

■ ■ ■ Forklift truck ■

Motec Camera Monitor Systems
for Logistics, Harbour and Industrial Applications



MOTEC HEAVY-DUTY CAMERA SOLUTIONS

Motec specializes in the development and production of camera-based driver assistance systems for utility vehicles and mobile machinery.

Motec protects lives by making mobile machinery and their surroundings safer. Its cameras make operators' work easier by reducing stress and uncomfortable physical movements. And, it helps companies become more successful by accelerating processes and avoiding damage.

Motec has over 25 years of experience in the construction and manufacture of robust, reliable mobile cameras, including the associated electronics.

Its product range includes reversing cameras, industrial cameras, displays, advanced video controllers, DVRs, customer-specific wiring looms, and wireless video transmission solutions.

Motec's customers are leading OEMs of utility vehicles and mobile machinery for industries working in tough environments.

At its development center for utility vehicle assistance systems (MENAS) Motec develops, tests and validates software algorithms for customized driver assistance systems. Its suite of algorithms incorporates solutions for real-time image processing, aerial view projection, sensor fusion (e.g. cameras, ultrasound sensors, radar sensors, lasers), stereo view, image processing and driver assistance systems.

Motec is a unit of AMETEK Inc. a leading global manufacturer of electronic instruments and electromechanical products.



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Motec camera monitor systems for the logistics area

Motec camera monitor systems support the operator of large and complex vehicles to move them safely and more efficiently, regardless of the vehicle's size. With the assistance of extremely robust heavy-duty cameras, the operator can detect people and objects within the machine's danger zone before it is too late. This way, Motec systems save lives, make working conditions easier, and save costs.

Technical service – guaranteed fast support

Top quality means also top service. When faced with difficult technical challenges or questions that need answers, Motec can assist. Its sales and engineering departments work hand in hand. Customers benefit from efficient communication with no red tape. Motec engineers understand customers processes, know what they need and can find a solution quickly.

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Robust modular hardware and intelligent software

- High housing protection class
- Shock- and vibration-resistant
- High temperature range
- Modular components
- In-house cable production
- Digital technology for superior image quality
- Development, validation and integration of algorithms
- Real-time image processing
- Top view projections 270°/360°
- Sensor fusion (ultrasound/radar)
- Stereo cameras (object detection)
- Driver assistance system (collision warning)

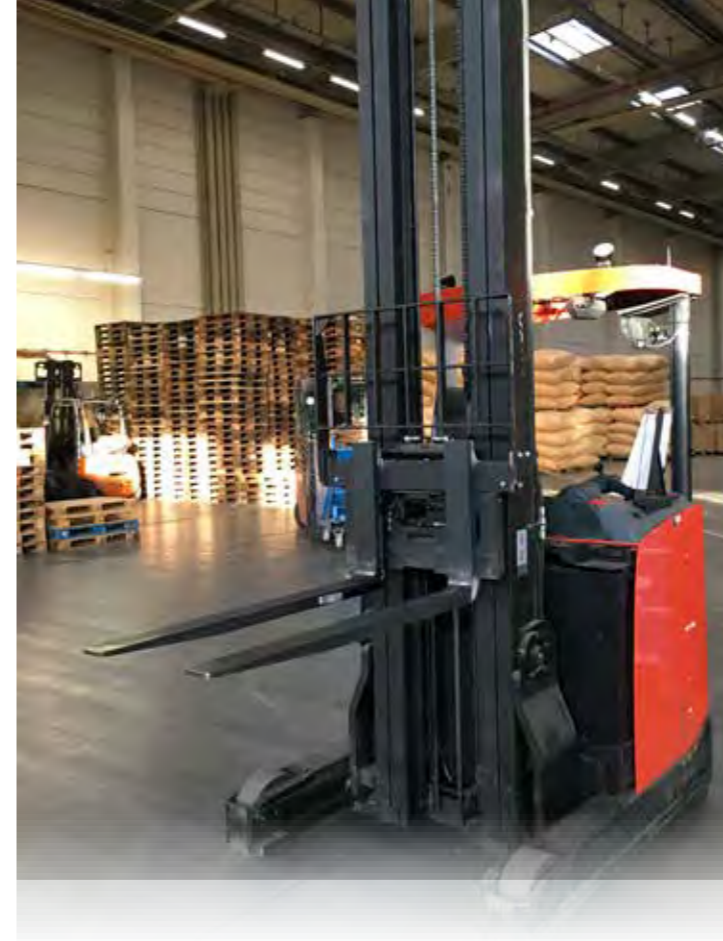
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Reach trucks

Fork-mounted camera

The loading and unloading of extremely long and deep loads in the warehouse requires precision and the driver's careful attention. A fork-mounted camera makes it possible to monitor both forks.

In order to avoid the installation of cables inside the mast, a wireless system can be installed. Digital signals provide the image transmission from camera to monitor across short or long distances. Several unit pairs operated in parallel allow high flexibility for the adaptation to a variety of forklift and visualisation problems.



The fork camera on the reach truck allows the view onto both forks.



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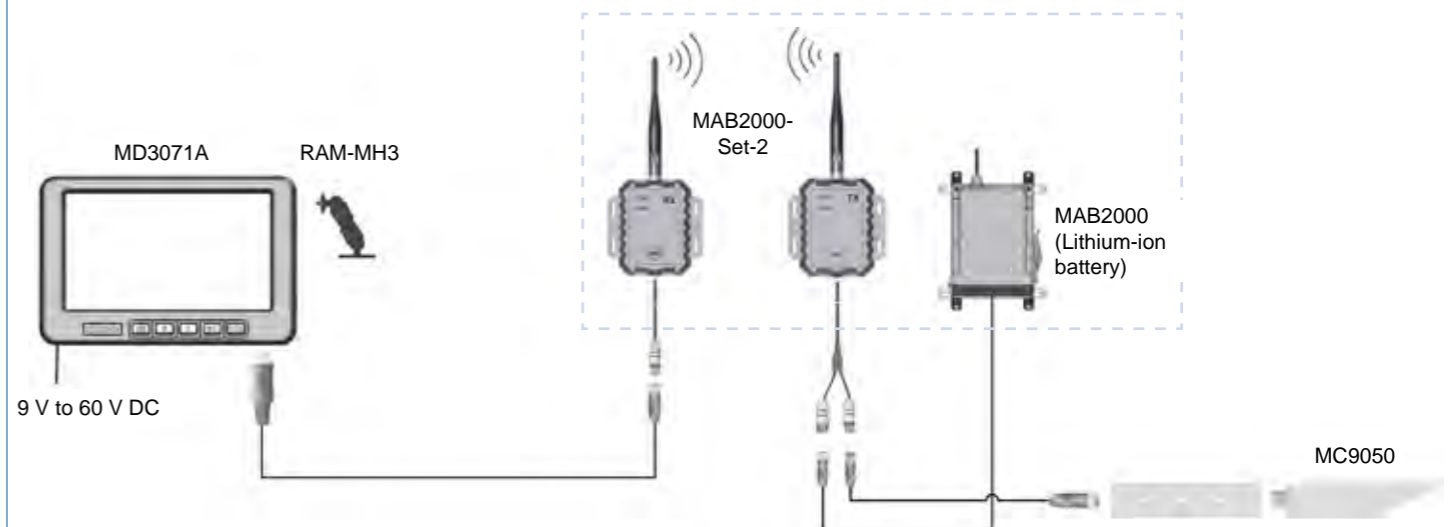


EXAMPLE OF SYSTEM: Fork-mounted camera

1 MD3071A
Heavy-duty 7" monitor

2 MAB2000-Set-2 (incl. batteries)
Digital wireless system

3 MC9050
Fork-mounted camera



Reach trucks Fork shank camera

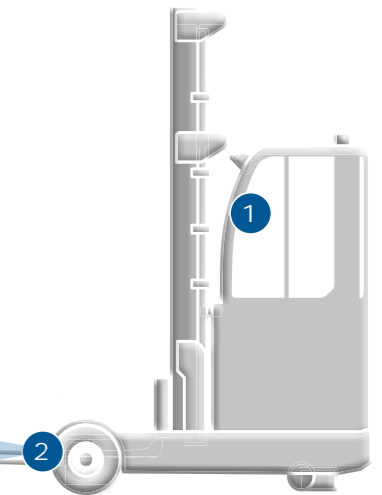
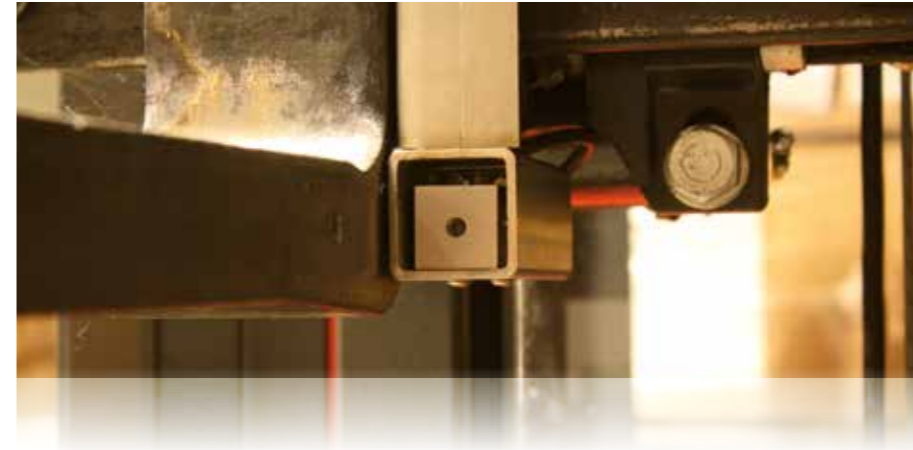
Compared to the add-on fork-mounted camera, the rugged and compact MC9150 is mounted to the back of the fork. This provides the best protection for the camera against shocks and impacts. The 3 mm pinhole lens is also protected to prevent damages caused by pallet cages or pallets due to a pinhole opening.

The 50° angle of view provides an unobstructed view onto both forks facilitating the loading and unloading of goods.



Increased safety when used at high lifting heights and in poorly visible positions, thanks to Motec camera systems.

Protected installation position of the fork shank camera.

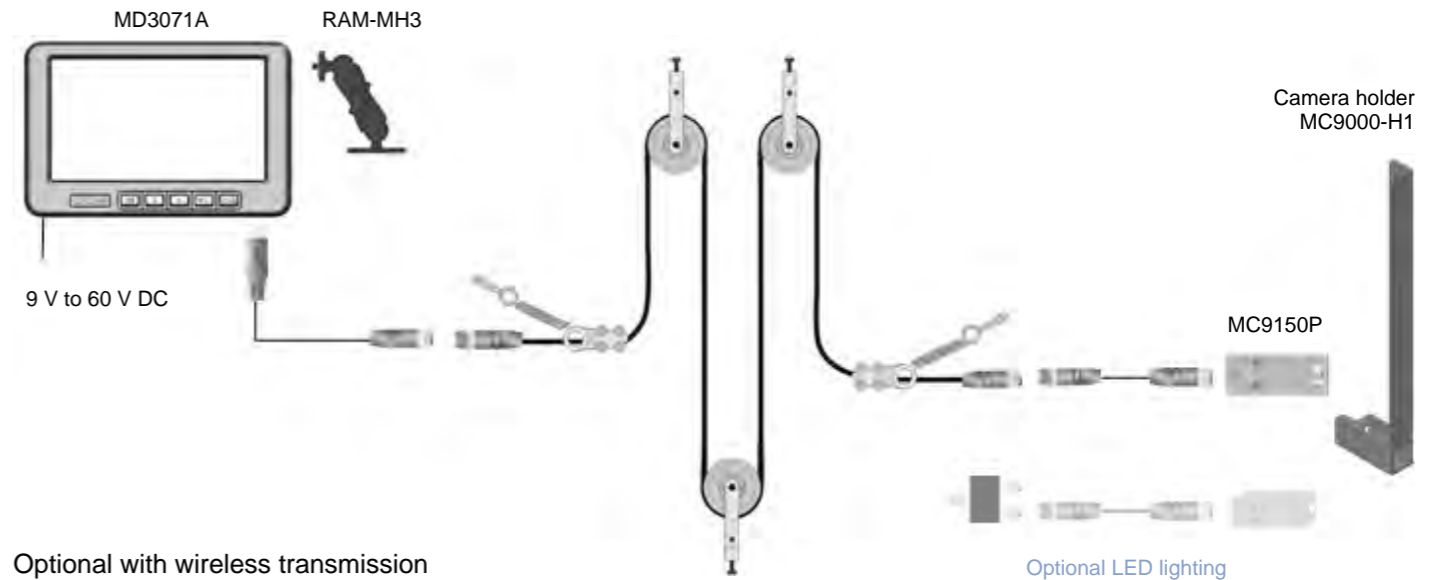


EXAMPLE OF SYSTEM: Fork shank camera

MD3071A
Heavy-duty 7" monitor

MK554
Mast cable

MC9150
Fork shank camera



Reach trucks

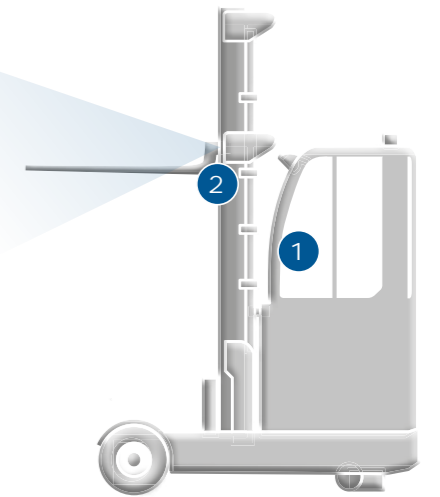
Duo camera system

2 cameras, fixed to the inside mast, also allow the view to the outer right- and left-hand side of the pallet. Both camera images are displayed simultaneously on the monitor (split-screen mode).

The operator can visualise both forks and can see the area below and to the side of the forks or load.



Cameras allow simultaneous viewing of the outer left- and right-hand side of the pallet.



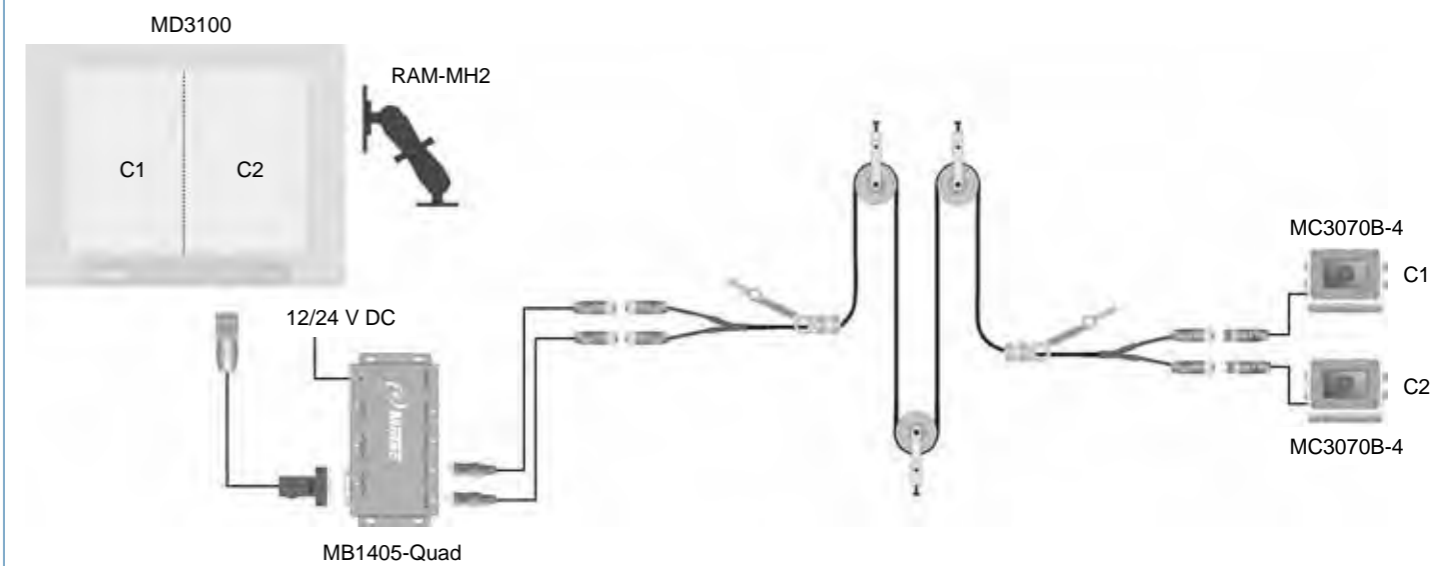
EXAMPLE OF SYSTEM: Duo camera system

MD3100
Heavy-duty 10,2" monitor

MB1405-Quad
Video control unit

MK701
Duo mast cable

MC3000B
Heavy-duty camera



Optional with wireless transmission



High rack stackers

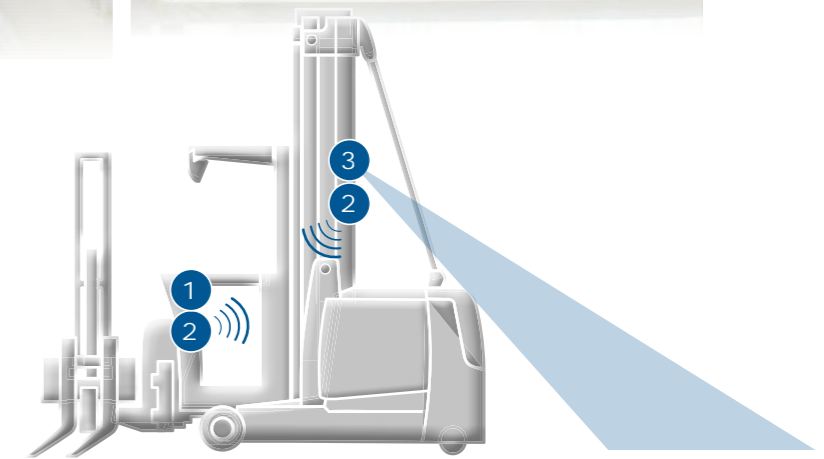
Rear view monitoring

High rack stackers use a camera that is attached to the rear mast. The camera is activated automatically as soon as the driver engages the reverse gear. This way, people and objects behind the forklift truck are detected in time and accidents are avoided. This makes it also easier to judge distances to stored goods and racking so that material damage is less frequent.

Ergonomic advantage: the driver sees the rear area without having to turn around, which protects the driver's back and neck.



Camera mounted to the rear mast.

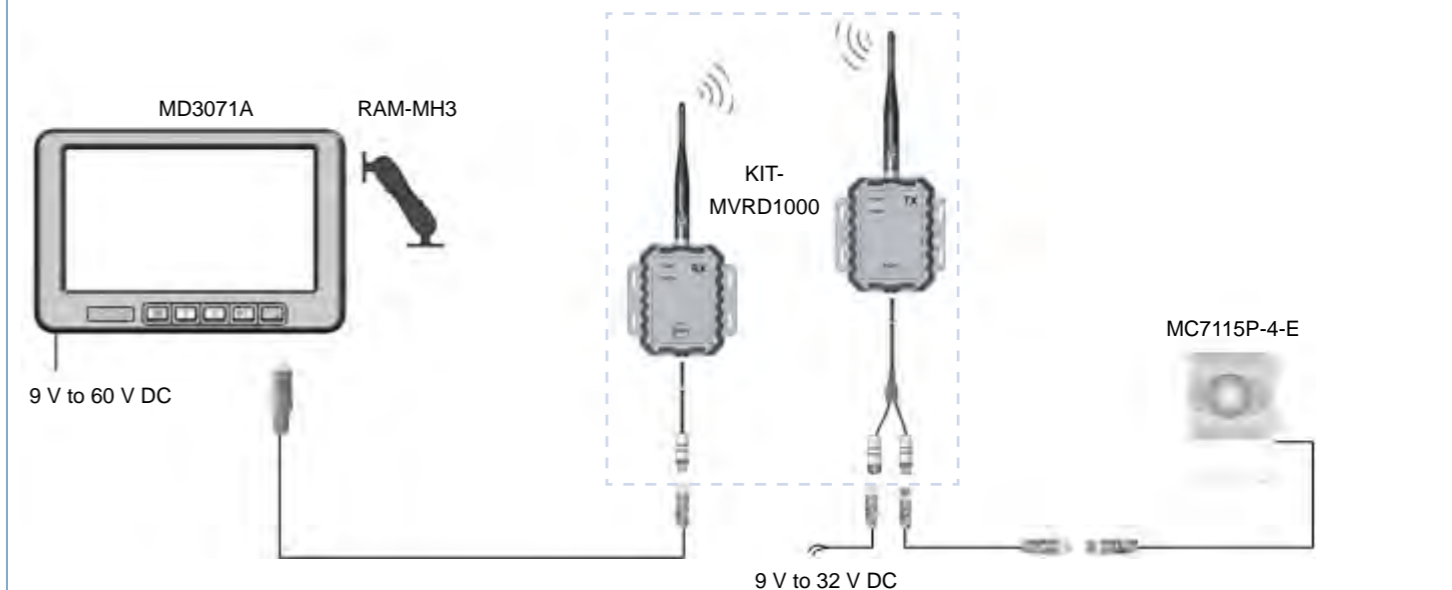


EXAMPLE OF SYSTEM: Rear view monitoring

MD3071A
Heavy-duty 7" monitor

KIT-MVRD1000
Digital wireless system

MC7000P
Heavy-duty camera



Forklifts

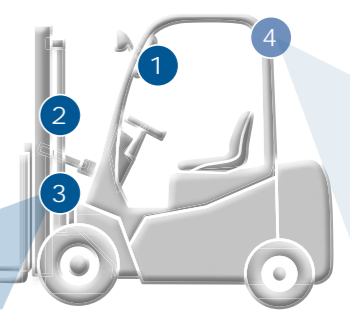
Carriage mounted camera

The fork carrier camera provides the operator with an optimal view onto the forks and the area in front/underneath his vehicle. This allows a safe access into a variety of load carriers. In addition, the camera provides an indirect view of the area in front of the truck.

The system can be extended by a camera that is automatically activated when reversing the vehicle.



A carriage mounted camera is lifted simultaneously with the load.

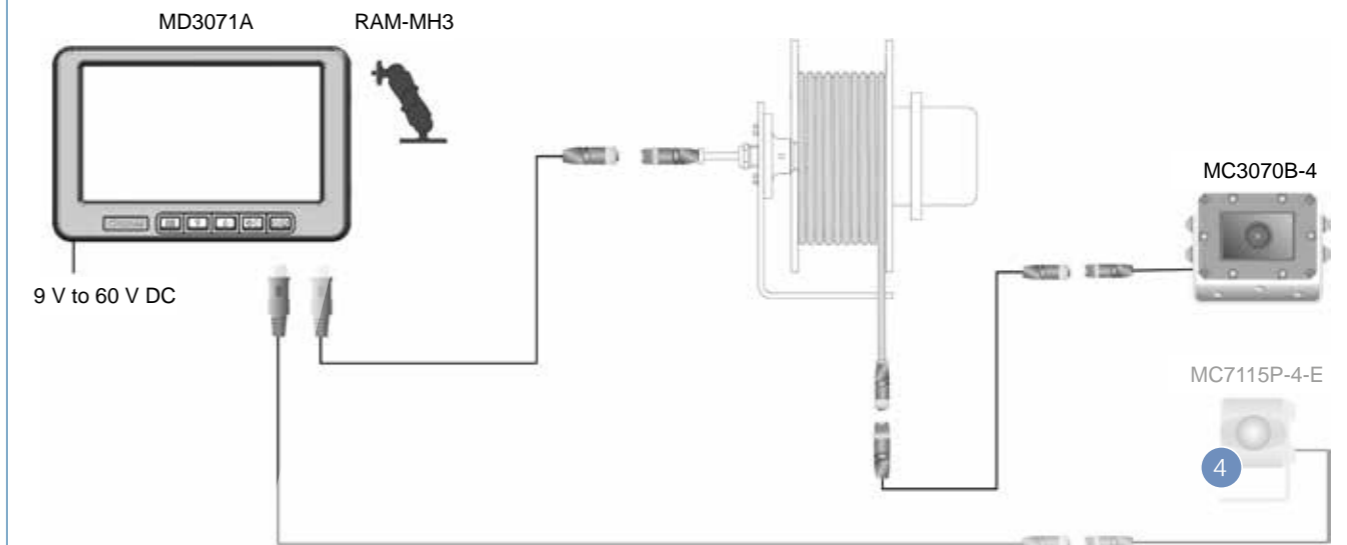


EXAMPLE OF SYSTEM: Fork carriage camera system

1 MD3071A
Heavy-duty 7" monitor

2 FLT
Cable drum

3 MC3000B
Heavy-duty camera



Optional with wireless transmission



Forklifts

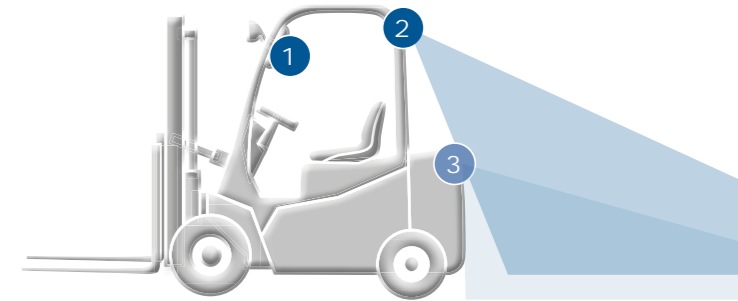
Rear view monitoring – safe and ergonomic

A camera at the rear – optionally with an angle of 115° or 180° – is automatically activated as soon as the truck is shifted into reverse. This way, people and objects behind the forklift truck are detected in time and accidents are avoided. This makes it also easier to judge distances to stored goods and racking so that material damage is less frequent.

Ergonomic advantage: the driver sees the rear area without having to turn around, which protects the driver's back and neck.



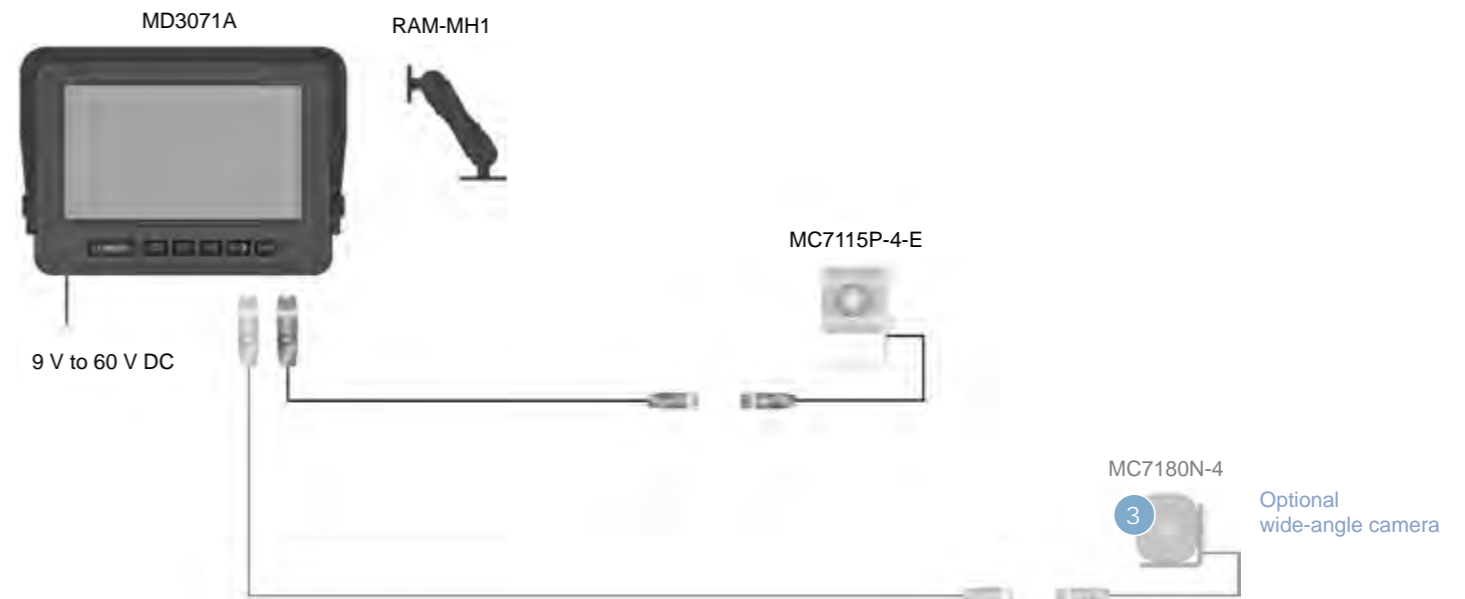
Various mounting positions for back room monitoring



EXAMPLE OF SYSTEM: Rear view monitoring

MD3073
Heavy-duty 7" monitor

MC7000P
Heavy-duty camera



Forklifts

Visibility of carriage way

Large volume loads, e.g. in the beverage industry, block the driver's view to the front of the vehicle. A camera on the mast allows the operator to look ahead of the forklift truck into the storage aisle. This way, the driver can observe people in the lift truck's path and can detect objects and obstacles in front of his vehicle well ahead of time.

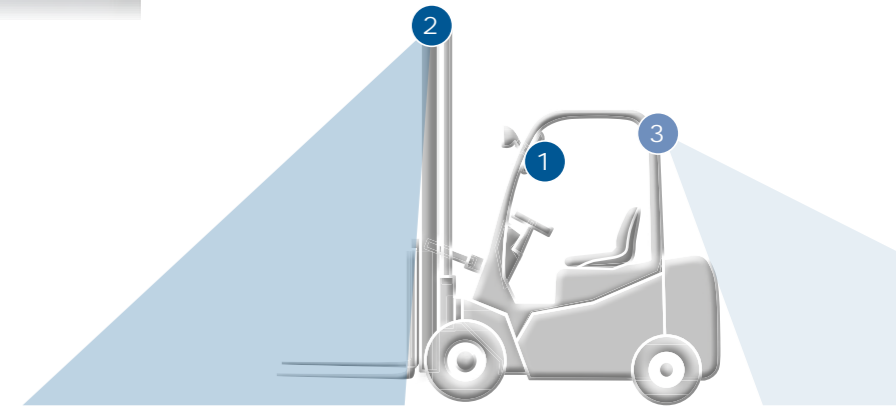
The system can be extended by a camera that is automatically activated when reversing the vehicle.



Significantly increased safety in the storage aisles:
Without the lifting mast camera, a person behind the load would be difficult to see.

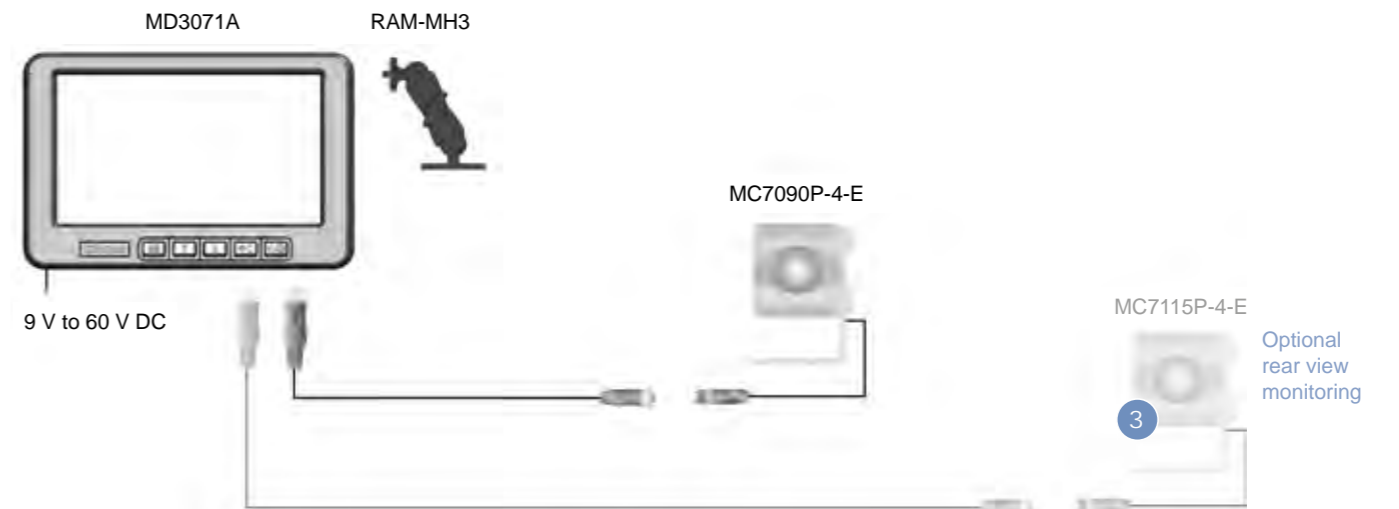


EXAMPLE OF SYSTEM: Visibility of carriage way



1 MD3071A
Heavy-duty 7" monitor

2 MC7000P-4-E
Heavy-duty camera



Forklifts

Truck loading with image recording

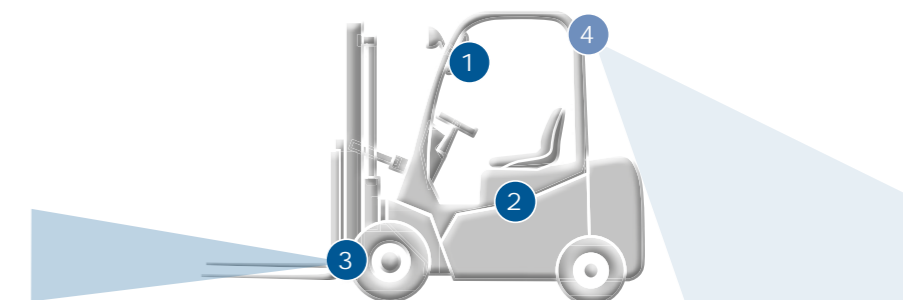
A camera mounted on the mast allows you to look underneath the lift truck forks, directly onto the load or loading edge.

In addition, a WLAN-capable digital recorder with a recording capacity of up to 5 days can be connected. A live view and recording of the images are possible simultaneously. Recording takes place at the push of a button and can be event- or time-controlled.

The system can be extended by an automatically activated rear view camera to detect other vehicles or persons in the danger area.

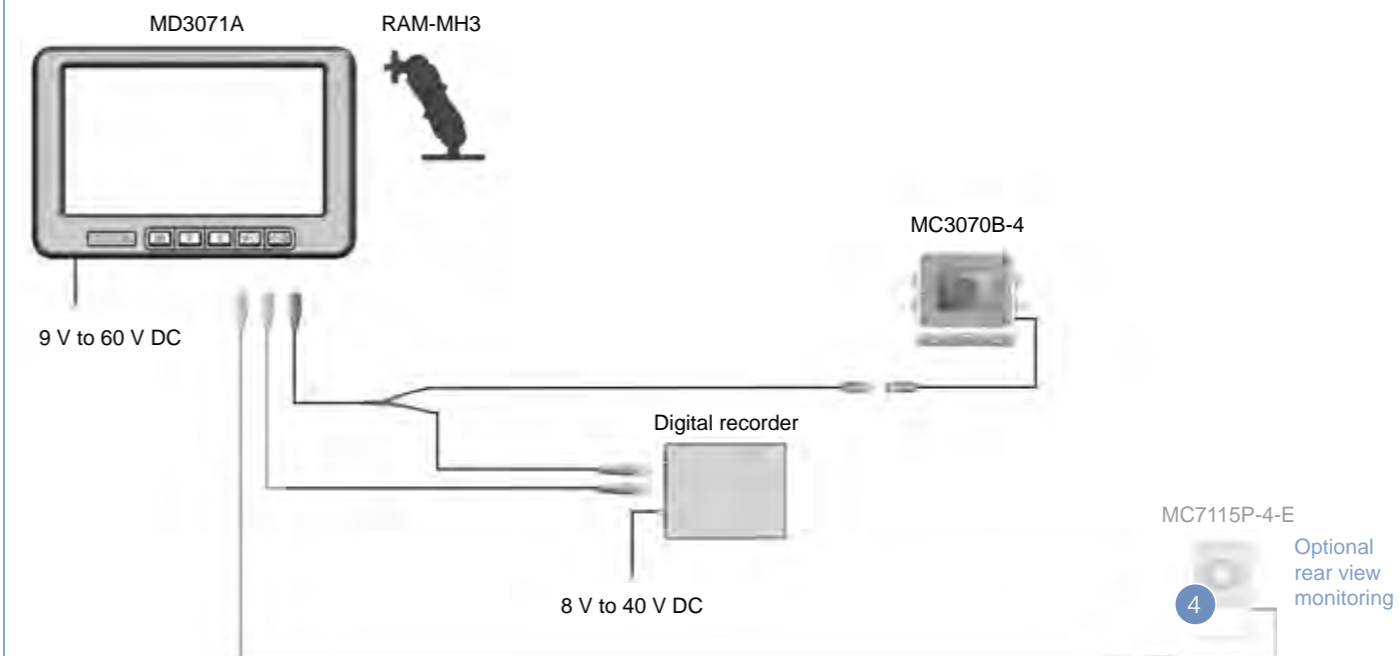


Camera-assisted truck loading.



EXAMPLE OF SYSTEM: Image recording

- 1
MD3071A
Heavy-duty 7" monitor
- 2
Digital recorder
- 3
MC3000B
Heavy-duty camera



Attachments

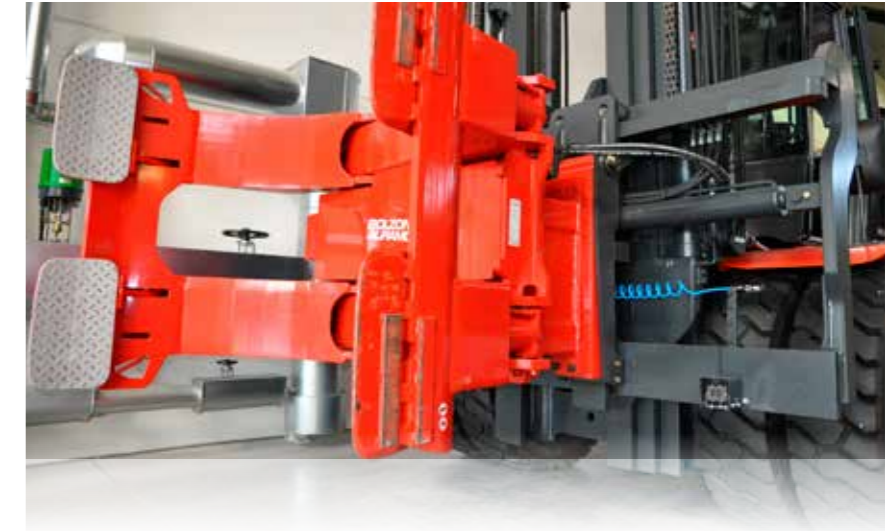
Visual aids for rotators, paper roll clamps and multi-contact clamps

Bulky loads, e.g. rolls used in the paper industry or rotators in, obscure the view forward. Special system solutions effectively support the driver when manoeuvring load in the storage aisle and when positioning an attachment or a truck lift fork.

The safety risk for man and machine is reduced to a minimum and the efficiency is increased.



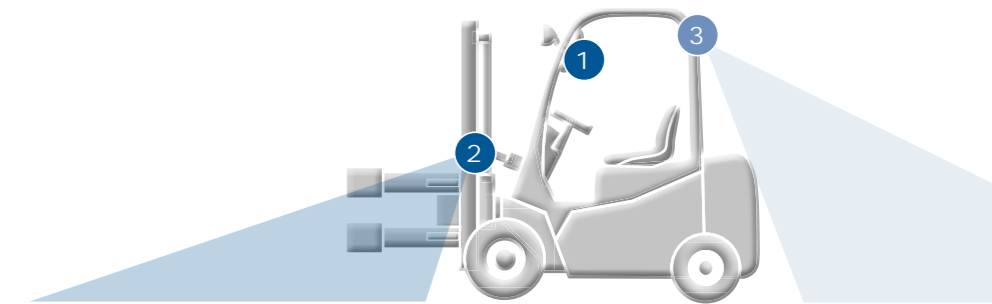
The camera allows visibility ahead of or below the load.



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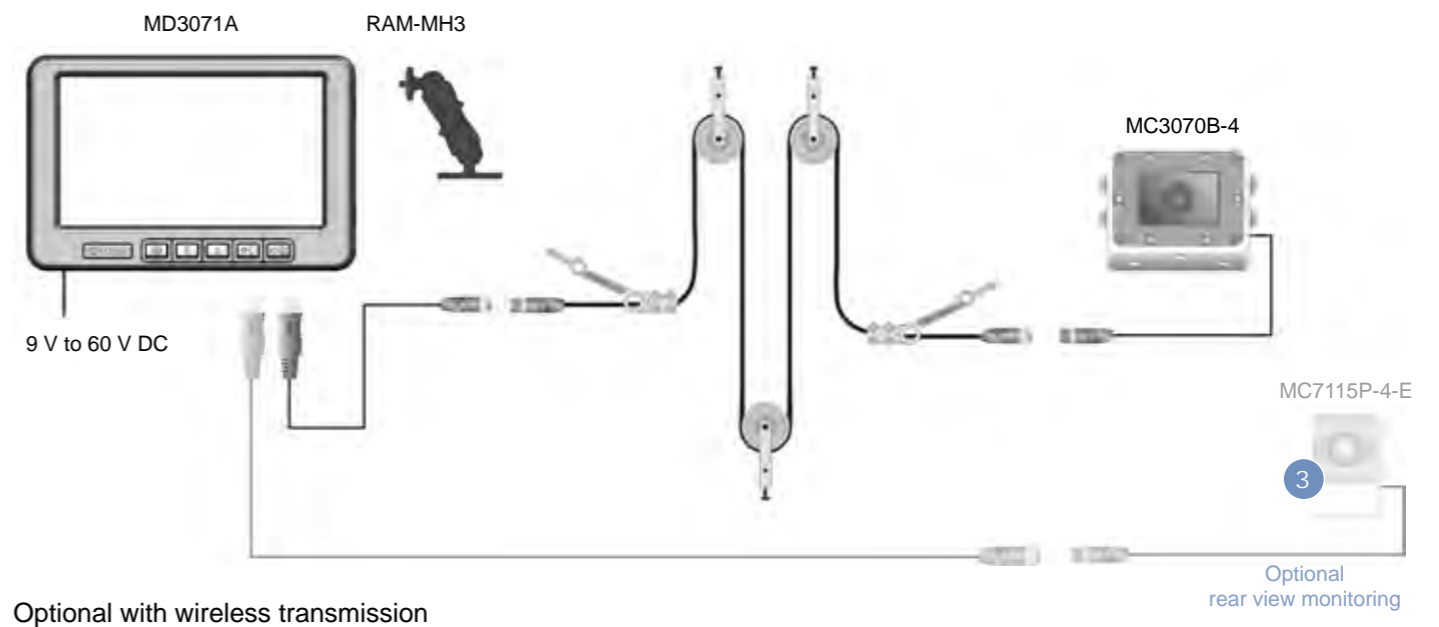
EXAMPLE OF SYSTEM: Attachments



MD3071A
Heavy-duty 7" monitor

MK554
Mast cable

MC3000B
Heavy-duty camera



Optional rear view monitoring

Telescopic fork Handling of pallets

Attached to the inside of the telescopic fork, the camera is well protected and always at the level of the lift truck fork. Due to the 50° angle of view, the driver has a secure view of both the forks and the void entry points of the pallets.

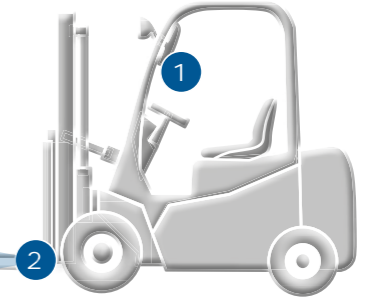
Motec cameras are designed to increase the safety during loading and unloading of goods. Thanks to the LED power light, the safe loading and unloading is assured even under poor light conditions.



MC9150 on telescopic forks.



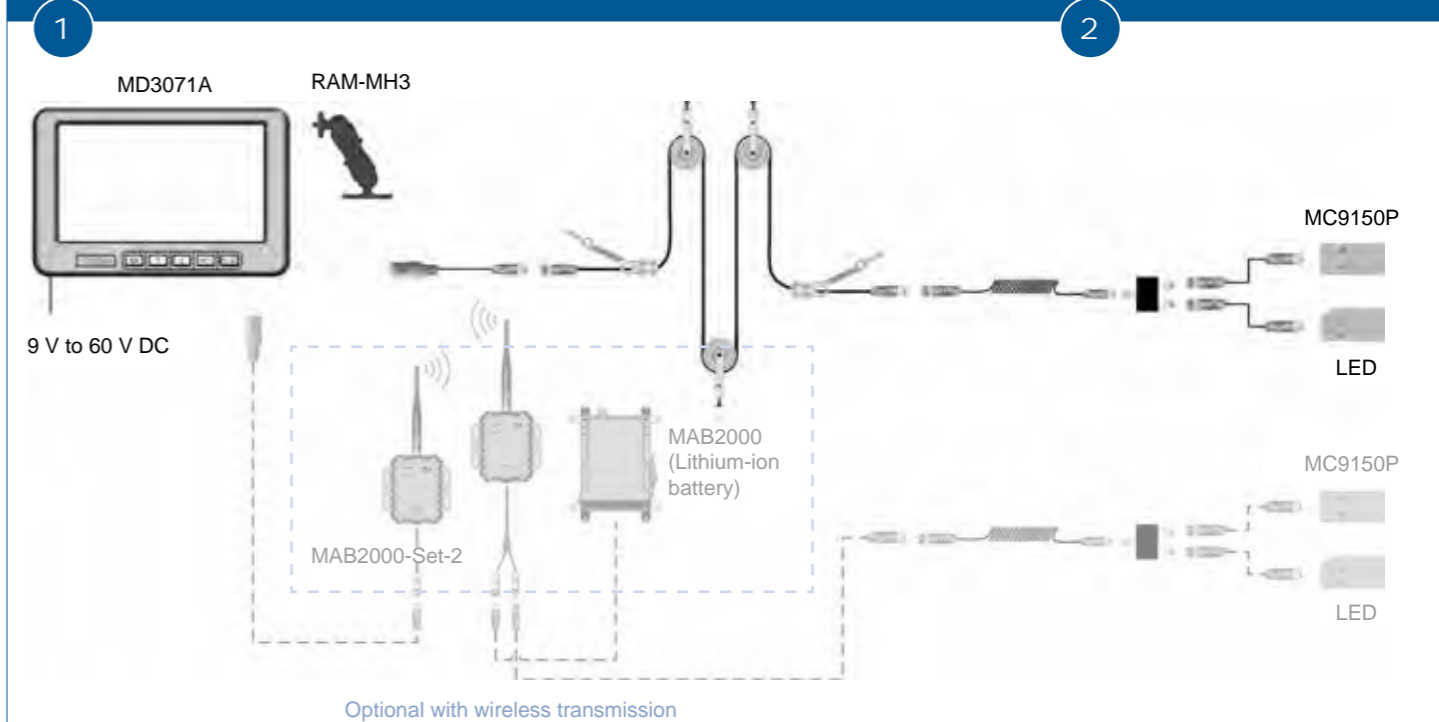
EXAMPLE OF SYSTEM: Telescopic fork



MD3071A
Heavy-duty 7" monitor

MK554
Mast cable

MC9150
Heavy-duty camera



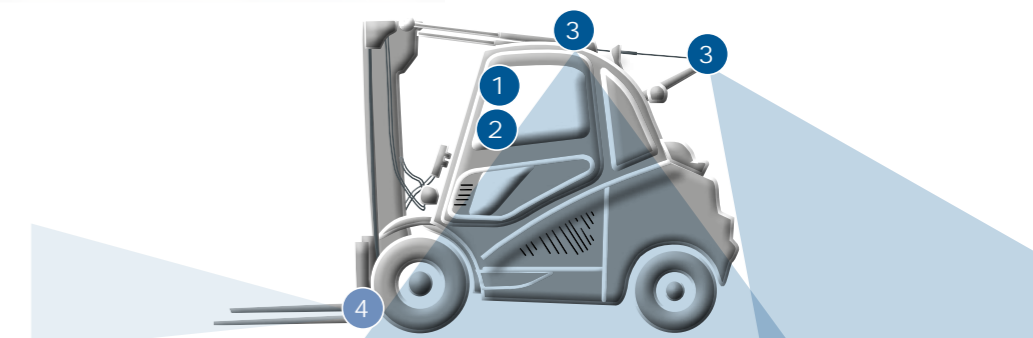
270° or 360° bird's eye view system MVS – Mobile Vicinity Scout

The Motec Mobile Vicinity Scout (MVS) is a camera system especially designed for heavy-duty vehicles. It provides the driver with a clear, seamless 270° or 360° view around their vehicle, thereby saving lives, assisting people, and reducing costs.

Crystal clear, intuitive bird's eye perspective of the vehicle's surroundings. Specially developed for heavy-duty applications and vehicles – flexible, adaptable, reliable. Customised, dynamic overlays. Can be extended through ultrasonic or radar sensors. Simple end-of-line and in-field calibration. Can be integrated into the electronic system of the vehicle by way of various types of interfaces (Ethernet, CAN bus, control cables).



MVS system:
MC3000B as optional fork carrier camera.
Wide-angle camera MC7180N for lateral and rear view monitoring.

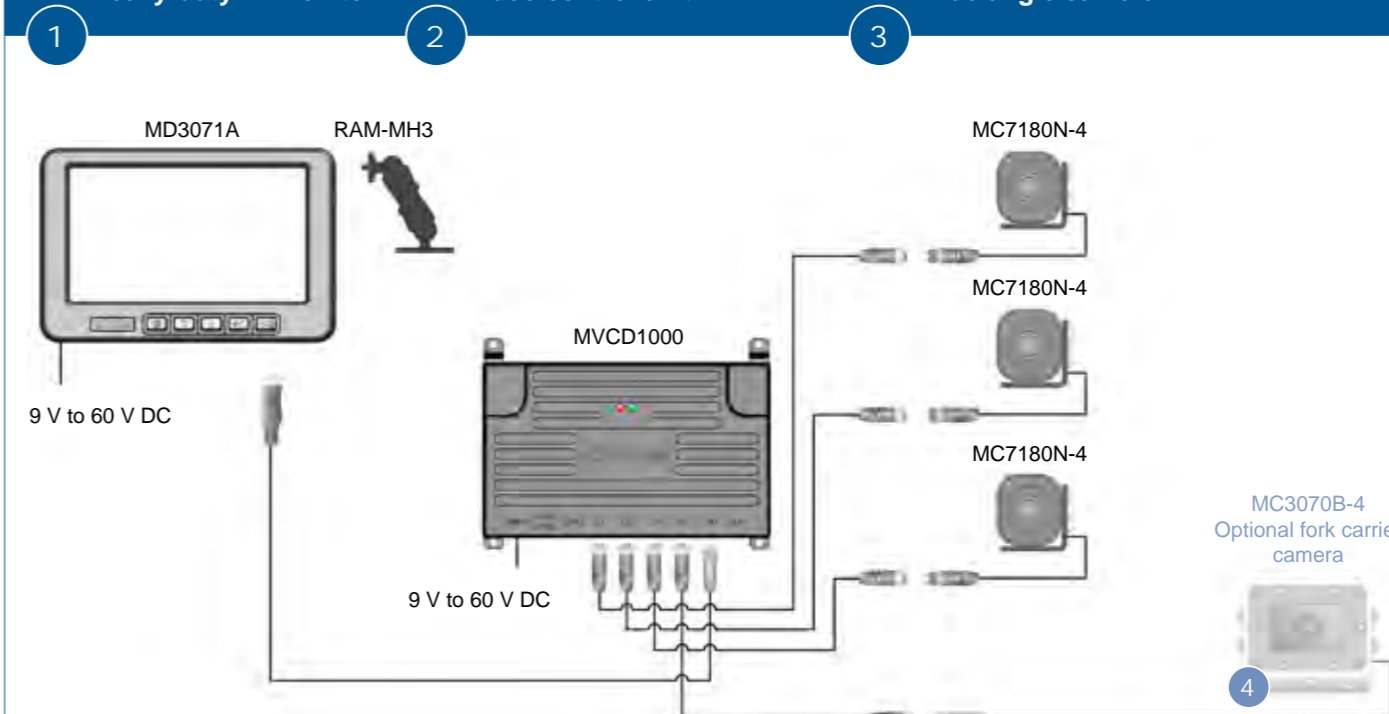


EXAMPLE OF SYSTEM: MVS 270° System

MD3071A
Heavy-duty 7" monitor

MVCD1000
Video control unit

MC7180N
Wide angle camera

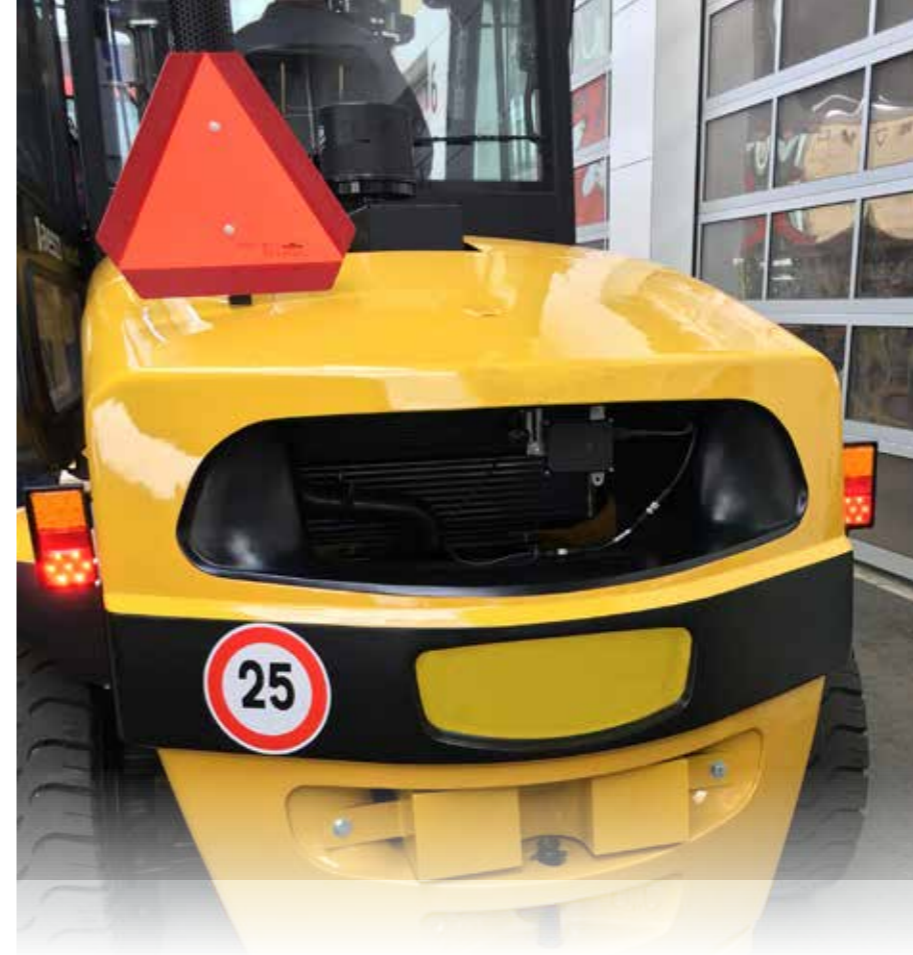


Radar monitoring

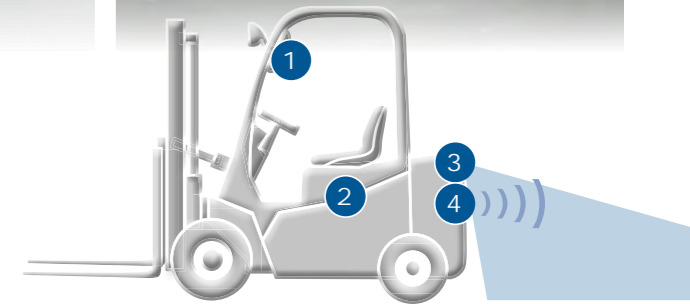
Driver assistance systems for industrial trucks

In order to monitor the entire rear area of a machine, an increasing amount of sensors, such as radar, are used in addition to imaging systems. Radar sensors increase collision protection under poor visibility conditions and can withstand various weather conditions due to their rugged construction.

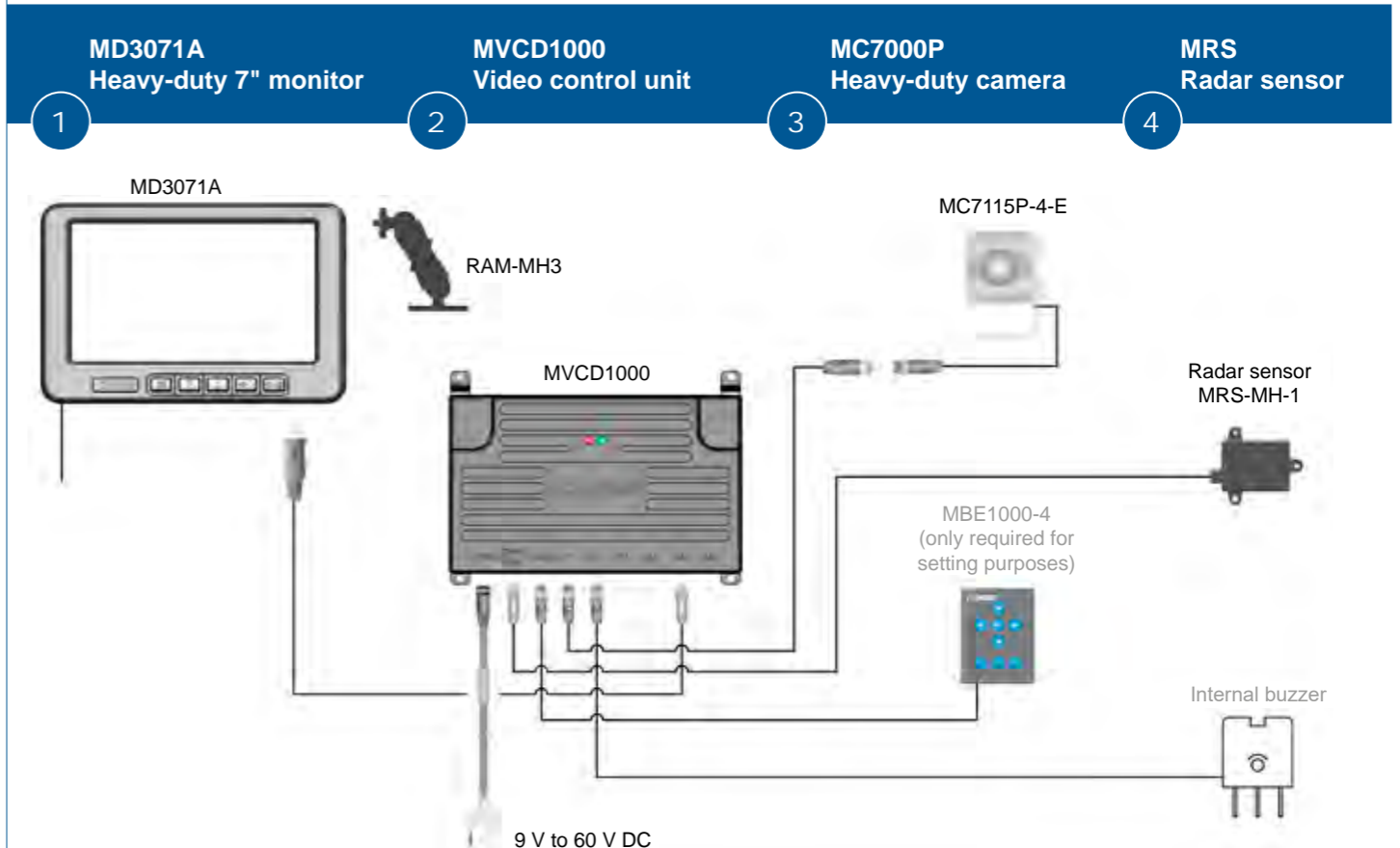
The detection range of the Motec radar sensor covers a distance of up to 50 meters and a horizontal detection angle of 150°. The visual distance display can be adjusted individually – traffic lights, direction signs, distance values or warning symbols can be integrated.



Cameras and radar sensors compliment each other and guarantee increased safety.



EXAMPLE OF SYSTEM: Radar monitoring



SmartFork® The intelligent lift truck fork

Counterbalance truck/reach trucks with sensor system integrated in the tip of the lift truck fork

The camera and the sensor system are integrated into the fork tip and are thus protected against mechanical damage. The driver has an unobstructed view of the load both in front and above the fork.

SmartFork®, the intelligent complete solution combines camera technology with ultrasonic, laser and inclination sensor system. An LED light, mounted next to the camera and optimally adjusted to the light sensitivity of the camera, improves visibility in poorly lit working environments.

In cooperation with Vetter Industrie GmbH.



Sensor system inside the tip of the fork

Ultrasonic sensor

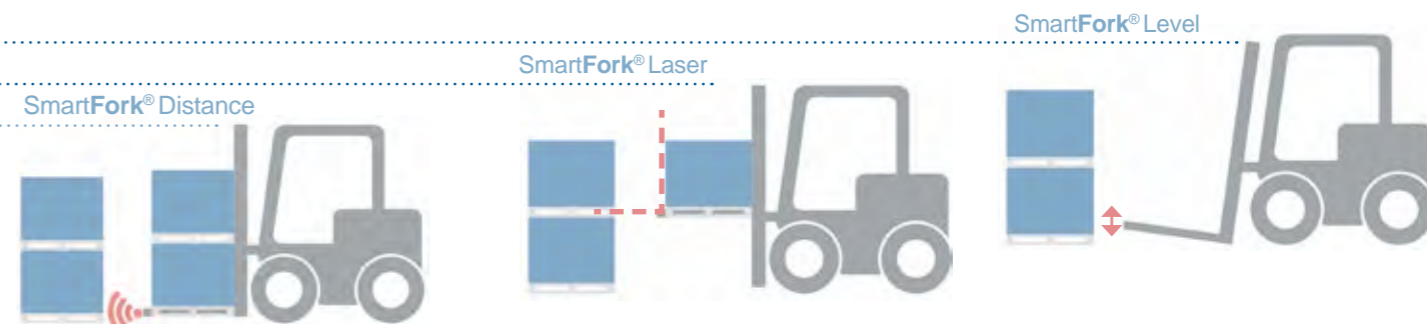
Ideal for distance measurement if block stacking offset pallets is used or if obstacles are to be expected (warehouse wall, boxes, etc.). When approaching the obstacle, the distance is counted down in increments of one centimetre.

Laser sensor

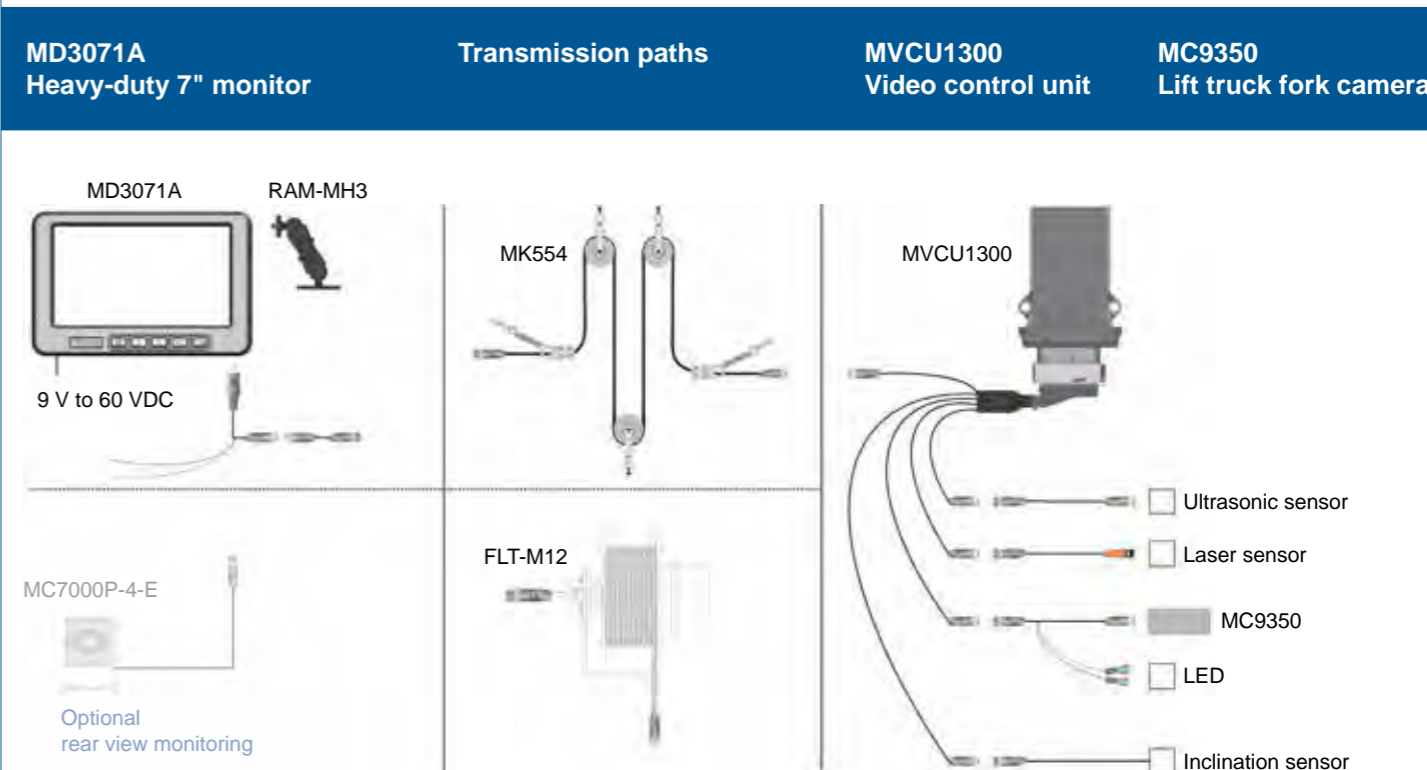
If block stacking is used, the laser as an aiming device indicates the gap between 2 pallets. The driver recognises whether or not the second pallet is raised during pallet pick-up.

Inclination sensor

This sensor indicates the relative inclination of the forks in relation to the ground, even if the floor is bumpy or the forks are under load. Visual support of the angle of inclination using a virtual horizon.



EXAMPLE OF SYSTEM: Counterbalance truck/reach trucks



Optional with wireless transmission



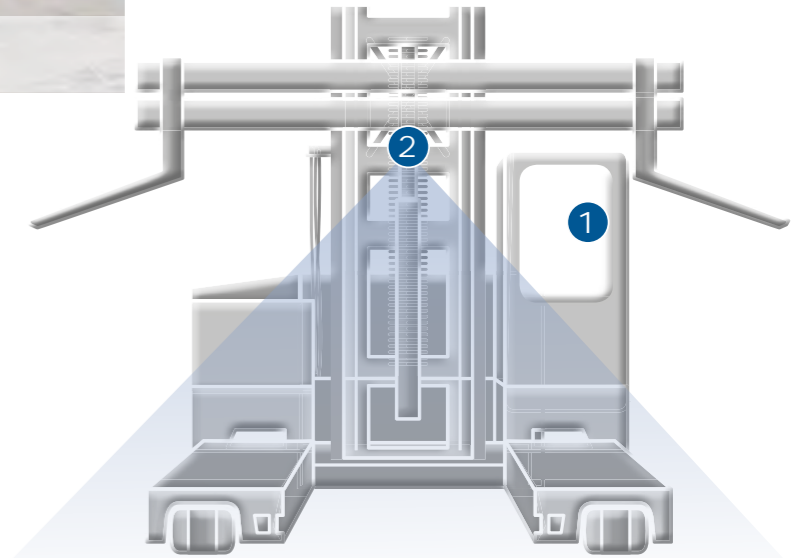
Four way sideloader Mast or fork carrier camera system

Four way sideloaders are used as conventional counterbalance trucks or especially for the transport of extremely long and deep loads in narrow storage aisles. Here, the material handling requires the utmost precision and attention from the lift truck operator.

A fork carrier or mast camera facilitates the loading and unloading of goods, providing a direct view onto the load or the forks.



Motec mast or fork carrier camera – always level with the load.



EXAMPLE OF SYSTEM: Mast or fork carrier camera system

MD3073
Heavy-duty 7" monitor

MK554
Mast cable

MC3000B
Heavy-duty camera

1

2



9 V to 60 V DC



Side loader

Lateral and rear view monitoring for more safety

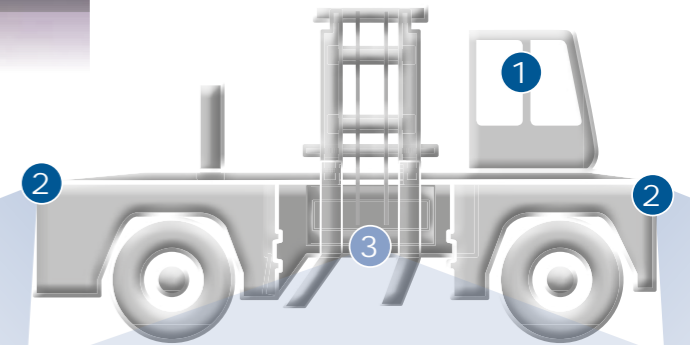
When used under heavy-duty conditions, side loaders enable safe and fast transport of long, bulky loads, even in narrow aisles or passages.

Rear and side cameras open the driver's view in all directions and increase safety while on the move. People and obstacles around the side loader are recognised well in time.

An optional fork carrier camera facilitates the loading and unloading of goods, providing a direct view of the load or the forks.



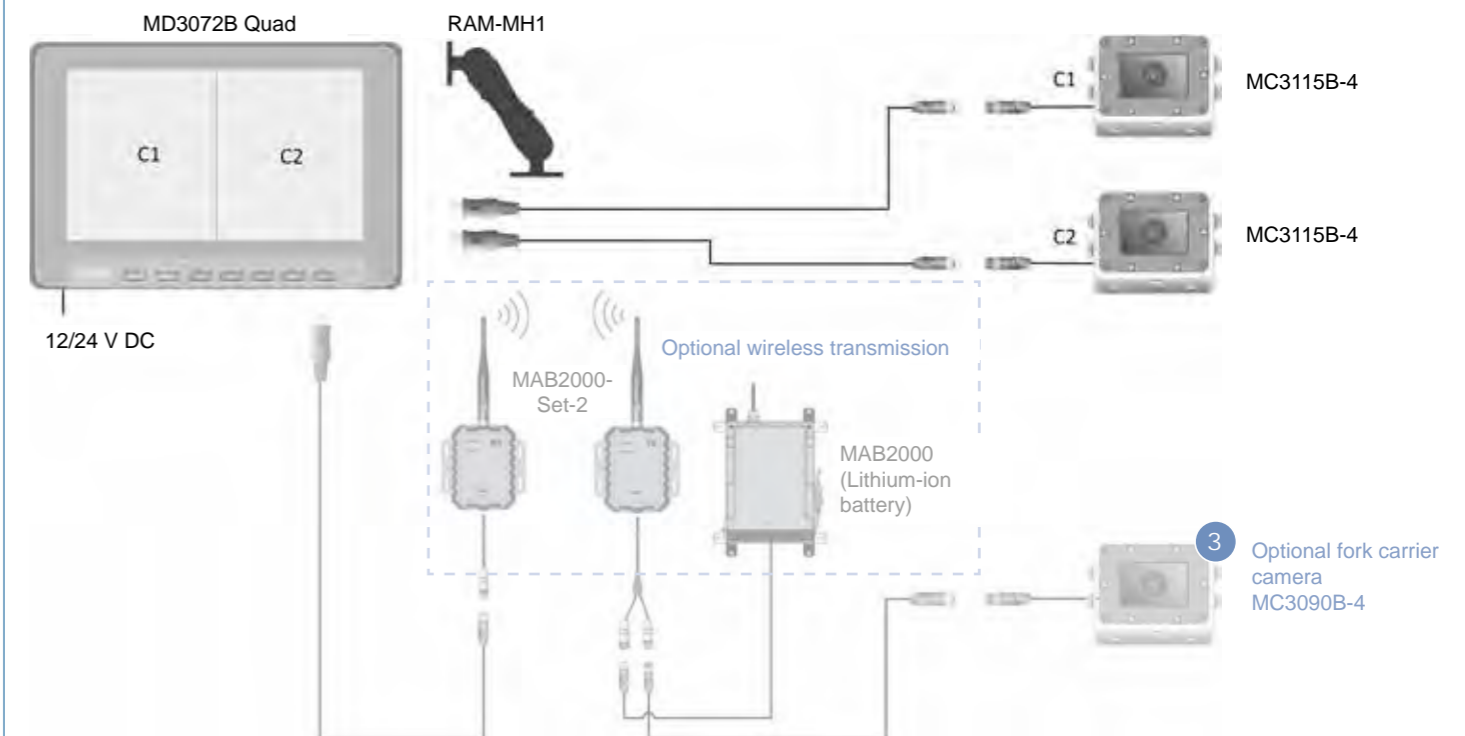
Reversing camera for more safety while on the move.



EXAMPLE OF SYSTEM: Lateral and rear view monitoring

1 MD3072B Quad
Heavy-duty 7" monitor

2 MC3000B
Heavy-duty camera



Telescopic loader

Wireless solution

Cameras on the retrieval of the telescopic handler enable the driver to view the unloading area. They facilitate the handling of pallets and material or the attachments and work platforms.

Due to various lifting heights and a wide range of payloads, wireless data transmission should be preferably used.

The system can be extended by a camera that is automatically activated when reversing the vehicle.



Telehandler with add-on device.

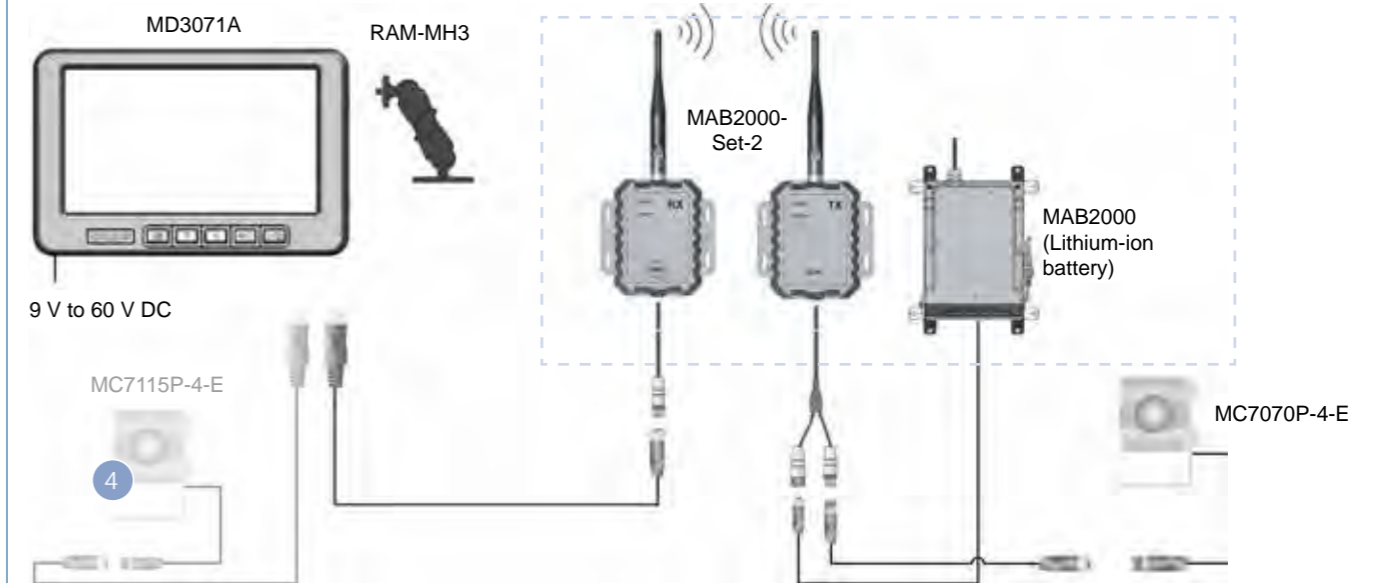


EXAMPLE OF SYSTEM:
Telescopic loader

MD3071A
Heavy-duty 7" monitor

MAB1000-Set-2 (incl. batteries)
Digital wireless system

MC7000P
Heavy-duty camera



Optional rear view monitoring



Log stacker

Efficient material handling due to wireless camera systems

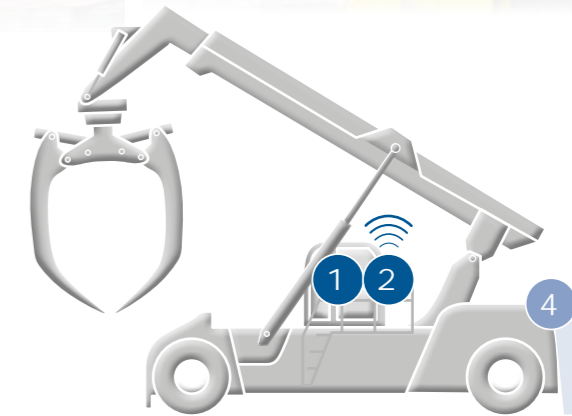
Log stackers are used for mobile wood handling. When loading logs, a camera mounted above the conveyor belt transmits the images via radio to the monitor of the log stacker.

The driver always has the conveying process or the filling level in view. He can therefore detect material jams or foreign objects at an early stage and thus reduce idle times.

The system can be extended by a camera that is automatically activated when reversing the vehicle.



MC3000B for monitoring the filling level of a wood container.

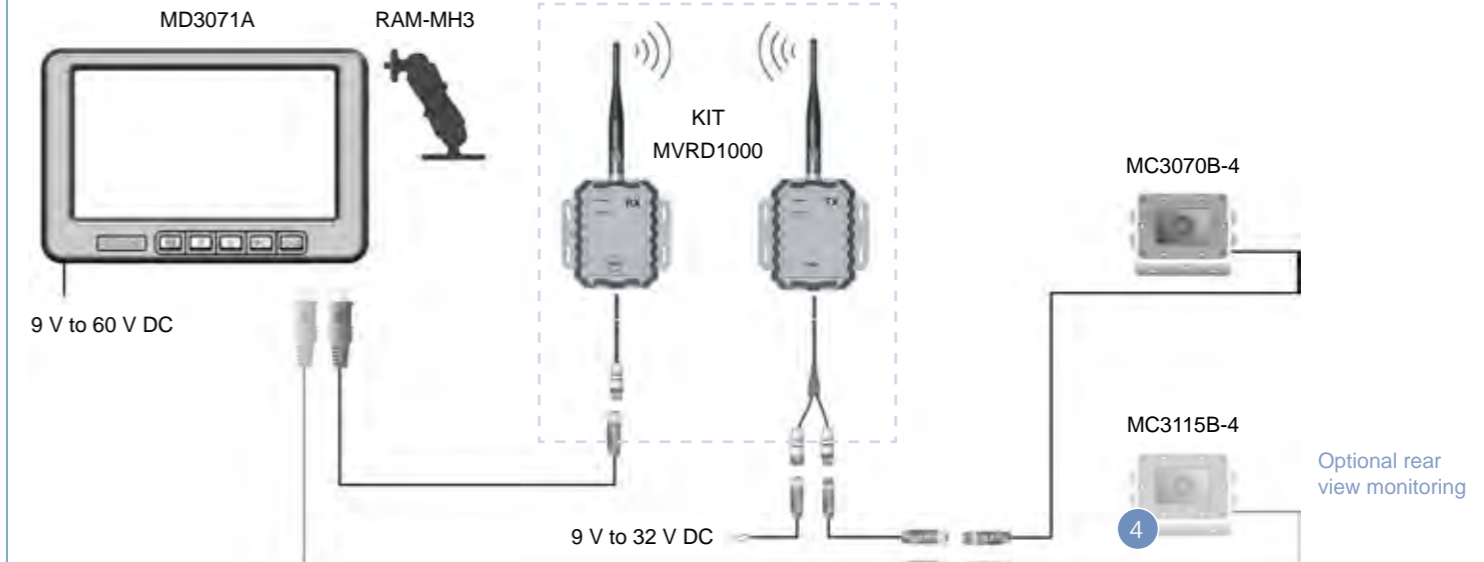


EXAMPLE OF SYSTEM: Efficient material handling

1 **MD3071A**
Heavy-duty 7" monitor

2 **Kit MVRD1000**
Digital wireless system

3 **MC3000B**
Heavy-duty camera



Reach stacker

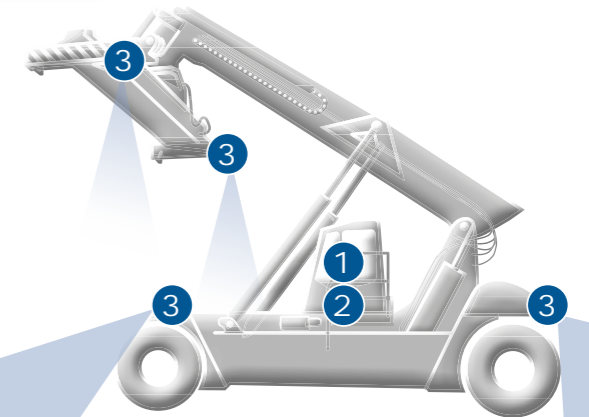
Assistance during manoeuvring, twistlock and rear view monitoring during container handling

The mobility of reach stackers is limited without camera technology. Motec cameras help the driver to see the rear area as well as the path ahead of him. The cameras help to assess distances and recognise persons or obstacles in the danger area well in time.

Additional cameras on the spreader support the driver and ensure the safe handling of containers by monitoring the position of the twistlocks. Consequently, it effectively prevents accidents and saves costs through fast operating procedures.



The cameras are mounted in such a way as to provide an optimum view onto the twistlocks.

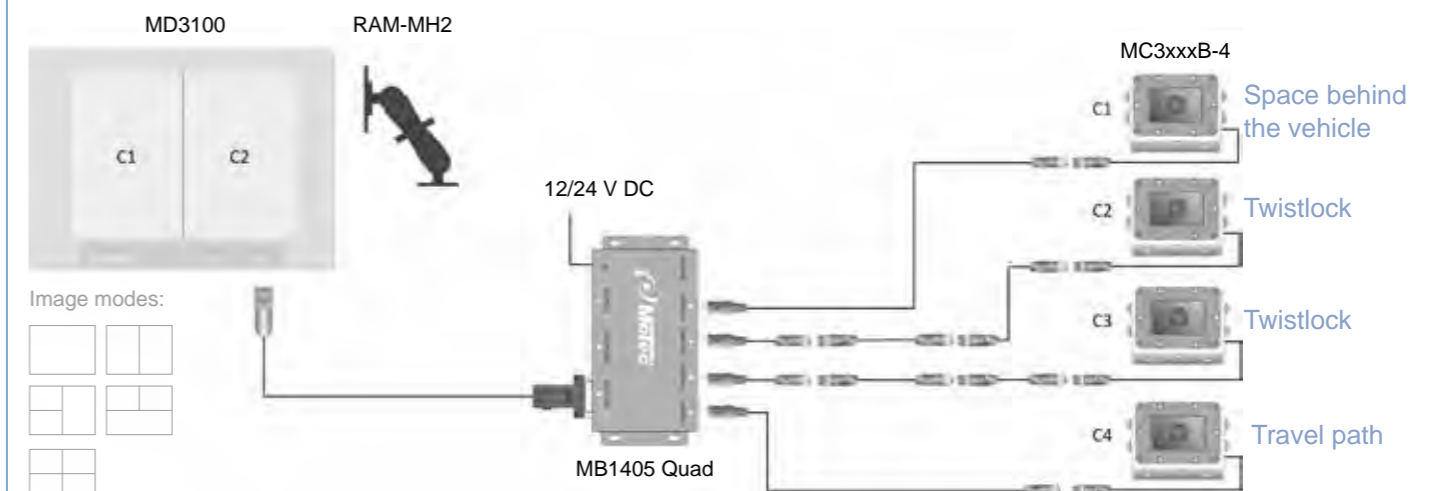


EXAMPLE OF SYSTEM: Reach stacker

1 MD3100
Heavy-duty 10,2" monitor

2 MB1405 Quad
Video control unit

3 MC3000B
Heavy-duty camera



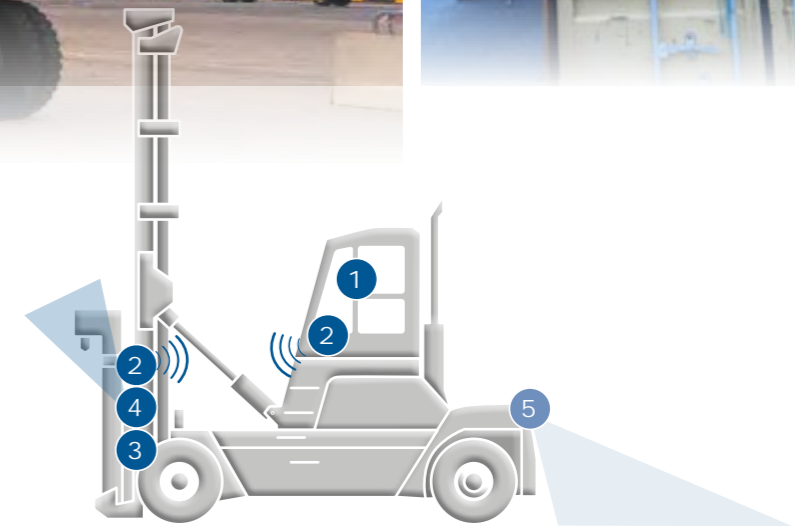
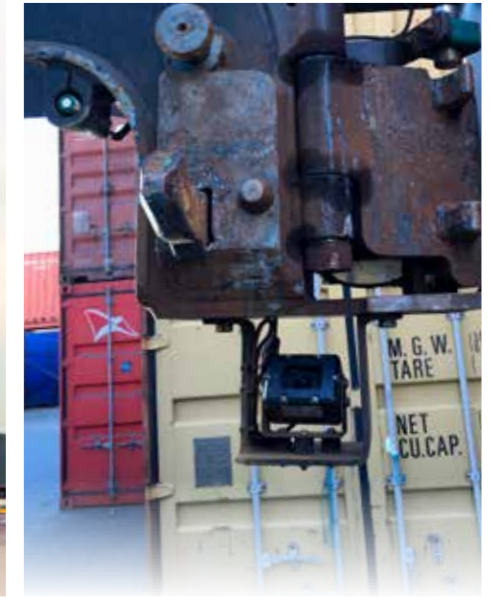
Empty container handler Container handling

The cameras support the driver when loading containers. The monitoring of the twistlocks enables a faster and more secure positioning.

The system can be extended by an automatically activated 180° rear view camera, which significantly facilitates manoeuvring processes.

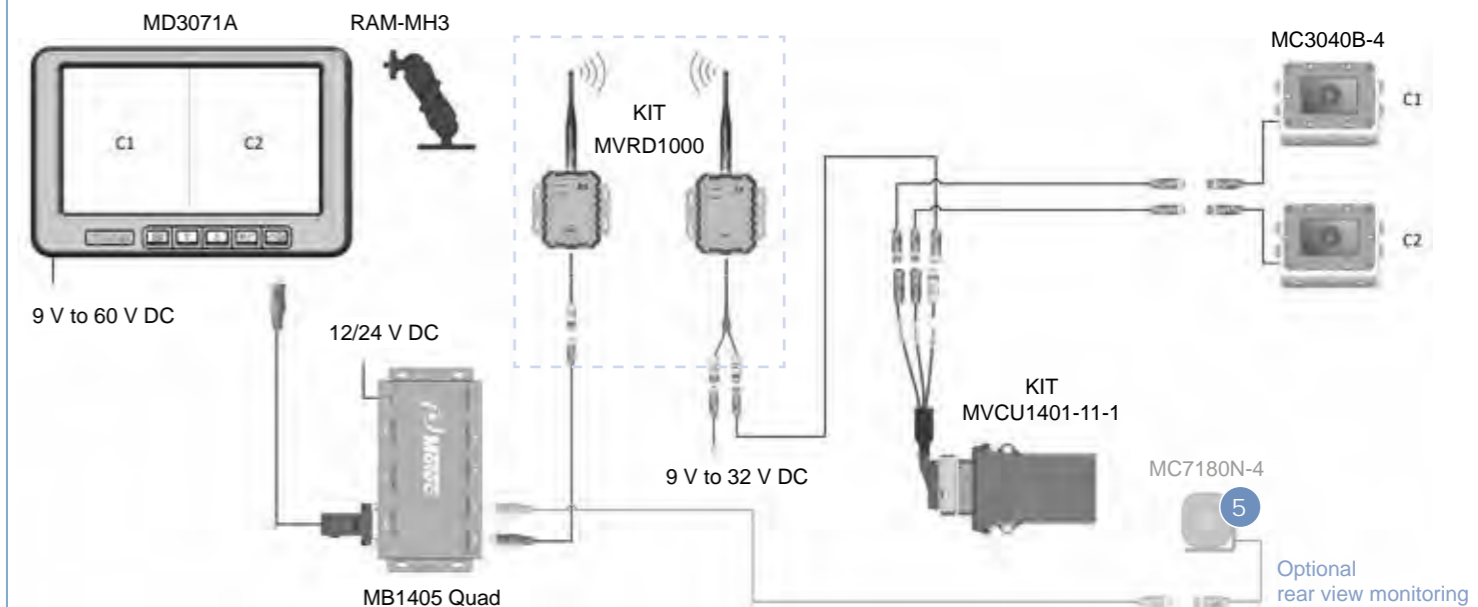


Twistlock camera for safe container handling.



EXAMPLE OF SYSTEM:
Empty container handler

- 1
MD3071A
Heavy-duty 7" monitor
- 2
Kit MVRD1000
Digital wireless system
- 3
Kit MVCU1400
Video control unit
- 4
MC3000B
Heavy-duty camera



Straddle carrier

Rear view monitoring and safe and fast handling of containers

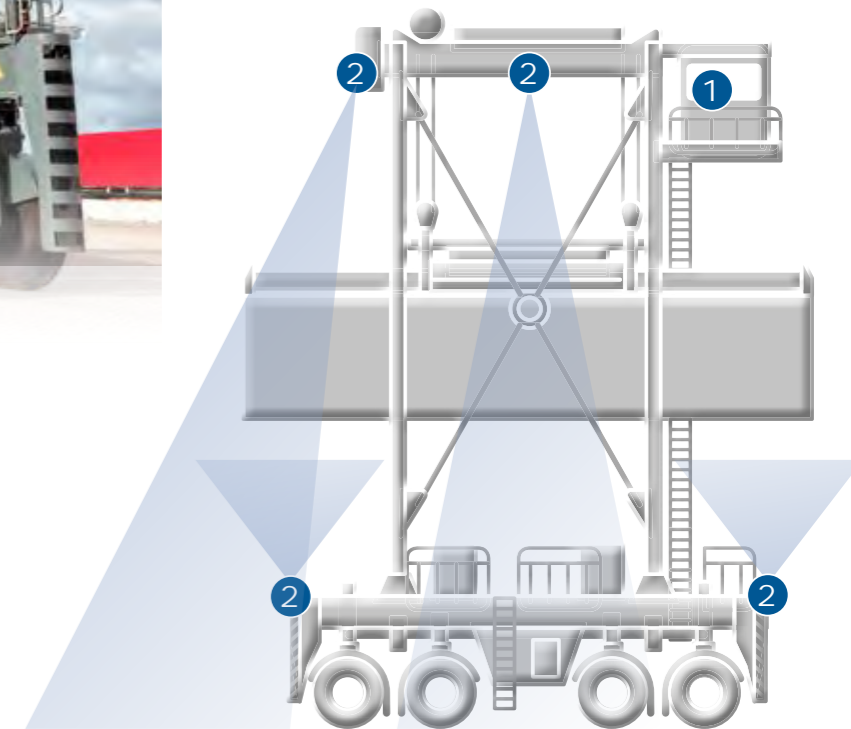
At a height of up to 15 meters, the drivers have the best view forward and into the loading zone. However, the rear view is difficult and the mast cannot be positioned precisely from that height.

Motec cameras help the driver to see the rear and lateral area. The cameras help to assess distances and recognise persons or obstacles in the danger area well in time. 2 additional cameras provide an optimal view of the twistlocks.

The images are transferred to 2 monitors so that the driver can position the containers in a millimetre-accurate manner and can safely move around.



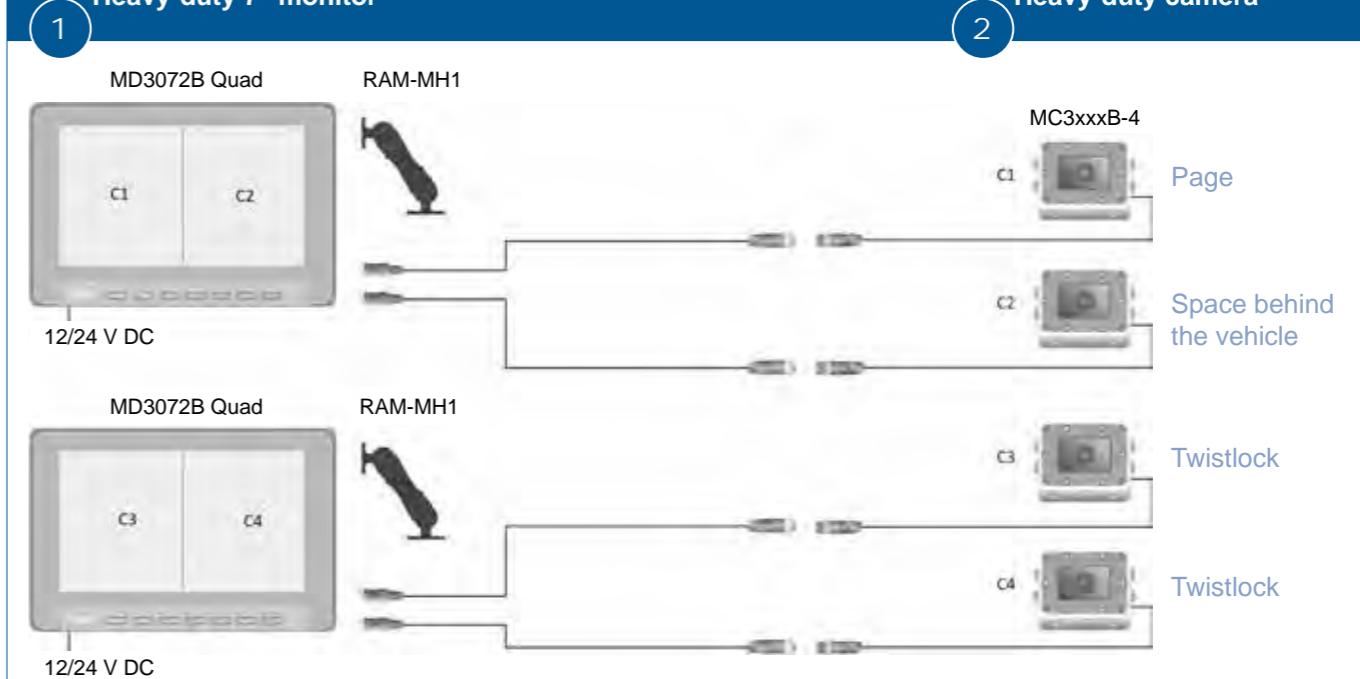
Lateral monitoring from great heights with Motec camera monitor systems.



EXAMPLE OF SYSTEM: Straddle carrier

MD3072B Quad
Heavy-duty 7" monitor

MC3000B
Heavy-duty camera



Reach stacker Piggyback spreader

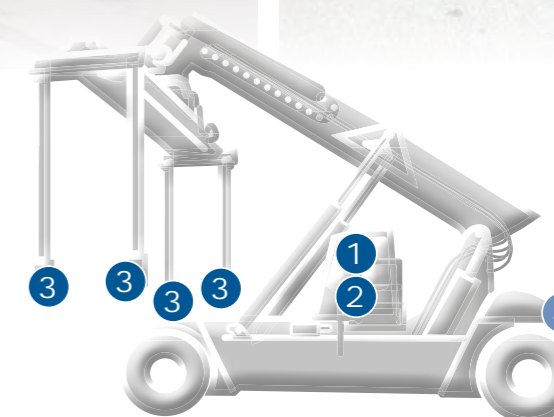
With the piggyback spreader, a reach stacker picks up the entire semi-trailer, which considerably simplifies the transport change between rail and road.

The cameras support the driver when recording the trailers. By monitoring the twistlocks, a faster and safer positioning is possible.

The system can be extended with an automatically activated reversing camera, which makes maneuvering much easier.



The cameras are mounted at the bottom of the 4 foldable lift legs. When gripping the swap bodies they allow an optimal view.

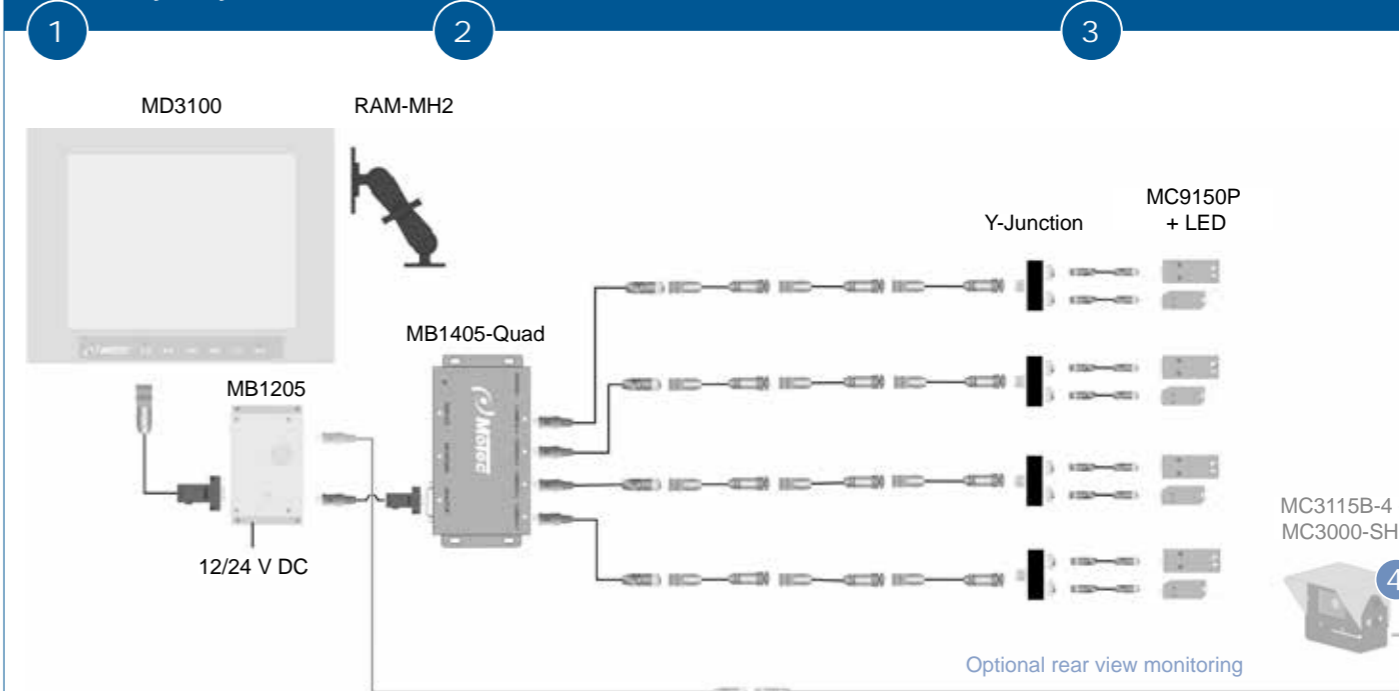


EXAMPLE OF SYSTEM: Piggyback spreader

MD3100
Heavy-duty 10,2" monitor

MB1405-Quad
Video control unit

MC9150P
camera with LED



Container bridge

Container handling

Due to the design, the driver has only limited visibility to the rear and front of the vehicle. The risk of a collision with people, trucks or other obstacles is very high. An intelligent camera monitor system surveys the travel path in all directions and simultaneously displays up to 4 camera images on a single monitor. The image is transmitted via digital radio signals.

It is possible to switch the camera automatically between the front/rear area and the twistlocks.



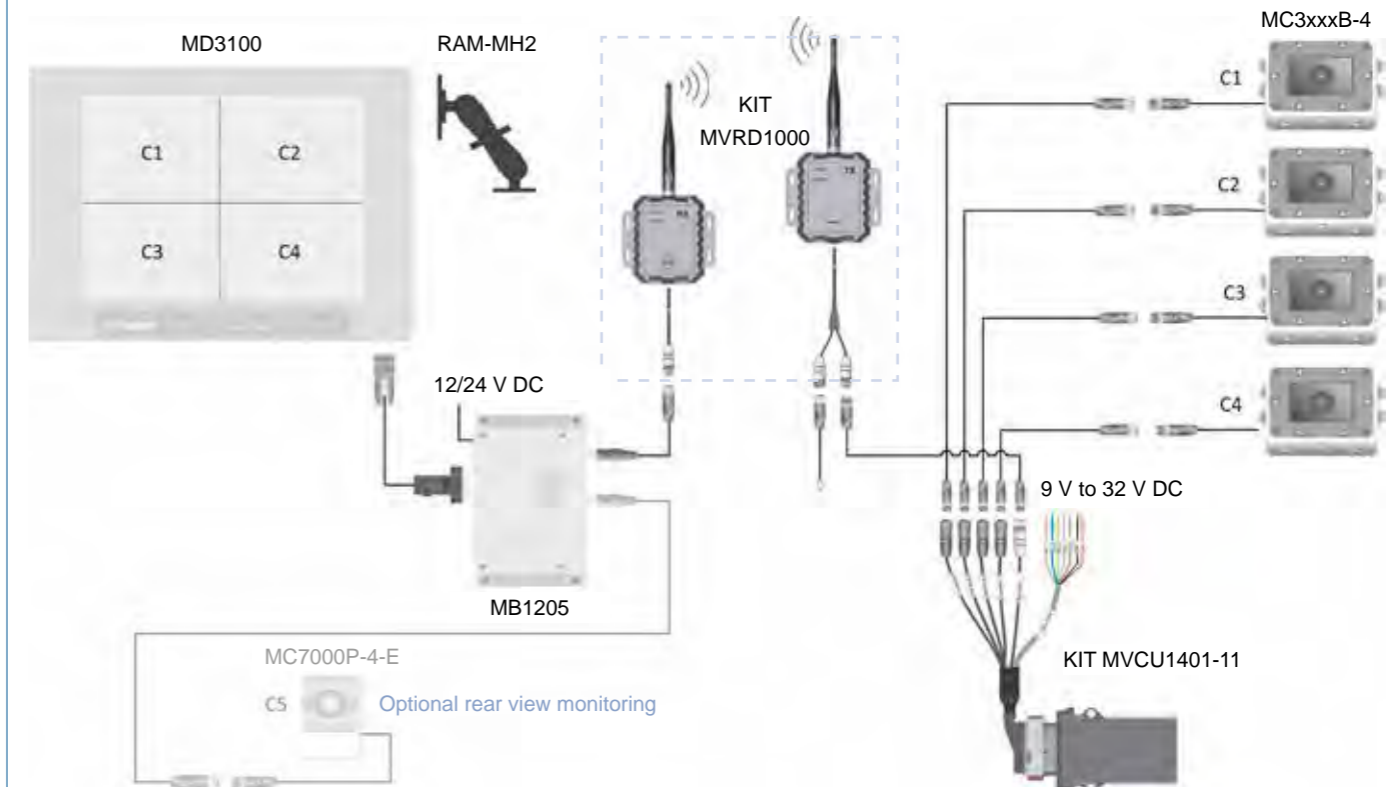
Twistlock camera in use during container handling.

EXAMPLE OF SYSTEM: Container bridge

MD3100
Heavy-duty 10,2" monitor

Kit MVRD1000
Digital wireless system

MC3000B
Heavy-duty camera



Optional image transmission via FOC (fibre optic cable) or twisted-pair converter.



Stationary and semi-stationary applications

Example of machine tools

In order to monitor production processes, cameras are mounted to the gripper and transport container. The cameras help you to verify the correct positioning of the workpiece or semi-finished product, or to display the filling level of the transport boxes.

This allows workflows and production planning to be optimised.

Alternatively, the system can be extended by a digital wireless system. In addition, it is possible to integrate an Ethernet camera.



Camera-monitored workplace during line production.



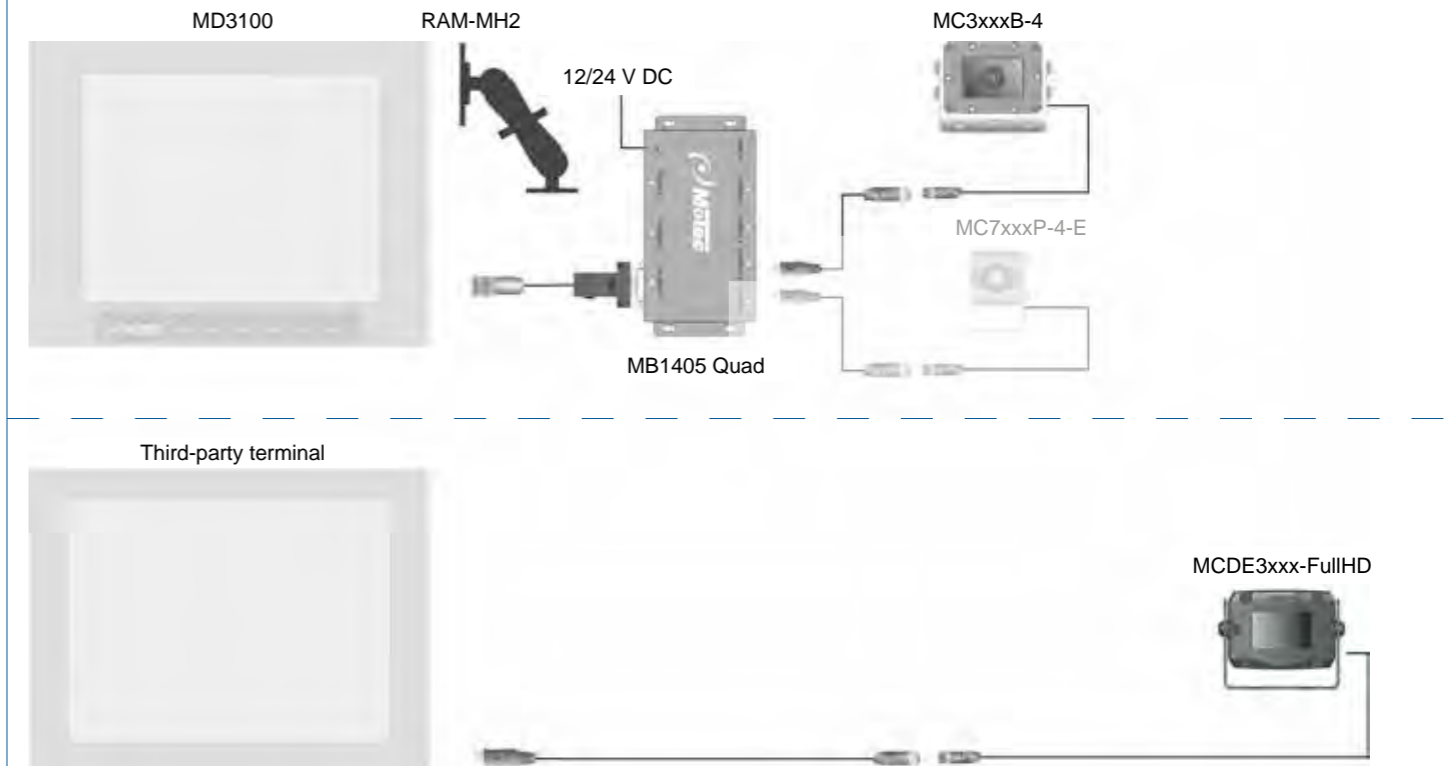
EXAMPLE OF SYSTEM: Stationary and semi-stationary applications

MD3100
Heavy-duty 10,2" monitor

MB1405 Quad
Video control unit

MC3000B
Heavy-duty camera

MCDE3000-FullHD
Ethernet camera



Heavy-duty cameras

Overview



MC9000
Fork-mounted camera

The MC9050 fork camera is designed especially for forklift trucks and is mounted to the inside of the fork. This places the camera at the eye level of the pallet. Based on its pinhole size opening in the housing, the lens is protected from damage that may be caused by lattice boxes or pallets



MC9150P
Pinhole camera

The MC9150P is designed for mounting on the fork carriage, fork bend and spreader. The 50° viewing angle makes it possible to observe both forks. Based on its pinhole size opening in the housing, the lens is protected from damage that may be caused by lattice boxes or pallets. The camera has a very high shock and permanently shock resistant up to 100 g.



MC925C
Fork-mounted camera with LED

The MC9000 fork camera is designed especially for forklift trucks and is mounted to the inside of the fork. Two integrated LED high resolution modules let the forklift operator maintain visual contact with the forks even during poor lighting conditions.



MCDE7000-FullHD
Ethernet camera

The MCDE7000-FullHD is a FullHD Ethernet camera suitable for mobile use. It can be utilised in networks compliant with IEEE 802.3 (LAN). Fitted with intelligent image processing, a high optical dynamic range (HDR) and dynamic overlays, it functions as a smart sensor in a variety of applications. For example, it can be integrated into existing video monitoring systems or used for video streaming across large distances.



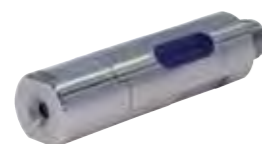
MCDB7000-FullHD
BroadR-Reach camera

The MCDB7000-FullHD is a FullHD BroadR-Reach camera suitable for mobile use. It can be utilised in networks compliant with IEEE 802.3 (LAN). Fitted with intelligent image processing, a high optical dynamic range (HDR) and dynamic overlays, it is used in a variety of applications. For example, it can be used for 360°-bird's eye view systems or as rear view camera.



MCDL7000-FullHD
LVDS camera

The MCDL7000-FullHD is a compact LVDS camera suitable for mobile use. The LVDS interface provides uncompressed data transmission of raw data up to 3 gigabits per second without loss of quality for image processing. LVDS cameras are used in applications that require high-speed serial communications, for example, video streaming, 360°-bird's eye view systems or stereo cameras.



MC9350
Pinhole camera

The MC9350 is fitted in the front of the fork, meaning it is always at the same level as the pallet. A safe immersion of the fork in the pallet and a fast and safe settling of the pallet in the high rack is thus ensured. The pinhole lens and the associated pin-prick sized opening in the casing reduced the risk of wire mesh crates or pallets damaging the lens.



MC7000P-4-E
Heavy-duty camera

Based on its **small design**, the MC7000P-4-E is perfectly suitable for the installation on mobile machines with limited space available. The individually adjustable lens makes it possible to install the camera vertically, horizontally, at an angle, or overhead. The stainless steel housing guarantees a high level of durability to prevent corrosion and resist acids.



MC7180N-4
Wide angle camera

The MC7180N-4 is a heavy-duty wide-angle camera used for 360° panoramic view systems or 270° rear view/front view systems. But the robust 180° camera can also be used as a standalone camera. The real flexibility of the camera enables adaptation to different visual requirements and vehicles, e.g. as a MC7180N-4-MH with integral holder.



MC3000B-4
Heavy-duty camera

There are no visibility issues the MC3000B with its anodised and coated aluminium housing cannot handle in robust, heavy-duty applications and under extreme weather and environmental conditions. Its numerous available view angles and plug connections make it the perfect choice for a wide range of applications in utility vehicles and mobile machinery.



MC3000C-IR/-WL
Night vision capable camera

The MC3000C-IR/-WL is a heavy-duty camera with infrared LEDs (night vision) or white light LEDs. Both cameras automatically switch to LED mode as darkness sets in. The IR and WL version is characterized by high electromagnetic compatibility (EMC). The development is based on the high demands of industry and defense.



MCDE3000-FullHD
Ethernet camera

The MCDE3000-FullHD is a FullHD Ethernet camera suitable for mobile use. It can be utilised in networks compliant with IEEE 802.3 (LAN). Fitted with intelligent image processing, a high optical dynamic range (HDR) and dynamic overlays, it functions as a smart sensor in a variety of applications. For example, it can be integrated into existing video monitoring systems or used for video streaming across large distances.

Heavy-duty monitors

Overview



MD3071A
7" monitor

Due to its compact and versatile design and its integrated functions, the tough heavy-duty MD3071A monitor offers a wide range of applications, for example the horizontal and vertical version in the 360° bird's eye view system (MVS). The software update option ensures that the MD3071A is always up to date and thereby future-proof.



MD3072B-Quad
7" monitor

The MD3072B-Quad monitor has an integrated video control unit. Up to 4 camera feeds can be displayed simultaneously. An integrated menu function and control cables to the automatic controls of the connected cameras ensure quick image changes.



MD3074A-Quad
7" monitor

The MD3074A-Quad is a tough heavy-duty monitor that, due to its protection class IP65, can not be harmed by water and is even able to be used in cooling warehouses. Various picture modes can be selected and up to 4 camera images displayed simultaneously, including interval controlled image selection.

Heavy-duty video control units

Overview



MVCD1000
Video control unit

The MVCD1000 is a digital FPGA-SoC-based Ethernet and CAN bus-compliant heavy-duty video control unit which can process up to 4 camera images in parallel. It can merge the camera images with other sensor data and output it via a monitor output or via Ethernet video stream. It is the video controller unit for MVS and radar applications.



MB1405-Quad
Video control unit

The MB1405 quad is a video control unit which allows the display of up to 4 camera images at the same time in quad split mode. The camera display and switching to single image mode are controlled automatically by means of situation-based signals or manually using the control unit (keyboard) supplied. Direct image mirroring is also possible.



MVCU1400
Video control unit

The MVCU1400 is an intelligent, CAN-controlled heavy-duty multi camera video control unit that processes up to 4 camera images and displays them on up to 2 monitors in various modes.



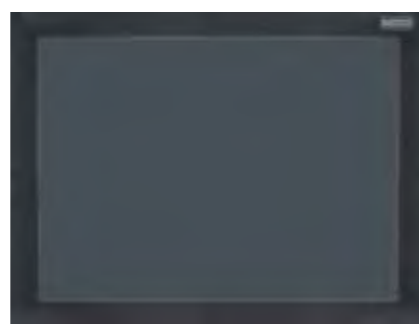
MD3073
7" monitor

The waterproof and dustproof monitor MD3073 is used in the forklift and logistics area (cold store operation). Furthermore, the robust monitor is used on construction and agricultural machinery as well as foundry vehicles. Especially its use in alternating operation in cold and warm temperatures are its strengths. It fulfills the protection class IP67.



MD3100
10" monitor

The MD3100A has a 10" screen and thereby is suitable to simultaneously display multiple camera images. For industrial use it was equipped with a powder coated metal housing, which fulfills the protection class IP54 on the front side.



LCD-Monitor
17"-1 metal housing monitor

The 17" LCD monitor is a monitor for industrial applications and stationary use with powder-coated metal housing. The large screen size ensures the display of complex image combinations. The higher resolution provides sharp camera images that are true to the detail.

Data storage and transmission

Overview



DVR-BD-301-2WG/WIFI
Digital video recorder

The DVR-BD-301-2WG-WIFI is a WLAN-enabled digital recorder for mobile applications for which up to 2 heavy-duty cameras can be connected. The recording is started by pressing a button, through event- and time-base control or through movement-based control in the AVI format. Parallel live viewing and recording possible along with setting of image quality and frame rate. GPS data can be displayed in the recording.



MAB2000-Set-2
Digital wireless system

Digital wireless system for image transmission. Including video receiver, video transmitter, charger, battery box and 2 Li-ion batteries. Operating time > 28 hours thanks to automatic shutdown. Range up to 120 meters. 2.4 GHz.

Other ways of transmission

- Analogue wireless 5.8 GHz
- FOC (fibre optic cable)
- Twisted pair converter
- Ethernet/BroadR-Reach

Cables and cable harnesses, cable accessories, cable protection systems and customer-specific solutions

Motec GmbH has more than 25 years of expertise in assembling high-quality, customised cable systems in Germany. At this point in time, we produce approximately 1.000 different cables in various lengths and designs.

Individually-customised solutions are our specialty: We use all standard plug-in connectors and can produce complex cable harnesses and cable sets.

We process any type of wire or conductor, with diameters from 0.013 mm² (AWG36) to 107.2 mm² (AWG 4/0), without any limits in the number of conductors.

Certified quality

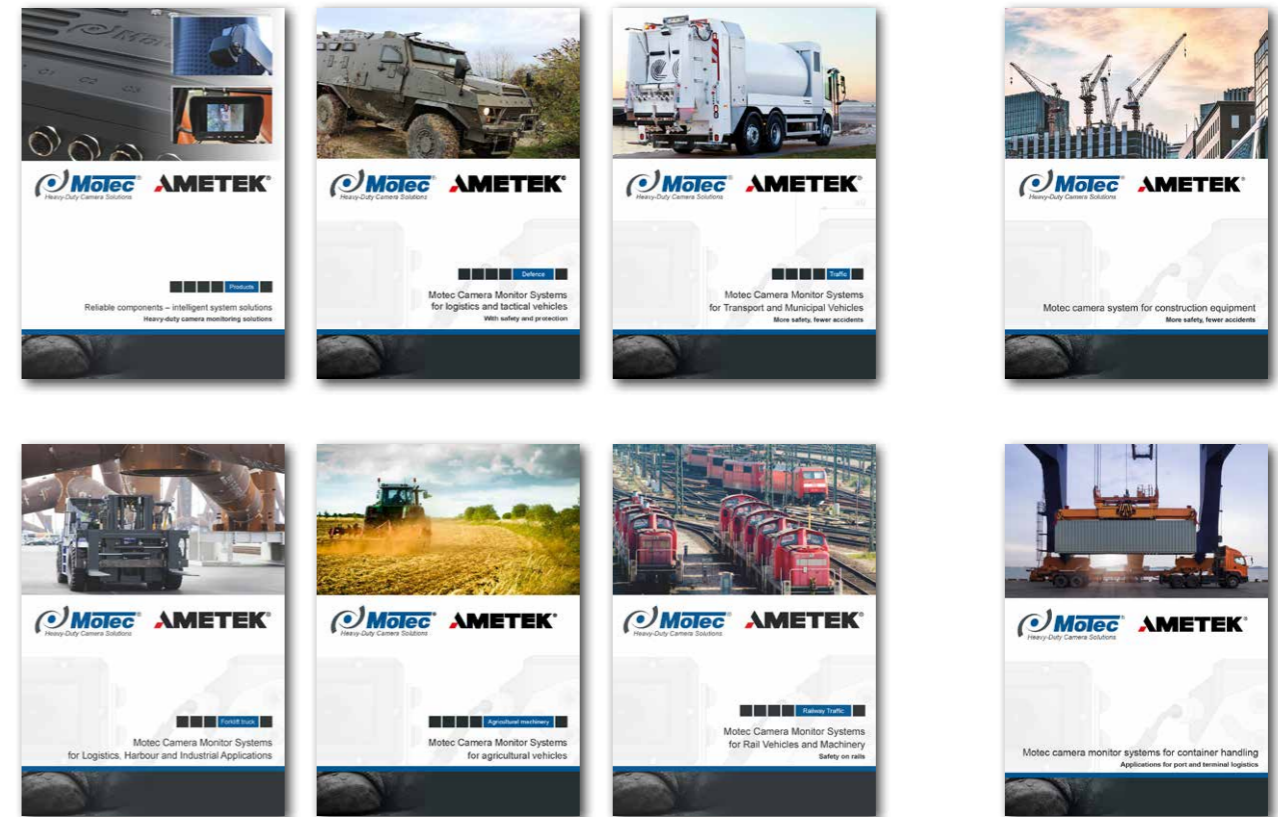
for the most sophisticated requirements

- Pull testing
- Micrograph laboratory
- Crimp height measuring
- Automatic crimping force monitoring
- 100% semi-automatic, logged final test for correct functioning
- EDP-supported merchandise management and production planning and control system
- Operational data recorded via bar code
- 100% traceability (via batch and serial numbers)



System solutions

Customised solutions for a wide range of other industries



Catalogues

- Product program
- Defence
- Traffic/Transport
- Construction machinery
- Agricultural machines
- Railways

Brochures

- Cranes
- Port and terminal logistics

Motec is certified according to the quality standard ISO 9001:2015 and ISO14001:2015 for environmental management. For the development and production of road-use products, the management system also has an extended certification for approval-relevant requirements (GRA).

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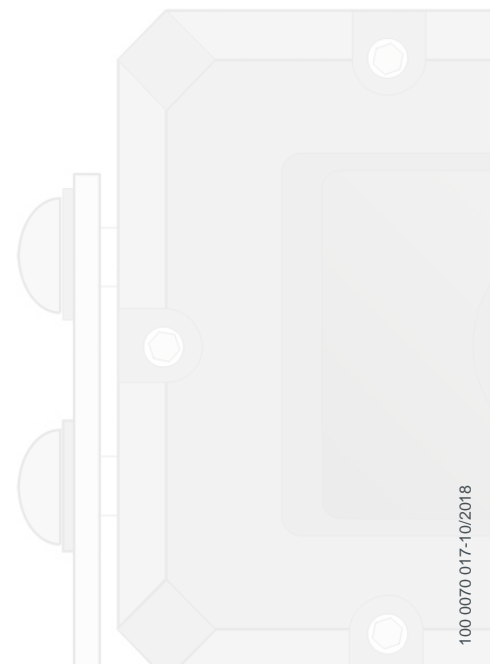
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