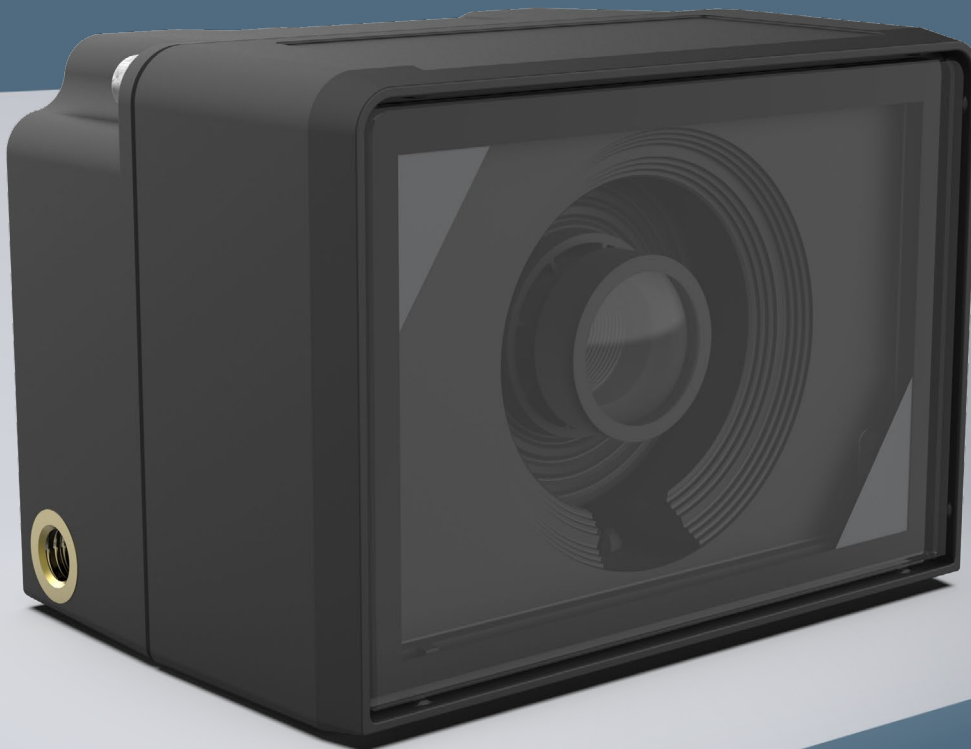# Image quality in HD resolution

MDC3 Digital Smart Camera

www.liebherr.com/mdc3

LIEBHERR

Components
Electronics

Everything in view
MDC3 Digital Smart Camera

Regardless of whether it's a wheel loader, tractor or special vehicle, all machine operators must continuously monitor work processes and prevent accidents.

Achieving this requires perfect visibility around the mobile machine. In day-to-day work, blind spots often put a spoke in the driver's wheel. Blind spots in front of, next to and behind the machine are danger zones that can be an accident risk.

With digital cameras from Liebherr, you are safer when on the move.

The sharper the image, the easier and more pleasant the work for the driver. Whether used as front, rear, side area or work process monitoring, our cameras offer more working safety and comfort.

For you, this means lower costs and more efficiency.

More efficiency in sight

When it comes to working safety, every detail counts. People and objects in the work environment must be detected safely and in time. Even the smallest inaccuracy can have serious consequences – emotionally and financially.

And the efficiency of your workflow benefits, too. It definitely makes a difference whether it's a black spot or a pothole on the monitor.

Details are crucial to identify possible sources of disruption to the workflow and eliminate them as quickly as possible.

The MDC3 smart camera delivers digital images in HD quality with a resolution of 1280 x 960 pixels.

More work safety for the machine operators. Fewer breakdowns for you as a machine manufacturer.

What are you waiting for?

A brilliant image in every lighting situation

Constant image with light-dark changes
The camera's intelligent algorithm quickly adjusts the image in changing light conditions.

The best image quality day and night
Even in very dark environments, the integrated high-performance imager with a low-light sensitivity of 1 millilux ensures a good view.

No overexposure or underexposure
Thanks to High Dynamic Range (HDR), the MDC3 can take several images at the same time in different brightness levels and combine them to create an ideal image.
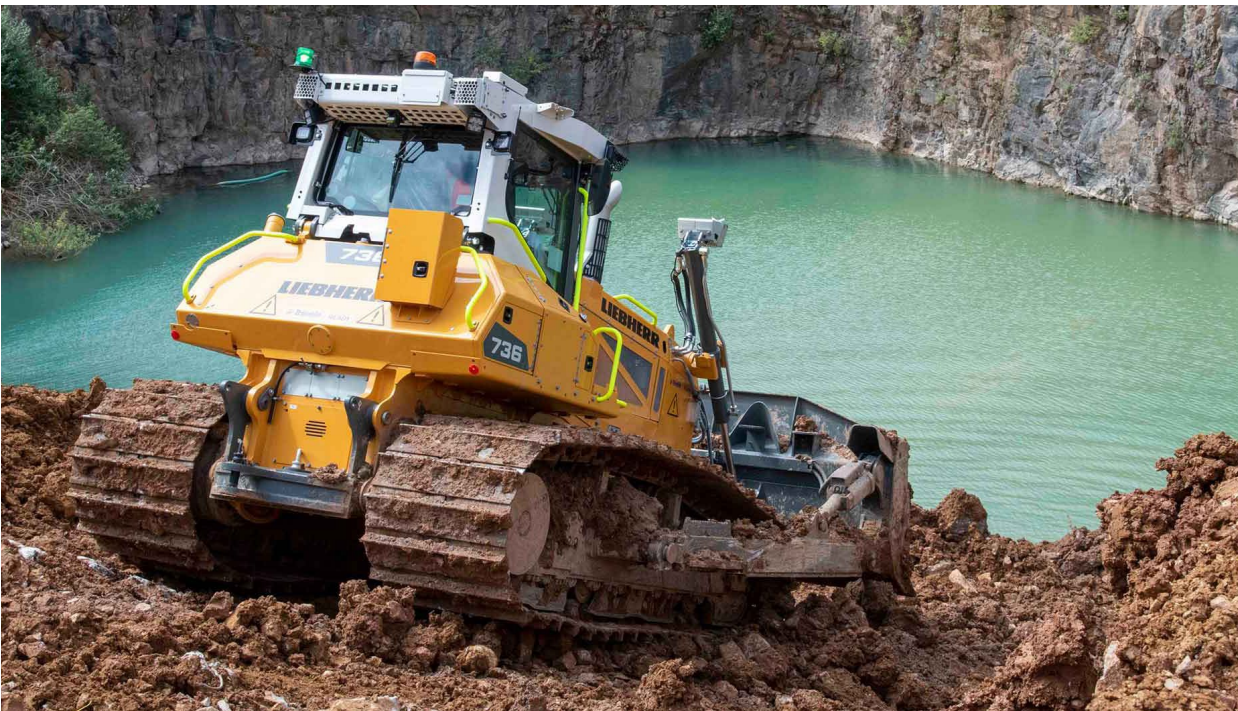
Light in the dark

„Even in poor visibility conditions, the MDC3 is always able to show all the important details on the display — and was therefore our first choice.“

Uwe Restner, Product Manager at machine manufacturer Sandvik

READ THE FULL STORY ➞

Robust and powerful

Clear view in extreme conditions
Anti-ice and anti-fog function: The MDC3 is equipped with a lens heater. This allows the camera to deliver clear images even in extreme temperatures – in the shortest time after machine start-up.

Proven robustness
Successful in its third camera generation: thanks to IP6K9K and its glass-fibre reinforced housing, the MDC3 masters even the most adverse operating conditions.
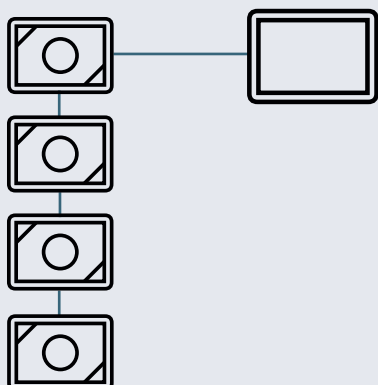
Brilliant in every branch
From construction machinery to agriculture to mining – the MDC3 proves its reliability and robustness in challenging industries every day.
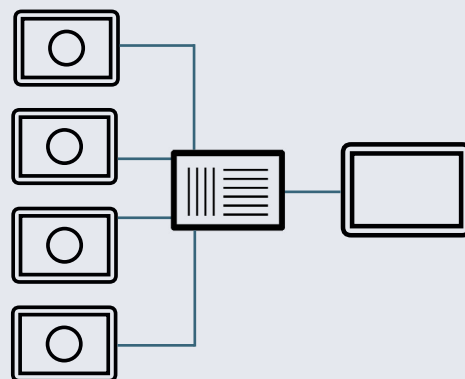
Daisy-Chaining
Simpler system architecture

Line topology

MDC3 only

Star topology

MDC3

Standard camera

With the daisy chain, less cable clutter and more time for the important things.

With the MDC3, you don't need an additional switch to connect several digital cameras in series. One connection to your machines' control system is enough.

The MDC3 does the rest.

IP-Multicast
One stream – multiple monitors

With the MDC3 you remain flexible in terms of system architecture. Discover Multicast:

Multicast

– Allows users to view an identical video stream on multiple monitors at once.
– Option is ideal for observing and monitoring workflows from multiple locations.
– In addition, the duplication of data packets via a distributor ensures a lower overall volume and thereby relieves the network infrastructure.
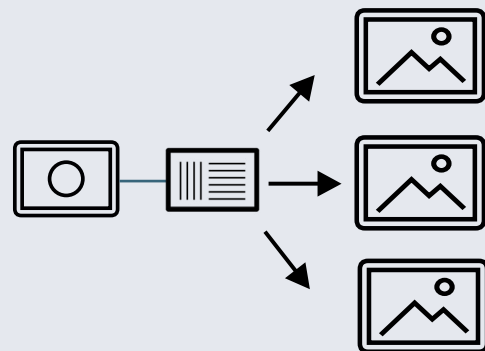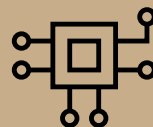
Camera-monitor system

Fast delivery of images

The MDC3 has a very low latency. In less than 75 milliseconds, it makes the captured image available on the interface. This enables the implementation of a camera-monitor system in accordance with ISO 16001, for example with Liebherr's DC5 display controller.

HD quality

1 Millilux

TO THE CMS WEBSITE →

MDC3 Digital Smart Camera

The MDC3 convinces with best-in-class image quality and delivers important details in every lighting situation:

HDR functionality for high-contrast images without over- or underexposure.

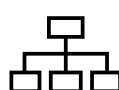Fast readjustment of exposure ratios for a constant image at light-dark transitions.

1 millilux low-light sensitivity for perfect image quality even in the dark.

Lens correction function for a clear image without distortion.

Robust due to IP6K9K and the glass-fibre reinforced housing, for use in adverse conditions.

Simple system set-up: only one connection required to your machine's control system.

TO THE MDC3 WEBSITE ➔

Technical data

Image/video

Image resolution width x height*	Max. 1,280 x 960 px, 1.3 Mpx
Colour resolution	24-bit HDR
Frame rate	Max. 40 fps
Video format	MJPEG/H.264
Field of view	HFOV: 60°, 90°, 120°, 150°

Housing/interfaces

Ethernet	2 x 100BASE-TX
Connector	2 x M12 8 pin A-coded
Housing	Glass-fibre reinforced polyamide (PA66 GF50)
Dimensions (W/H/D)	77 / 55 / 60 mm

Operation/robustness

Operating voltage	9 V to 32 V
Power rating	1 W to 9.5 W
Operating temperature	-40 °C to +85 °C
IP rating	IP6K7, IP6K9K in accordance with ISO 20653

* variably configurable

Liebherr Components

From A to Z – the components division of the Liebherr Group offers a broad range of solutions in the area of mechanical, hydraulic, electric and electronic drive system and control technology. The efficient components and systems are produced at a total of ten production sites around the world to the highest standards of quality. Central contact persons for all product lines are available to our customers at
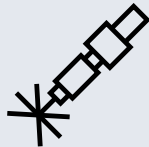
Liebherr-Components AG and the regional sales and distribution branches.

Liebherr is your partner for joint success: from the product idea to development, manufacture and commissioning right through to customer service solutions like remanufacturing.

components.liebherr.com
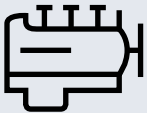
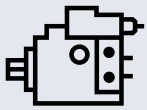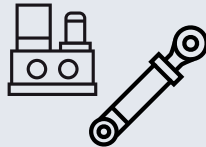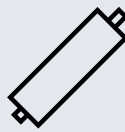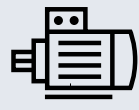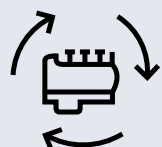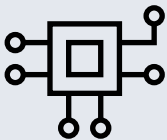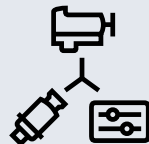|				
Engines	Fuel injection systems	Slewing bearings	Gearboxes	Winches
Hydraulic pumps and motors	Hydraulic cylinders and power packs	Piston accumulators	Electric machines	Remanufacturing
Industrial electronics	Electrical drive and control technology	Drive systems	Aerospace electronics	Fibre composite
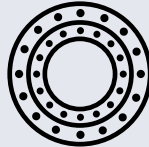
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