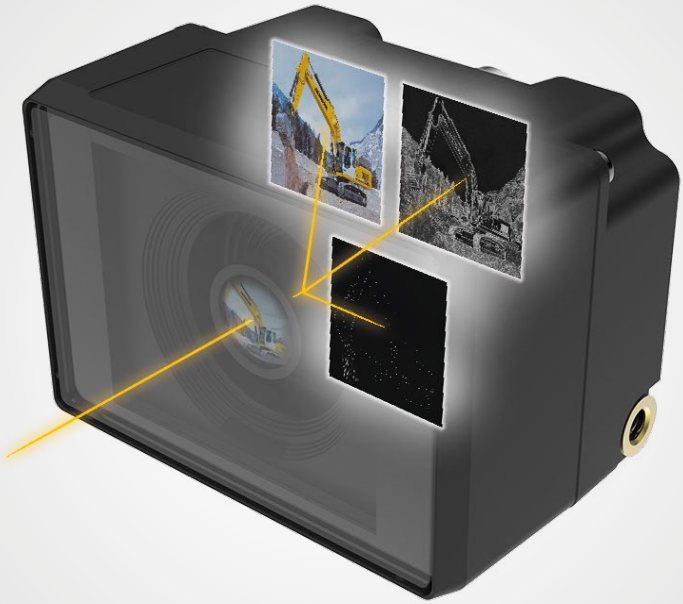
High-resolution image sensor

Mobile Digital Camera MDC3



LIEBHERR

Multi-talented in third generation

Mobile Digital Camera MDC3
The new MDC3 opens up far more perspectives than traditional digital cameras: aside from its image acquisition and transmission functions, what really sets it apart are its additional sensor functions. An integrated Ethernet switch on the camera enables the direct daisy-chaining of several cameras.

The MDC3 is already the third generation of our mobile digital camera. We guarantee long-term product availability, and in this way protect your investment. Thanks to its robustness and the integrated glass heater, the camera perfectly qualifies for the challenging environmental conditions of mobile machinery – from agricultural machines, through construction machinery, to material handlers.

Comprehensive sensor functions

High-resolution image sensor
The MDC3 is equipped with comprehensive sensor functions. The camera recognises movements in the field of view and can determine movement vectors. Based on this optical flow, it is possible to predict the direction in which objects are moving and their speed. Additionally the digital camera allows for edge detection.

These sensor functions make the MDC3 ideally suited as a reliable image sensor in environment recognition systems, thus enhancing the operational safety of mobile machinery.

Special features

Several cameras in series
Thanks to the integrated Ethernet switch, the camera has an additional Ethernet connection. This allows any number of cameras to be linked up in series (daisy chain) and to be linked by just one connection to the machine's control system. This saves on wiring outlay and all the costs that go with it.

Every detail
The MDC3 provides high-resolution images up to 1,280 x 960 pixels. Thanks to its design as a High Dynamic Range (HDR) camera, the MDC3 has far greater dynamic and colour dimensions than traditional cameras. This enables high-contrast images without overexposure or underexposure, and the representation of important image details.

Rapid image preparation
The MDC3 has a very short latency time. Within no more than 75 milliseconds it transmits the acquired image to the connector. This enables the implementation of a safe Camera-Monitor-System as per ISO 16001.

Technical data

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Image resolution	640 x 480 to max. 1,280 x 960
Colour resolution	24-bit HDR
Field of view	HFOV: 30°, 60°, 90°, 120°, 140°
Latency	≤ 75 ms (picture to interface)
Frame rate	Max. 60 fps
Video format	MJPEG/H.264

Operating parameters

Ethernet	2 x 100 Base-TX, according to IEEE 802.3
Operating voltage	7 V to 32 V
Power rating	Ca. 5 W
Dimensions (H/ W/D)	55 x 77 x 60 mm
Weight	Ca. 160 g
Housing	Polyurethane (095GF)
Connector type	2 x M12-8A (male/female, incl. 4 pins PWR)
Operating temperature	-40 °C to +85 °C
IP rating	IP6K7, IP6K9K according to ISO 20653

Application examples

Winch camera
On a crane, serious damage can be caused by the incorrect winding of a rope. The MDC3 can provide an optimum view of the winch in real time. Through monitoring of the winch, costly damage to the rope can be avoided and downtimes reduced.

Monitoring the work environment
When the driver moves a machine backwards or sideways, a reliable depiction of the work environment is all the more important. Thanks to the horizontal and vertical mirror function of the MDC3, the camera is suitable for virtually any kind of position. Thus, the driver can operate the machine safely and comfortably.

Obstacle recognition
Obstacles in the work environment can lead to workplace accidents if not spotted in good time. The MDC3 makes prompt image acquisition possible thanks to edge image and optical flow technology. The reliable detection of the edges and movement vectors of an object constitute optimum preconditions for implementing environment recognition systems. This enhances both safety and work efficiency.

Worksite monitoring
The digital camera is perfectly suited to the monitoring of critical areas. Thanks to the digital image acquisition, a digital image logger can be easily implemented. The comprehensive sensor functions of the MDC3 open up many more additional application possibilities.

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