

Motec Camera Systems for Agricultural Machines

High yield and safety



Motec GmbH

Systematic safety

Whether in farming equipment, municipal transportation, goods traffic, in the construction industry or logistics – Motec has been one of the leading manufacturers of high-quality and intelligent camera monitoring systems for mobile applications for more than 20 years. Our strong points: We customise systems precisely to your specifications. High-quality components designed for the continuous operation under the toughest conditions and which function reliably regardless of the weather.

You are using your equipment for the first time? Motec can help you; we are flexible and a reliable partner. Our development, production, and service procedures are at OEM level and are compliant with the industry standards. Renowned international vehicle, machine, and system manufacturers have been relying on our systems and components for years and trust in our expertise to finding always a solution.

Motec Camera Systems for Agricultural Machines

Motec camera systems ensure safety when working with large and complex agricultural machinery. They make it possible for drivers to recognise persons and objects behind the vehicle in a timely manner and support the driver in their work by providing, for example, a clear view of the discharge spout, the bale ejection or the transfer belt. This brochure contains a presentation of our selection of possible system solutions for your applications.



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Rear view monitor

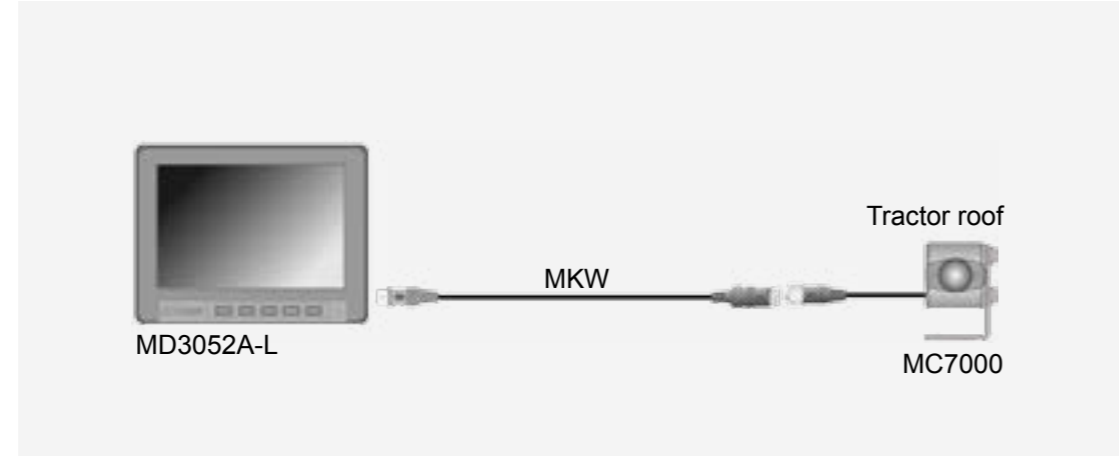
For farming vehicles and machinery



A camera attached to the cabin's roof avoids a non-ergonomic posture of the driver and prevents a dangerous blind spot behind the tractor.

Advantages

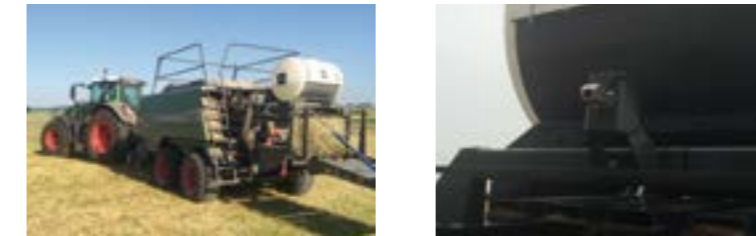
- View of the hazard zone behind the tractor
- View of the work results of auxiliary equipment
- Support during hitching procedure



- 5.6" Monitor (screen size 14.2 cm)
- 2 switchable camera images
- Fits into every driver cabin
- With light protection hood
- Image mirroring
- High-quality and robust system cable
- Waterproof connect
- With protective hose to prevent mechanical damage
- Meets the highest requirements in accordance with industry standard
- State-of-the-art image electronics (CMOS chip)
- Adjusts quickly to changing light conditions
- Crisp images even when taking contre-jour
- With stainless steel mount

Auxiliary equipment

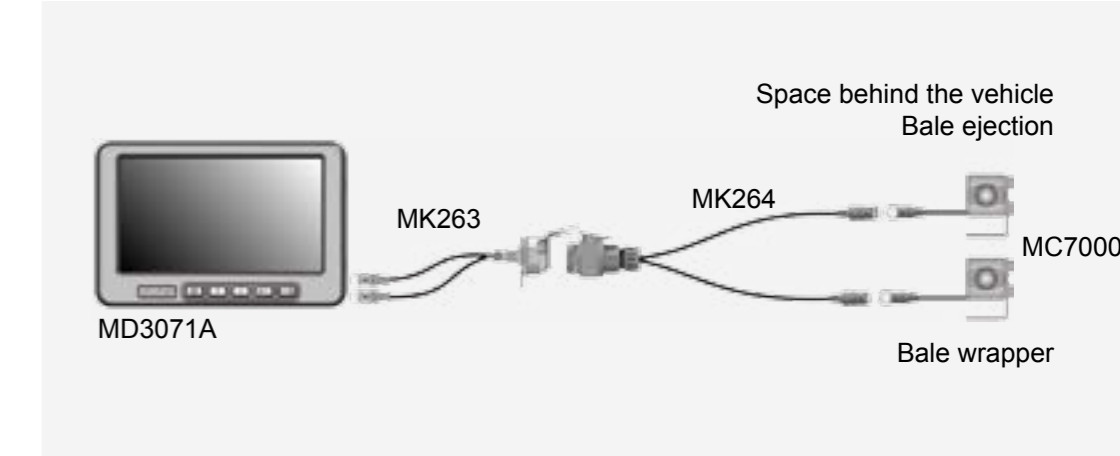
Baling presses



The ejection of the compressed bales cannot be seen from the driver's seat. Our cameras of series MC7000 allow the driver to observe the transport of the bales and the space behind the vehicle when manoeuvring the tractor.

Advantages

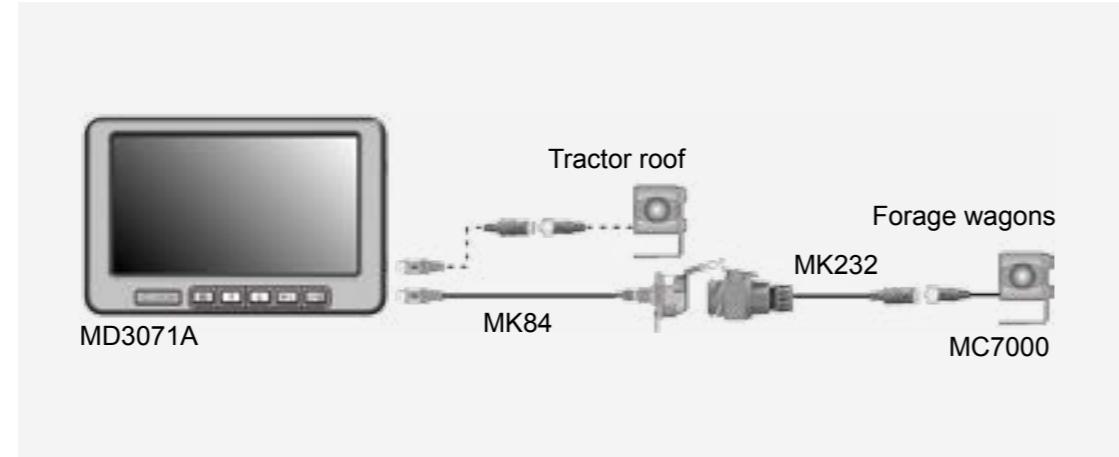
- Visual contact of the ejected compressed bales
- Correct knotting of the bales is ensured
- Faulty bales can be detected well in time



- 7" Monitor (screen size 17.8 cm)
- Integrated video control module
- Connection of up to 2 cameras
- Image mirroring
- Crisp and high-contrast images even in bright sunlight
- Trailer cable with robust plug (KSJ/13-pin)
- With protective hose
- Available in various lengths and designs
- State-of-the-art image electronics (CMOS chip)
- Adjusts quickly to changing light conditions
- Crisp images even when taking contre-jour
- With stainless steel mount

Auxiliary equipment

Trailer



Large tractors are used wherever heavy loads are pulled. Forage wagons are very wide and bulky and obstruct the driver's view of the area behind the forage wagon.

Advantages

- Assistance during manoeuvring (no blind spot)
- Prevention of personal injuries and damage to property

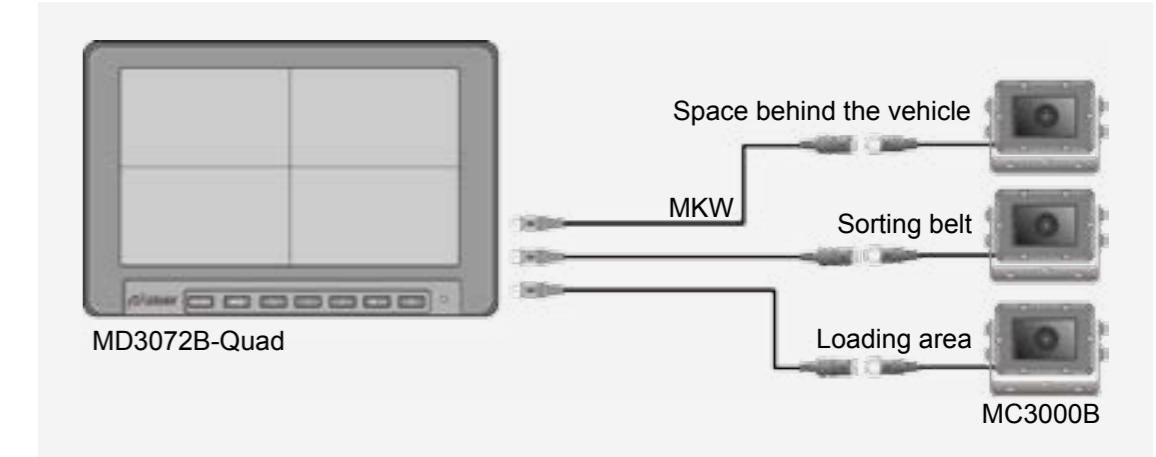
- 7" Monitor (screen size 17.8 cm)
- Integrated video control module
- Connection of up to 2 cameras
- Image mirroring
- Crisp and high-contrast images even in bright sunlight

- Connector cable with robust FDJ/13-pin coupling joint
- For frequent disconnections
- With integrated protective cover

- State-of-the-art image electronics (CMOS chip)
- Adjusts quickly to changing light conditions
- Crisp images even when taking contre-jour
- With stainless steel mount

Auxiliary equipment

Potato harvesters



Up to 4 different cameras monitor the working process on the machine as well as the danger zone behind the forage wagon.

Advantages

- The filling level of the loading area can be observed
- Jamming of the harvested crop is immediately detected
- Monitoring the sorting belt

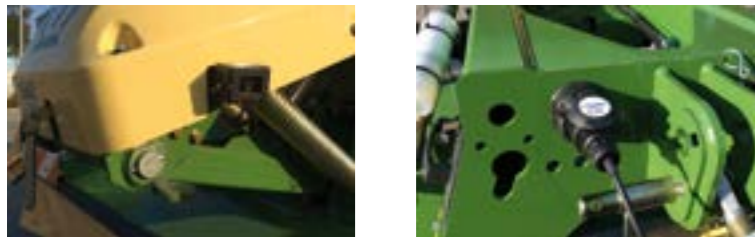
- 7" Monitor (screen size 17.8 cm)
- Split screen – up to 4 images simultaneously
- Instant connection of up to 4 cameras
- Automatic camera selection

- High-quality and robust system cable
- Waterproof connect
- With protective hose to prevent mechanical damage
- Meets the highest requirements in accordance with industry standard

- Robust housing made of machined aluminium
- Extremely high chemical and mechanical resistance

Front-mounted auxiliary equipment

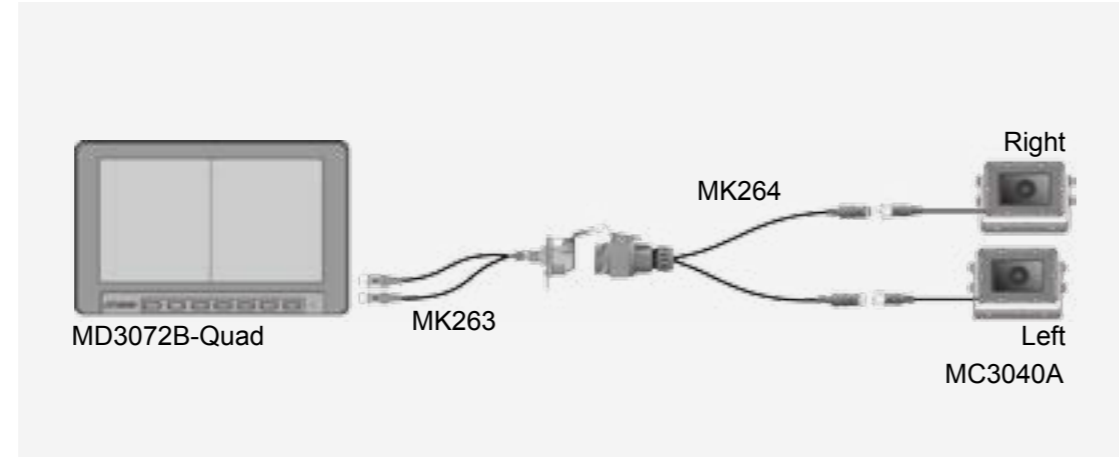
Rotary snow ploughs/mowers



There are at least 2 cameras installed at the front of the tractor. This ensures the safe approach into intersections despite the long projection of the vehicle. In connection with a Krone mower, the DLG (German Agricultural Society) accredited the camera system as a "suitable camera system for implements integrated in the front end of vehicles".

Advantages

- While approaching an intersection, cross traffic is detected early



- 7" Monitor (screen size 17.8 cm)
- Split screen – up to 4 images simultaneously
- Instant connection of up to 4 cameras
- Automatic camera selection



- High-quality and robust system cable
- Waterproof connect
- With protective hose to prevent mechanical damage
- Meets the highest requirements in accordance with industry standard



- Robust housing made of machined aluminium
- Extremely high chemical and mechanical resistance
- 40° field viewing angle

Harvesters

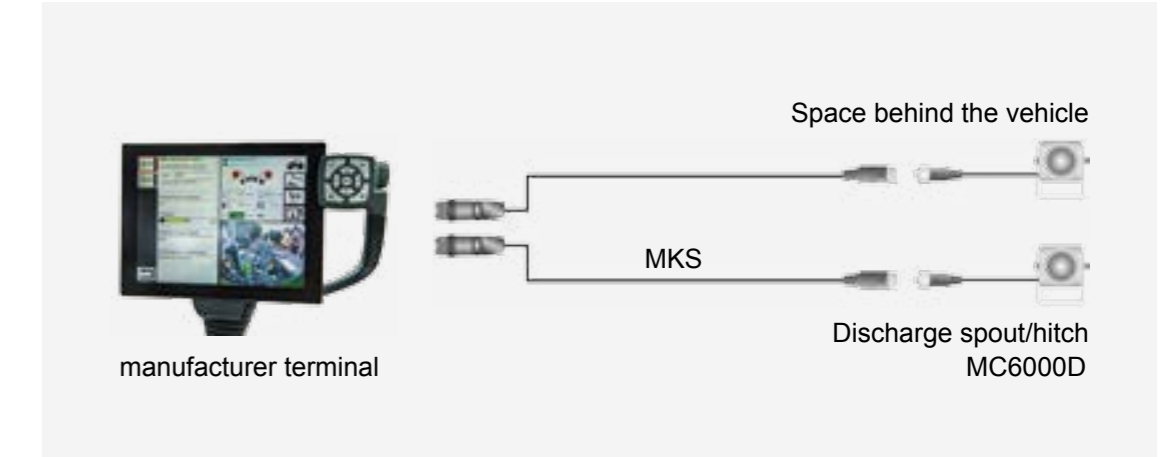
Combine harvesters



Cameras assist the driver in positioning the discharge spout precisely onto the support vehicle. The cameras also aid the driver in monitoring the return auger and the area behind the vehicle.

Advantages

- Monitoring transport of the harvested crop
- Observation of the trailer's filling level
- Camera support in order to ease hitching of the trailer
- Visual contact of persons in the blind spot



- Connection of several cameras
- Accurately fitting adapter cables
- Installation to any manufacturer terminal



- High-quality and robust system cable
- Waterproof connect
- With protective hose to prevent mechanical damage
- Meets the highest requirements in accordance with industry standard



- Solid and weather-proof housing
- Highly shock- and vibration-resistant
- Automatically controlled window heating
- Automatic brightness adjustment

Harvesters

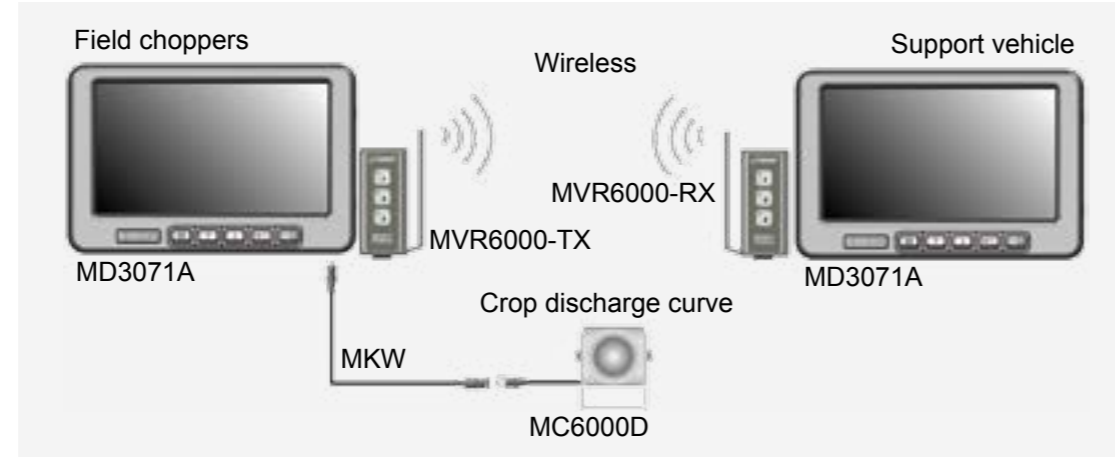
Field choppers



The drivers of the support vehicle and additional tractors at the edge of the field can receive the camera's image of the crop's discharge curve and, thus, ensure an efficient transport chain.

Advantages

- The filling level of the crop can be observed
- Monitoring the loading process
- Coordination with support vehicles



- 7" Monitor (screen size 17.8 cm)
- Integrated video control module
- Connection of up to 2 cameras
- Image mirroring



- Radio transmitter and receiver
- Range approx. 500 m
- 3 channels for interference-free transmission
- Frequency range 2.4 to 2.4835 GHz
- ISM band



- Solid and weather-proof housing
- Highly shock- and vibration-resistant
- Automatically controlled window heating
- Automatic brightness adjustment

Harvesters

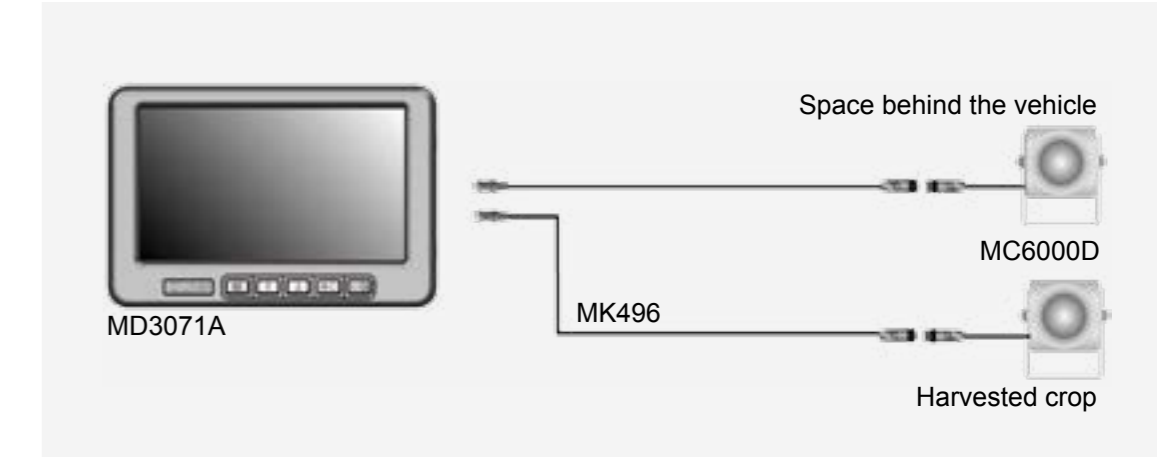
Grape harvesters



A rear-view camera increases the safety while manoeuvring the equipment. By adding additional cameras, the driver can monitor the grape harvest from the machine.

Advantages

- Monitoring of the harvest
- Controlling the unloading procedure
- Visual contact with persons inside the manoeuvring range



- 7" Monitor (screen size 17.8 cm)
- Integrated video control module
- Connection of up to 2 cameras
- Image mirroring
- Crisp and high-contrast images even in bright sunlight



- High-quality and robust system cable
- Waterproof connect
- With protective hose to prevent mechanical damage
- Meets the highest requirements in accordance with industry standard



- Solid and weather-proof housing
- Highly shock- and vibration-resistant
- Automatically controlled window heating
- Automatic brightness adjustment

Self-propelled vehicles

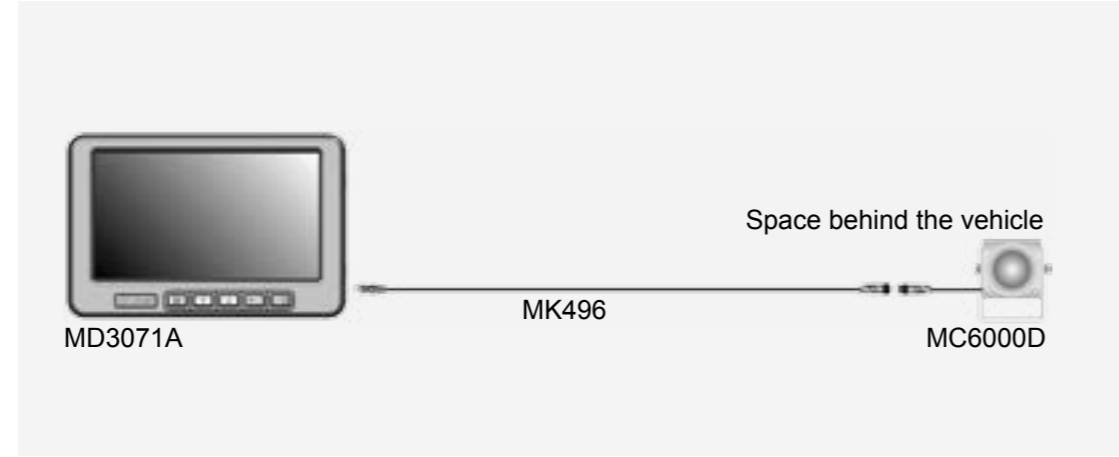
Harvesters/field sprayers/liquid manure spreaders



Due to the enormous size of the self-propelled farming machines, the driver quite often lacks the necessary all-round view in order to manoeuvre the machine safely.

Advantages

- Monitoring the loading process
- Coordination with support vehicles
- Optimisation of the harvest process



- 7" Monitor (screen size 17.8 cm)
- Integrated video control module
- Connection of up to 2 cameras
- Image mirroring
- Crisp and high-contrast images even in bright sunlight
- High-quality and robust system cable
- Waterproof connect
- With protective hose to prevent mechanical damage
- Meets the highest requirements in accordance with industry standard
- Solid and weather-proof housing
- Highly shock- and vibration-resistant
- Automatically controlled window heating
- Automatic brightness adjustment

Forest graders

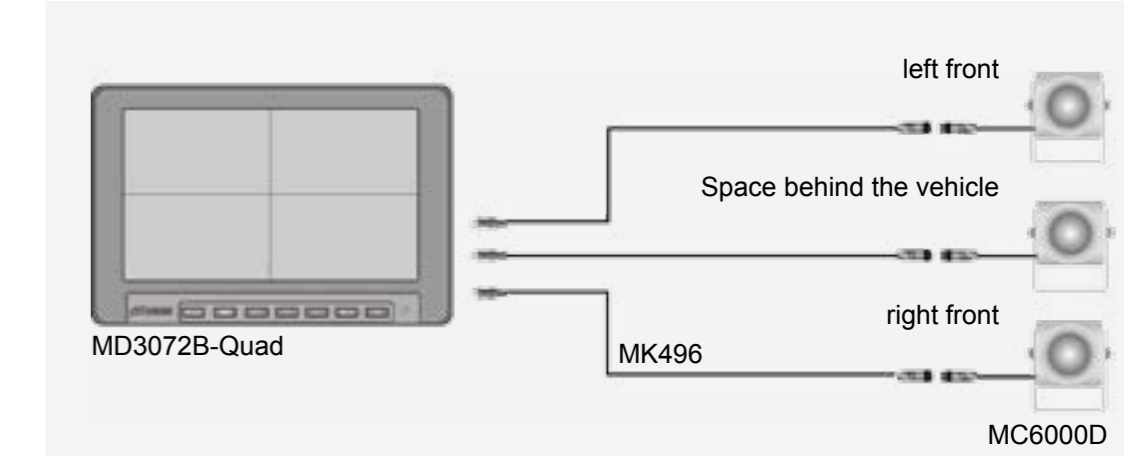
Forwarders/logging machines/ graders



Due to the enormous size of forestry equipment, the all-round vision of the driver of such vehicles is often insufficient in order to safely manoeuvre the equipment safely.

Advantages

- Blind spots are a thing of the past
- All cameras in a single line of view – no contortion of the driver's body when manoeuvring the vehicle



- 7" Monitor (screen size 17.8 cm)
- Split screen – up to 4 images simultaneously
- Instant connection of up to 4 cameras
- Automatic camera selection
- High-quality and robust system cable
- Waterproof connect
- With protective hose to prevent mechanical damage
- Meets the highest requirements in accordance with industry standard
- Solid and weather-proof housing
- Highly shock- and vibration-resistant
- Automatically controlled window heating
- Automatic brightness adjustment

Wireless solutions

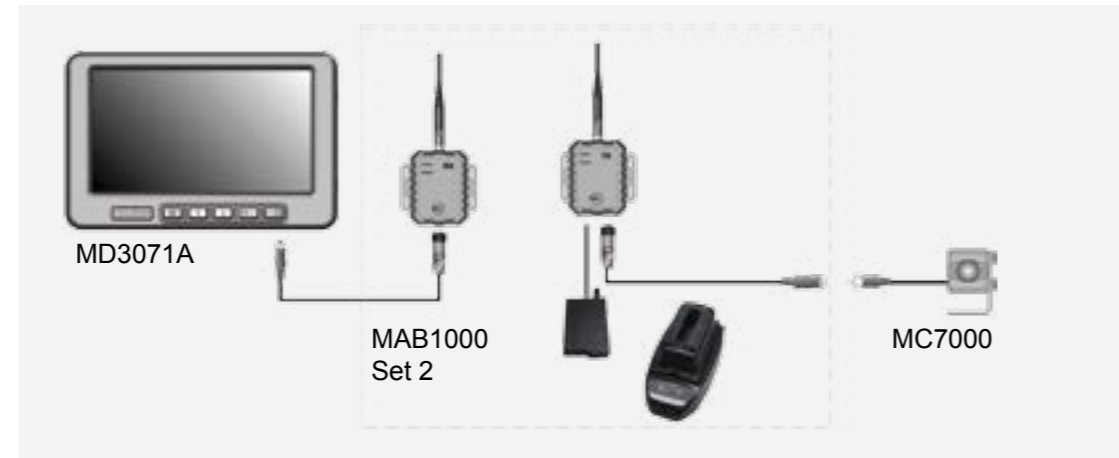
Telescopic handlers



Cameras integrated into the telescopic handler provide the driver with visual contact of danger zones and make it easier to handle bales and palettes.

Advantages

- Visual contact of the unloading area
- Safe manoeuvring and operating



- 7" Monitor (screen size 17.8 cm)
- Integrated video control module
- Connection of up to 2 cameras
- Image mirroring
- Crisp and high-contrast images even in bright sunlight



- Large range (up to 120 m)
- Digital radio
- Up to 10 parallel equipment pairs
- Operation and status display
- High-pressure/steam jet cleaning protected (IP69K)



- State-of-the-art image electronics (CMOS chip)
- Adjusts quickly to changing light conditions
- Crisp images even when taking contre-jour
- With stainless steel mount

Terminal connection

Quick and easy retrofitting

Vehicles and machines that were equipped at the factory with an operator terminal or combination instrument, can be easily and quickly connected to a camera system by using individually configurable connecting adapters.

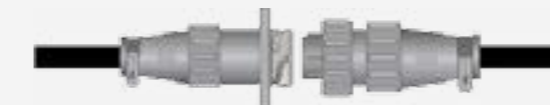
By integrating the video image into the available display and information concept of the vehicle, the omission of additional display instruments takes a considerable load off the driver. Thus, the driver will now be able to quickly detect and precisely assess dangerous situations during the manoeuvring and reversing of his vehicle.

Advantages

- Quick and easy retrofitting
- Utilisation of the vehicle-specific display and information concept
- There are no additional display devices inside the driver's cabin
- Visual contact of persons remaining behind the vehicle
- Visual contact of obstacles and parking vehicles

AEF interface

This is a recommendation for a new standard and it is presented by experts of globally acting manufacturers of tractors, auxiliary equipment, camera systems, and plug-in connectors. This recommendation defines a common analogue video interface between tractor and implements.



John Deere GS3 2630



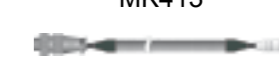
MK446



John Deere GS3 Command Center/Touch



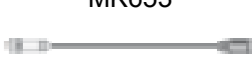
MK413



CCI Terminal



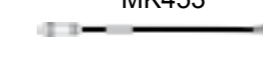
MK653



Fendt Variotronic



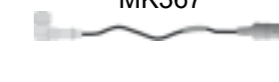
MK453



AGCO C1000



MK367



NH IntelliView



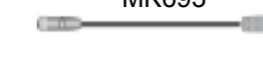
MK189



Topcon X30 monitor



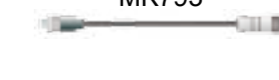
MK693



Müller TOUCH



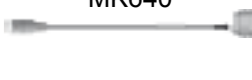
MK793



Trimble CFX-750



MK640



360° Panoramic system – MVS

Mobile Vicinity Scout



The Motec Mobile Vicinity Scout (MVS) is a camera especially designed for commercial vehicles. It provides the driver with a 270° or 360° view around his equipment. Thus, it saves lives, helps people and reduces costs.

- Crystal clear, intuitive bird's eye perspective display of the vehicle's surroundings
- Flexible and adjustable in order to mount to a variety of commercial vehicles and suitable for many applications
- Simple end-of-line and field-suitable calibration without external laptop
- By using these various interfaces (Ethernet, CAN bus, control cables) it be integrated into the electronic system of the vehicle
- Expandable for ultra sound or radar sensors including display of spacing data as intuitive overlays

System components

Due to the use of FPGA (Field Programmable Gate Array) technology, intelligent software, and performant algorithm, the Mobile Vicinity Scout system offers a powerful technology platform for 360° all-round visibility system. All system components, in particular those for heavy-duty and commercial vehicles, are developed and manufactures by Motec in Germany.

MD3071A-V



- 7" Monitor (screen size 17.8 cm)
- Connection of up to 2 cameras
- Horizontal model available
- Auto dimmer function
- Illuminated keyboard

MVCD1000



- Up to 4 cameras
- CAN bus, control line and Ethernet interfaces
- Display of dynamic and static overlays
- Combined image/video/ultra sound and radar information

MBE1000



- CAN bus based input module
- Ergonomic control panel for single-handed operation
- Illuminated, durable and dirt-resistant membrane keyboard

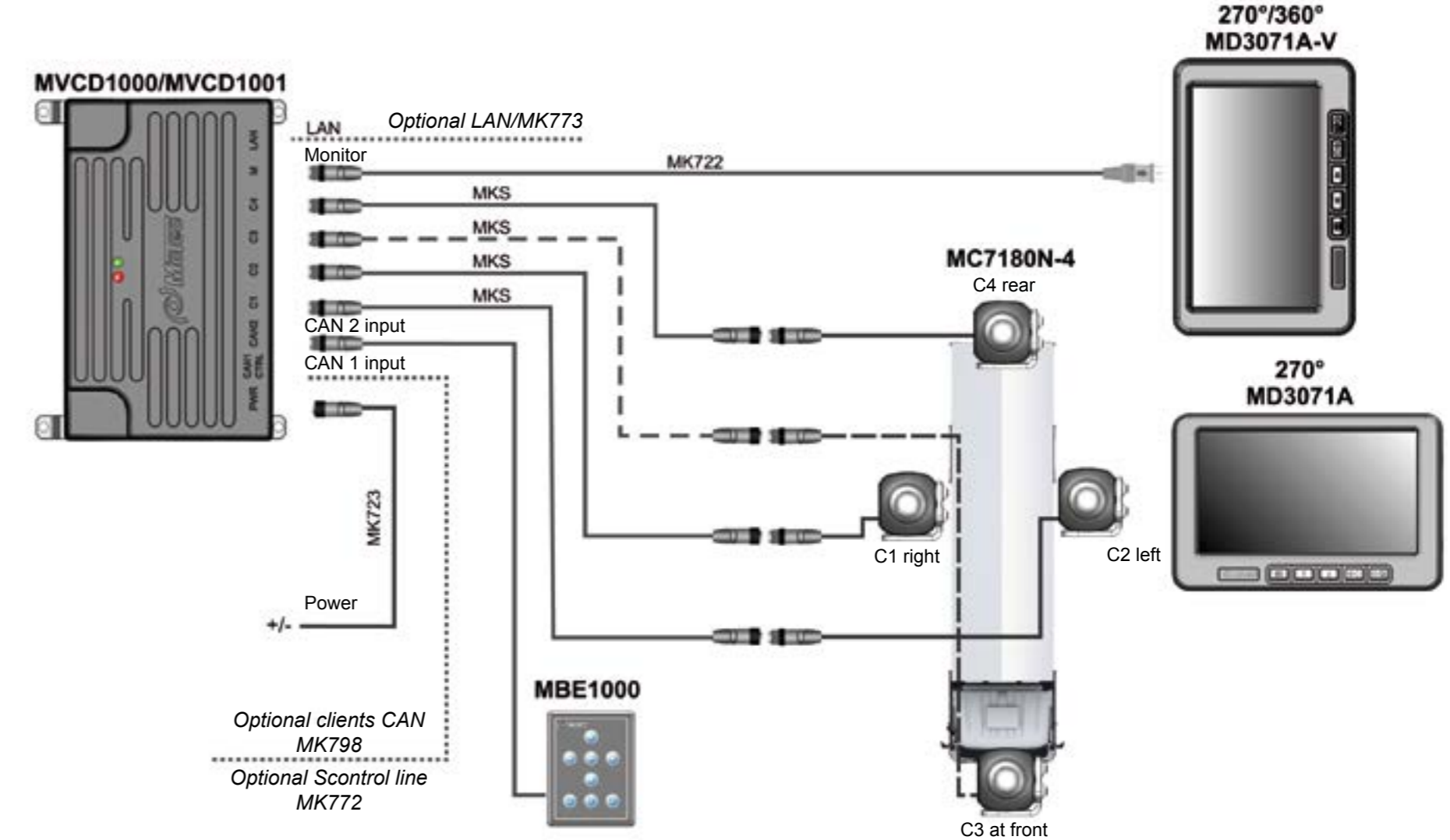
MC7180N-4



- 180° horizontal viewing angle
- CMOS 1/4" image sensor with 648 x 488 pixel sensor resolution
- Robust aluminium housing
- Housing protection class IP69K

360° Panoramic system – MVS

System layout MVS – 270°-/360° view



Video Control Unit

MVCU1400

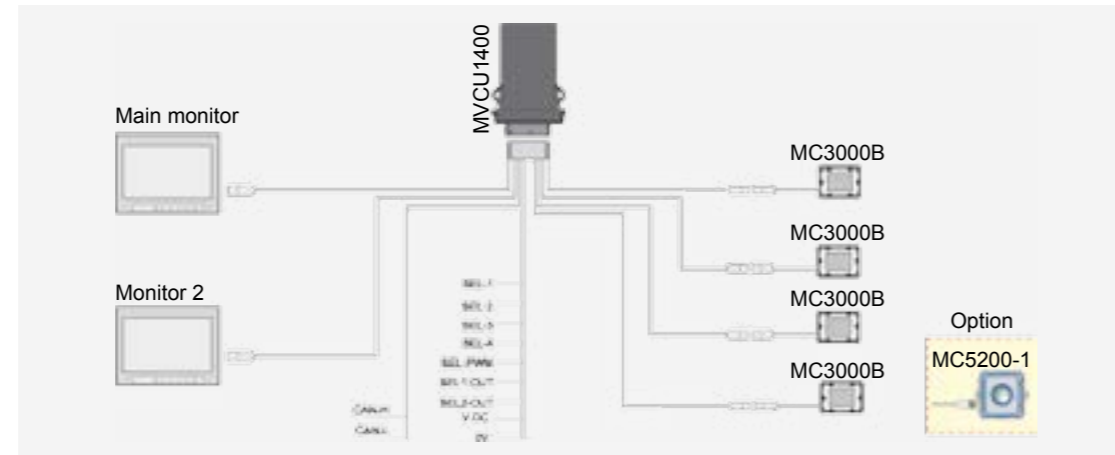
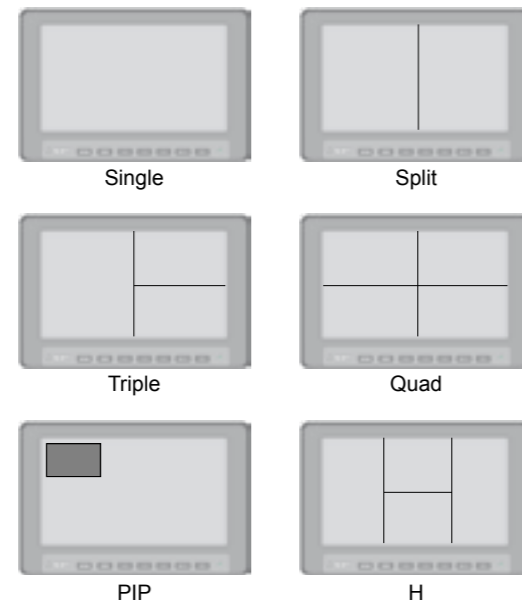


Image display



- Switching between any camera and camera combinations
- Camera positions can be selected randomly
- All 3 cameras are displayed in triple image mode
- PIP mode features
 - Up to 3 PIP cameras in the upper half of the screen (fixed position, fixed display size)
 - A PIP camera with randomly selectable position and display size
- All-round view of 4 individual images in H mode

The MVCU1400 is an intelligent, CAN-controlled heavy-duty multi camera video control module. It can process up to 4 camera images and display them on up to 2 monitors in a variety of operating modes.

- It can be connected to up to 4 compact cameras or 3 compact cameras and one motor zoom camera
- Control via CAN bus, monitor toggle line or 5 control lines
- Display on up to 2 monitors, main monitor output as single, split, triple, quad, H or PiP displays and randomly configurable overlays
- Waterproof if submerged in water or subjected to high-pressure cleaners (IP68 and IP69K)



Technical service

Quick response guaranteed

Top quality also means top service. You have technical questions or face challenges? We will assist you. Our sales and engineering departments work hand in hand. Your benefit: Efficient communication and no red tape. Our service engineers know what you need. They understand your processes, They find a solution quickly.

It is easy to connect to our excellent service:

- Simply call our hotline
- Within 24 hours we will ship a replacement unit
- Just return the faulty device
- We inspect the damage and calculate the cost for the repair
- Repair or keep the replacement device – it's your decision

Monitors

- Top workmanship
- Easy to install
- High functionality
- Digital technology for superior image quality
- Available in modules

Cable and plug

- More than 800 cables and plugs available – robust, waterproof, reinforced
- In-house cable assembly
- Individual customisation
- Any connection possible
- High quality of material mixture

Cameras

- State-of-the-art camera technology
- Robust and resilient
- Available in modules
- Suitable for high-pressure cleaners (IP69K)
- Automatically controlled camera heating

Certified quality

Top quality at all levels. Motec is certified according to ISO 9001 and ISO14001 and as "Authorised Economic Operator" we carry the AEO certificate.



Combination



Technical hotline

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