas with large parallel windscreen wiper and wish/wash device, roller blinds on front window and skylight, space-saving sliding door)
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• Crane cab tiltable to the rear by 20° to improve the sight
• 1 working projector 70 Watt, at the cabin front

Outstanding boom technology

• Spring-mounted and hydraulically cushioned crane operator’s seat with pneumatic, lateral support and headrest
• Operation-friendly, none-integrated controls, vertically and horizontally adjustable master switch console and annexes, ergonomically adjustable operating consoles
• Operational comfort meters with integrated watching and viewing monitor
• Modern instrument support with integrated LICCON monitor, display of all essential operating data on the LICCON display
• Additional heater with engine preheating
Modern driver’s cab of outstanding functionality and convincing design. Corrosion resistant sheet steel version, cataphoretic dip-primed, front section mounted on shock absorbers, rear damped hydraulically, internal sound and heat absorbing paneling.

- Safety glas all around, greenish tinted front and side windows for heat insulation, electric window lifters
- 3 automatic windscreen washers/wipers with intermittent control
- Heated and electrically adjustable outer rear mirrors
- An adjustable driver’s and co-driver’s seat with headrests, driver’s seat with pneumatic lumber support
- Safety belts for driver’s and co-driver’s seat
- Height and inclination adjustable steering wheel
- Standardized, digital operating and control instruments arranged ergonomically for safe and convenient handling, arranged operator-friendly in a half-round shape
- Digital display and keyboard units interconnected with the functional blocks by data bus technology
- Additional waiver with engine preheating

Comfortable driver’s cab of outstanding functionality - quick, convenient and safe

- Supporting bases: 10 m x 6.5 m in 10 m steps
- Elevation and lowering of the crane on all supporting bases
- Level control of the outriggers, air-announced leveling of the crane during the supporting procedure by “push-button control”
- Digital display and push-button indication of the crane, thus simple readout of the supporting pads
- Operator push-button indication of the crane, two displays on the cab and a display on the LICCON monitor in the crane cab
- Elevation and lowering of the supporting pads
- Indications of the supporting force on the supporting jacks
- Indication of the crane position and the crane inclination
- Indication of the crane position and the crane inclination
- Operation of the outrigger system in accordance with the rules for the prevention of accidents

Multi variable boom configuration system

- Telescopic boom T, 15.4 m – 60 m
- Telescopic boom guying system TY, 5.25 m wide “spacer” for TYSF and TYSN mode
- Fixed lattice jib TF (TYSF), 7 m – 56 m, mountable at 0°, 20° or 40° on the 15.4 m – 60 m long telescopic boom
- Lattice luffing jib TN (TYSN), 14 m – 84 m, mountable on the 15.4 m – 56.4 m long telescopic boom
- Continuous load capacity interpolation during luffing of the boom configuration (TYSN) between 62° and 84° telescopic boom inclination
- Intermediate sections TF and TN equipment are identical, intermediate sections can be slid into one another for transportation
- 26 pinpoints with a T-adapter and N-base section form a complete mounting/transport unit and can be fitted with just 4 pins
- Easy folding step mode which remains on the intermediate sections during the transport unit and can be folded with just 6 pins
- Auxiliary vent on the counterweight frame for easy reeving of the hoist and luffing ropes
- Rigging of the jib can be performed in suspended condition on restricted sites
- Winch 2 for 2-hook operation on the lattice jib
- Winch 3 for jib variation. The variation winch forms one unit with the variation block. The variation rope remains reeved during transportation.

Setting crane on outriggers – quick, convenient and safe

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- Operator push-button indication of the crane, two displays on the cab and a display on the LICCON monitor in the crane cab
- Elevation and lowering of the supporting pads
- Indications of the supporting force on the supporting jacks
- Indication of the crane position and the crane inclination
- Operation of the outrigger system in accordance with the rules for the prevention of accidents

Telescopic boom designs

- Telescopic boom T, 15.4 m – 60 m
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- Level control of the outriggers, air-announced leveling of the crane during the supporting procedure by “push-button control”
- Digital display and push-button indication of the crane, thus simple readout of the supporting pads
- Operator push-button indication of the crane, two displays on the cab and a display on the LICCON monitor in the crane cab
- Elevation and lowering of the supporting pads
- Indications of the supporting force on the supporting jacks
- Indication of the crane position and the crane inclination
- Operation of the outrigger system in accordance with the rules for the prevention of accidents

Telescopic boom designs

- Telescopic boom T, 15.4 m – 60 m
- Telescopic boom guying system TY, 5.25 m wide “spacer” for TYSF and TYSN mode
- Fixed lattice jib TF (TYSF), 7 m – 56 m, mountable at 0°, 20° or 40° on the 15.4 m – 60 m long telescopic boom
- Lattice luffing jib TN (TYSN), 14 m – 84 m, mountable on the 15.4 m – 56.4 m long telescopic boom
- Continuous load capacity interpolation during luffing of the boom configuration (TYSN) between 62° and 84° telescopic boom inclination
- Intermediate sections TF and TN equipment are identical, intermediate sections can be slid into one another for transportation
- 26 pinpoints with a T-adapter and N-base section form a complete mounting/transport unit and can be fitted with just 4 pins
- Easy folding step mode which remains on the intermediate sections during the transport unit and can be folded with just 6 pins
- Auxiliary vent on the counterweight frame for easy reeving of the hoist and luffing ropes
- Rigging of the jib can be performed in suspended condition on restricted sites
- Winch 2 for 2-hook operation on the lattice jib
- Winch 3 for jib variation. The variation winch forms one unit with the variation block. The variation rope remains reeved during transportation.

Modern driver’s cab of outstanding functionality - quick, convenient and safe

- Supporting bases: 10 m x 6.5 m in 10 m steps
- Elevation and lowering of the crane on all supporting bases
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Data bus technology for more functionality and efficiency

- The electric and electronic components are interconnected by means of data bus lines.
- Digital data transmission to the individual functional blocks by just using data cables instead of conventional electric wiring results in increased functional reliability due to essentially lower contacts.
- The electric and electronic components are controlled by means of a CAN data bus. This allows an electronic drive system that is composed of sensors, actuators and the control system to be managed in a coordinated manner.
- The electric systems of the center and the crane as well as all control functions, the elevator system and the boom sensory system are interconnected by a Liebherr system bus (LSB).
- The control of the functional blocks is realized by E/A modules, the programming of which is performed by means of the Liebherr system buses. The control intelligence is integrated into the LICCON central unit.
- Comprehensive diagnostic facilities, quick error localization, opening error indicators
- Set programs for functional test of the keyboard and display unit as well as for testing of the components in the event of failure. The test programs cover the electric and hydraulic functions, hydraulic suspension and outrigger control.
- The new data bus technology distinctly increases the functionality and efficiency of this mobile crane.

Legends:
- LSB Liebherr system bus 1
- LSB Liebherr system bus 2
- LSB Liebherr system bus 3
- LSB Liebherr system bus 4
- LSB Liebherr system bus 5
- LSB Liebherr system bus 6
- CAN bus
- SCI serial communication interface

1 Input/output module for electronic control of the suspension, Liebherr Diesel engine, automatic transmission, control functions, pneumatic control for brake function
2 Input/output module for differential locks, display functions
3 Input/output module for outriggers - right
4 Input/output module for outriggers - left
5 Input/output module for engine brake, tempomat, temposet, electronic control Diesel engine (steering column switch right) and automatic transmission
6 Control ZF-TC-TRONIC automatic transmission
7 Control injection pump Liebherr Diesel engine/carrier
8 Slewing sensor in slipring unit
9 Connection Liebherr system bus (LSB 1, 2, 3, 4, 5, 6)
10 LICCON central unit
11 LICCON monitor in crane cab
12 Length sensor and cable drum/energy cable for interlocking grippe/hydraulic boom
13 Inductive sensor
14 Cable drum for free section
15 Wind sensor
16 Input limit switch
17 Control injection pump Liebherr Diesel engine/superstructure
18 Input/output module for electronic control of the Diesel engine/superstructure, ventilator clutch, exhaust flap
19 Control injection pump Liebherr Diesel engine/superstructure
20 Control injection pump Liebherr Diesel engine/superstructure
21 Pressure sensor for output management and LMB (safe load indicator) and supporting pressures
22 Angle sensor active rear-axle steering
23 Pressure sensor for output management and LMB (safe load indicator) and supporting pressures
24 Pressure sensor for output management and LMB (safe load indicator) and supporting pressures
25 Pedal telescoping
26 Winch rotation sensor
27 Inductive sensor Y-guying system

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Modern drive concept

- Powerful, 12-stage Liebherr industrial Diesel engine DE6147 of 409 kW/551 hp, equipped with exhaust gas after-treatment system for the exhaust manifold, catalytic converter and exhaust flap.
- Automatic gear system ZF-TC-TRONIC with converter and selector, 12 forward and 2 reverse speeds, automated transmission.
- Reduced fuel consumption due to a great number of speeds, efficient output capacity due to converter.
- Adept, robust, loadable case with transfer differential.
- Good driveability, robust axle on minor maintenance.
- Final drive without stoppage situations, maintenance-free steering members mounted on wheel-axle foldable
- Maintenance-free contact shunt, simple and quick fitting due to 7° diagonal foldable

Compact, maneuverable and safe

- Overloading angles, front up to 77°, rear up to 50°.
- Standardized folding system, side- and rear-wheel steering, 13.6 m radius.
- Drive with 4a, 12a, 3a and 5a axles driven.
- Drive with 6a, 7a, 8a, 9a, 10a and 11a axles driven (off-road), steering axles, turning axles steerable.
- Turning axles with differential locks for lateral blocking to improve the off-road quality.
- 7° diagonal foldable, contact loss load distribution (12) due to the use of independent suspension, automatic side-shaking.
- Suspension boom steerable system can technically altered along the cranes.
- For safe displacement, in addition to the service and parking limitation, the radial blockage and automatic cut-off device is standard feature; TSLMA actively controlled brake on the 8th axle (optional).

LICCON configuration and operating program

- Serial application program. Safe load indicator (SLE), configuration program with configuration picture, operating program with operating picture, telescoping program with telescoping picture, operating program with configuration picture, configuration program (all symbols), optional extras: Work area limitation and LICCON work planner.
- Flexible selection of configuration program with interactive functions.
- Safe and positive achievement of the adjusted configuration.
- Representation of all essential data by graphic symbols on the LICCON display.
- Easy orientation of the LICCON configuration and operating system.
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### Product advantages mobile crane

**LTM 1400-7.1**

- **Max. load capacity:** 400 t
- **Max. height under hook:** 130 m
- **Max. radius:** 100 m

### Electric/electronic crane control with integrated safe load indicator

- Control of the winches, the slewing gear as well as the lifting and lowering motions by the LICCON system (PLC control) with one joystick
- Lifting/slowering and lifting/slowering speeds are preselectable by the joystick
- The lifting/slowering speed is controlled automatically in relation to the boom length
- Very short response rates at the activation of crane motions
- Joystick selectors with vibrating motion detectors
- Slewing motion continuously controllable from 0 – 1,5 min⁻¹, additionally 6 steps between 10 % and 100 % preselectable by the LICCON control

### Optional features contribute to an expansion of the application spectrum and increase comfort and safety

- On the carrier:
  - Eddy-current brake
  - Outrigger control
  - Electrical hoist winches
- On the crane superstructure:
  - Air-conditioning system
  - Seat heating
  - Video control of the winches
  - Extreme weather conditions: Xenon lamp on the telescopic boom base section
- Further optional features by request

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The LICCON test system
• The LICCON test system assists the servicing personnel in quickly localizing errors of the crane’s sensory system without the need of measuring instruments
• The service starts at the display screen, trouble shooting becomes a matter of seconds
• Error descriptions are given by error codes and error descriptions on the display screen.
• Convenient interactive functions permit the observation of all in and outputs of the general system by different representations on the monitor, even during crane operation.

The LICCON work area limitation
• It relieves the crane operator, especially in situations where this handling of loads requires full attention, by controlling the work area limits. Work area can be restricted by buildings, bridges, cranes, high tension lines, pipes and adjacent plants. The area limits can easily be programmed. Four different limitation functions are programmable.
• Height limitation of the pulley head
• Radius limitation
• Angle limitation
• Limitation of edges

The LICCON work planner
• The LICCON work planner consists of a software program on CD for planning, simulation and documentation of crane applications on the display screen (optional).
• The application program permits the drawing of buildings, to write texts and to represent a crane model true to scale including its entire working motions within a fictional construction site.
• The work planner enables the preparation of more transparent offers, it facilitates the training of the crane operators and can be run on a laptop at the construction site.

Electric/electronic crane control with integrated safe load indicator
• Control of the winches, the slewing gear as well as the lifting gear is performed remotely by the LICCON system using radio transmitters
• Lifting lowering and lifting speeds are preselectable by the LICCON control
• The lifting speed is controlled automatically in relation to the the boom length
• Very short response times at the activation of crane motions
• Flexible networks with rotating motion control
• Error warning with rotating motion control
• Automatic speed registration
• Data recording of crane operations
• Fault logs
• Fault display
• Management of parameters
• Consistent display of all crane data

Electric/electronic crane control with integrated safe load indicator

Optional features contribute to an expansion of the application spectrum and increase comfort and safety

On the carrier
• Electric current source
• Generator control
• Control block
• CAN bus
• Multimedia system
• Seat heating for driver’s and co-driver’s seat
• 3rd seat
• Maneuvering coupling
• Fog lamps
• CD radio set

On the crane superstructure
• Air-conditioning system
• Control system
• Display and key of the functions
• Work area limitation program
• Working projector Xenon on the telescopic boom base section
• GSM module for tele diagnostic
• CD radio set

Further optional features by request

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