Vision is our mission®

DEFENSE
VISION SOLUTIONS

See more
Work more

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solutions

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Certification

Select
your
solution

Why Orlaco?

Welcome to the Orlaco product brochure. We are personally committed to bringing you the best camera and monitor solutions possible. To help create safer and more secure workplaces around the world. Our professional team has spent over twenty-five years designing and manufacturing a variety of certified, reliable and complete camera display solutions that effectively eliminate the blind spots around vehicles, machinery and vessels. We are confident that the options offered in this brochure will not only help you to improve the safety, security and efficiency of your fleet, but also to enhance the ergonomics and comfort for your operators. That is what Orlaco stands for. We invite you to share your ideas and experiences with us.

That's
why!

Let us **improve** your every day job
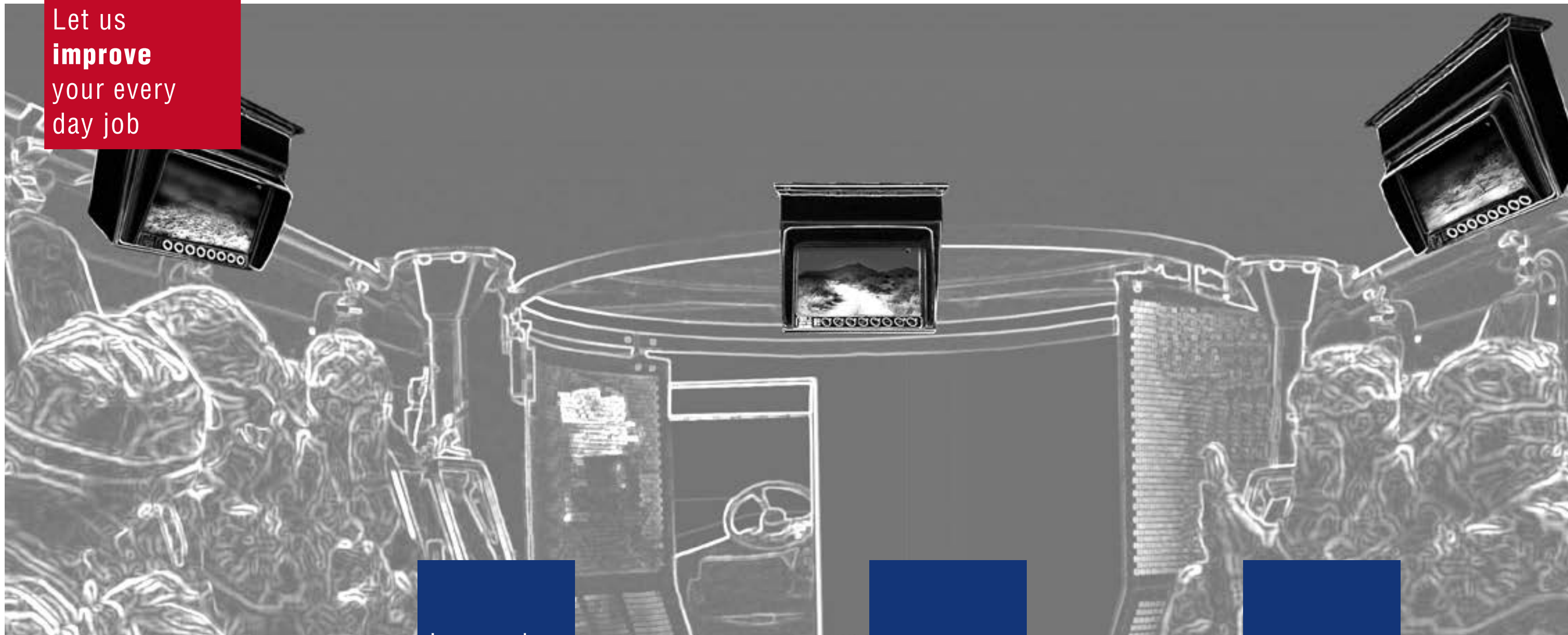
Improved Safety and Efficiency

Enhanced Ergonomics

Certified Quality

Military vehicles are complex machines that require clear vision. An instant overview that allows the operation to progress smoothly and safely. Especially when the vehicles are maneuvering in small alleys and crowded environments. Drivers have minimal vision around the vehicle, and that is why it is essential to solve large blind spots in a professional manner. This is where Orlaco's camera monitor solutions could help to improve your operational efficiency and safety. Together with our IR NightView cameras and illumination, the driver can analyze the overall situation and operate the vehicle faster and more efficiently. As a Dutch Manufacturer Orlaco is also your Offset partner.

At Orlaco, we understand that military vehicle drivers are required to take in what is happening around the vehicle at all times. Vehicles which mostly have very small windows and any number of blind spots. The driver has to turn their body this way and that to get a relative overview the situation, possibly leading to short or even long term ergonomic injuries. By viewing the Orlaco monitor located on the dashboard, the driver can maintain correct posture and work more comfortably. The driver then feels more safe, secure and in control of the vehicle, which could reduce stress and provide comfort.

Thanks to our high quality standards, we deliver all our products as COTS+ standard. Orlaco COTS+ quality guarantees that the product withstands the harshest conditions (operating temperatures, shock resistance e.g.). This ensures you of consistent performance and reliability of our products.
We can only realize this by quality control, continuous improvement, extensive test procedures and optimized production. Therefore, we work at the topmost achievable automotive levels within **TS16949, ISO900**1 with **AQAP** and **ISO14001** certification. All aspects of our products are documented clearly in order to achieve a zero-defect and first-time right operation. As an official NATO supplier (**NCAGE H1H24**) most of our quality products include a NATO Stock number.

Why Orlaco

Why Orlaco

CornerEye

 0400040 - PAGE 16

CornerEye offers a complete and detailed view of 270° of the area around the cabin. The system delivers HD digital image quality in real time.

INFORMATION

Orlaco COTS+ quality guarantees that the product withstands the harshest conditions (operating temperatures, shock resistance e.g.). This ensures you of consistent performance and reliability of our products.

INFORMATION

RDW has granted the CornerEye system a "System Approval" for replacing front and kerb mirrors as of 2016. CornerEye fully depicts vision class VI and V, and even a few meters beyond these vision classes. The blind spots at the cabin's front and side are perfectly depicted. The operator notes cyclists, pedestrians and objects timely.

For actual replacement, a "Final Installation Approval" is needed as well. The exact positioning of the camera and monitor differs per truck. Installation approval can be granted when correctly positioned. Therefore, Orlaco offers installation support if desired.

The R46 describes the guidelines for indirect view. Orlaco's CornerEye system meets all requirements.

Frontview

 0400920 - PAGE 18

The Frontview camera provides the required field of view at the front of the truck. A quick look at the monitor and you will know whether you can drive off safely without overlooking a cyclist, pedestrian or object.

The monitor can be integrated or surface-mounted, depending on the vehicle. It is also equipped with handy options, such as automatic brightness adjustment. No matter how brightly the sun is shining or how dark it is, you always have good visibility.

Frontview HD

PAGE 26

The Orlaco Frontview system is also available as a digital surveillance system.

INFORMATION

The new EU mirror directive came into force in 2006 and was extended in January 2007. It includes front view mirrors for all new trucks in Europe. Only an approved camera system may replace the front view mirror. The front camera provides a perfect view of the blind spot in front of the cab. This makes it possible to notice cyclists and pedestrians in time.

The front view mirror may be replaced by a front camera provided it meets, among others, the following requirements:

• Mandatory front vision at forward speeds of between 0 and 10km per hour.
• It must be possible to see the class VI field of vision. (2m in front of and 2m across the entire width of the cab)
• The monitor and camera must meet all technical requirements.

The EG*2003/97*2005/27 directive describes the specifications that a truck's mirrors must comply with. Orlaco's analog front view system meets all these requirements. (See page 55)

Combined set

Front-Rearview
PAGE 18

The Frontview system can be expanded with a Rearview camera. A perfect complement to the driver's vision. It provides a comfortable field of vision to the front and rear of the truck.

Rearview

0400910 / 0400920 - PAGE 18

The rearview camera shows the area behind the truck. The monitor in the cab automatically switches over to this camera when going in reverse, allowing the driver to reverse safely.
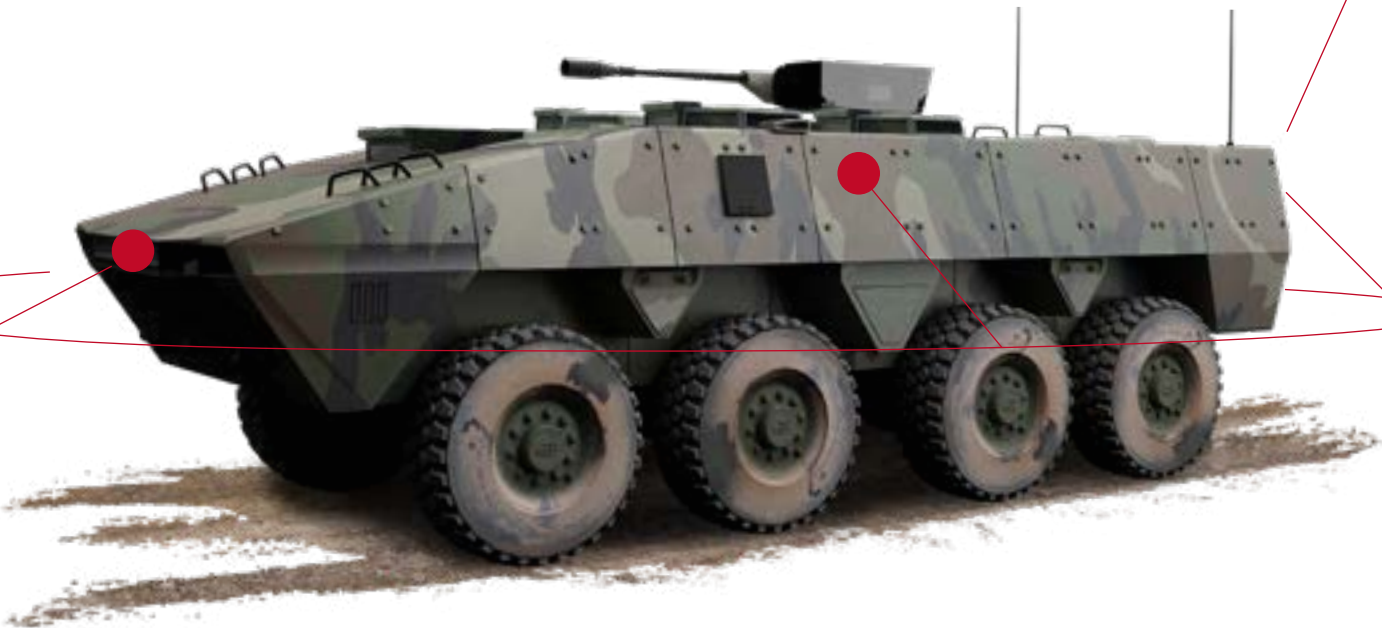
Rearview

PAGE 18

The monitor in the cab automatically switches over to this camera when you select a reverse gear, allowing you to reverse safely.

Crew Space Awareness System

PAGE 19

APCs are increasingly being used for short Direct Action and short-duration strikes. The crew must be prepared for anything, and be aware of the environment and situation outside the vehicle. Therefore, cameras and displays are mounted throughout the cabin, to give the crew an all-round view.

Rear IR Nightview

RNV1000 - PAGE 19

In infrared blackout situations Orlaco cameras (FAMOS IR LED) will still give a perfect image. With the same color camera and with 850nm illumination you still can reverse safely.

Crew Space Awareness System IR Nightview

PAGE 20

Of course these actions do not just take place in daylight. The same awareness is needed in the dark. Our FAMOS IRLED cameras provide the solution, along with integrated rear-view cameras for the driver.

Rearview

The monitor in the cab automatically switches over to this camera when you select a reverse gear, allowing you to reverse safely.

Rear IR Nightview

In infrared blackout situations Orlaco cameras (FAMOS IR LED) will still give a perfect image. With the same color camera and with 850nm illumination you still can reverse safely.

Surroundview

Instead of or in addition to using periscopes, you can gain a clear view around the vehicle. Mostly projected to a bigger display in quad mode with the possibility to switch to full screen view.

Surround IR Nightview

The IR Night View system provides the required view in the dark. The four cameras and the IR illumination are ideal for a complete surround view in the dark.

Vision solutions

Vision solutions

Riot view

During emergencies it is vital to have proper vision on the situation. The Riot View provides a broad field of vision. The integrated led light enables vision up to 25m ahead without blinding bystanders.

Frontview Zoomcam

The zoomcam has a 480x zoom function, which enables proper facial recognition. This zoom consists of 40x optical zoom and 12x digital zoom. The footage can be saved on an SD card. The footage can be live streamed via a cloud service, a must for taking correct decisions from a distance.

Surroundview

Instead of or in addition to using periscopes, you can gain a clear view around the vehicle. Mostly projected to a bigger display in quad mode with the possibility to switch to full screen view.

Surroundview IRLED recording

Of course these actions do not just take place in daylight. The same awareness is needed in the dark. Our FAMOS IR LED cameras provide the solution.

Rearview

The monitor in the cab automatically switches over to this camera when you select a reverse gear, allowing you to reverse safely.

Set CornerEye

1. Set CornerEye HD
0400040 - page 24

a. Camera Hmos 180º incl. bracket
b. Monitor HLED 10"
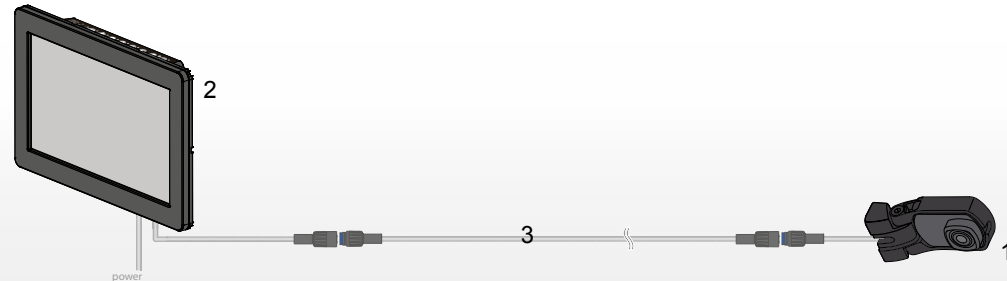**c. Monitor bracket 105mm**
d. Digicoax cable 3m
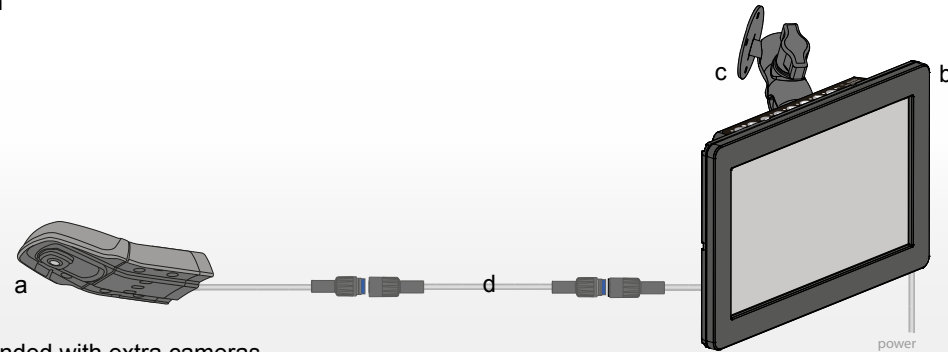
Note: Can not be extended with extra cameras.

Set Frontview HD

1. Camera HMOS 120° incl. bracket
0185010 - page 25

2. Monitor HLED 10" MR1
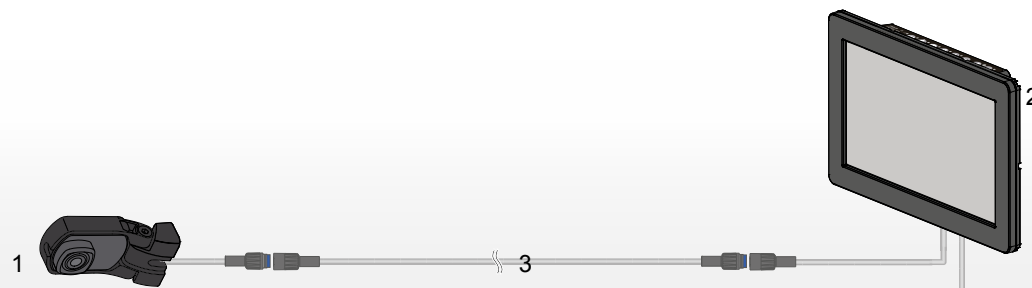0224010 - page 26

3. Digicoax cable 5m
0311030 - page 26

Set Rearview HD on Rigid

1. Camera HMOS 120° incl. bracket
0185010 - page 25

2. Monitor HLED 10" MR1
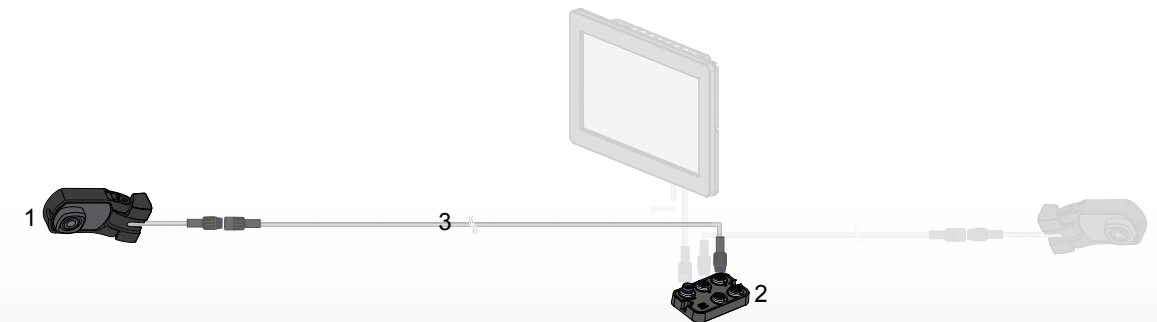0224010 - page 26

3. Digicoax cable 16m
0311080 - page 26

Expansion set Rearview HD on Rigid

You can easily expand your Orlaco digital Frontview system with our digital Rearview expansion set.

1. Camera HMOS 120° incl. bracket
0185010 - page 25

2. Switcher Digicoax - 4 Channel
0404240 - page 26

3. Digicoax cable 16m
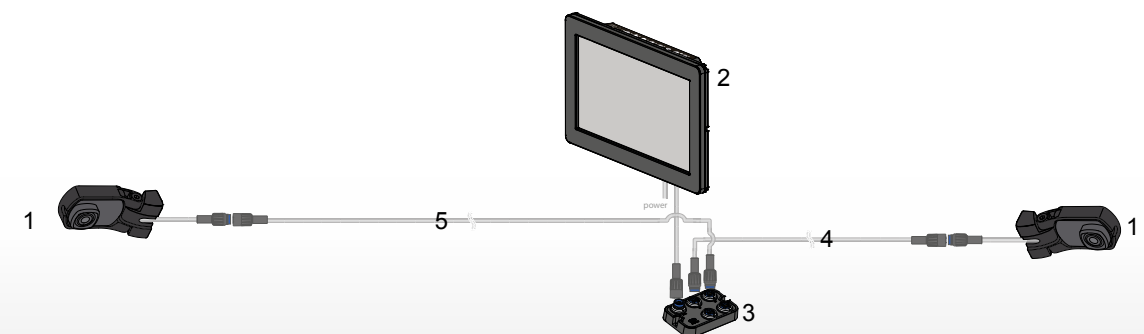0311080 - page 26

Set Frontview-Rearview HD on Rigid

1. Camera HMOS 120° incl. bracket (2x)
0185010 - page 25

2. Monitor HLED 10" MR1
0224010 - page 26

3. Switcher Digicoax - 4 Channel
0404240 - page 26

4. Digicoax cable 5m
0311030 - page 26

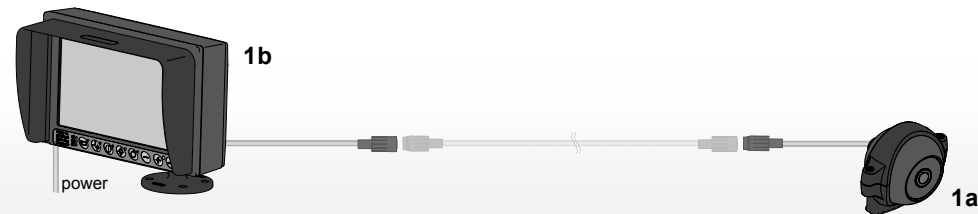**5. Digicoax cable 16m**
0311080 - page 26

Set **Frontview**, built-on

1. Frontview set, 24V
0400920

    a. Camera FAMOS 118°
    b. Monitor 7" RLED, 24V

Cables
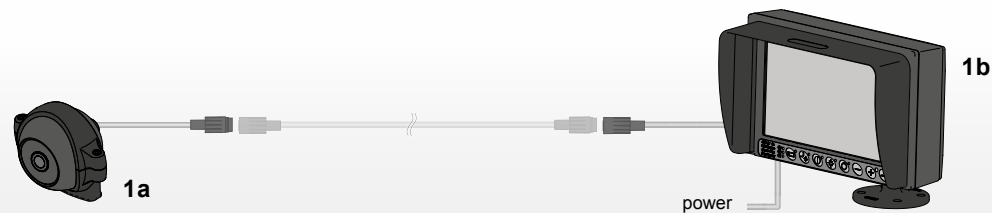To be ordered separately, see page 34.

Set **Rearview**, built-on

1. Rearview set, 24V
0400910 / 0400920

    a. Camera FAMOS 102° / Camera FAMOS 118°
    b. Monitor 7" RLED, 24V

Cables
To be ordered separately, see page 34.

Set **Frontview-Rearview,** built-on

1. Camera FAMOS 118°
0171010 - page 29

2. Camera FAMOS 102°
0171020 - page 29

3. Monitor 7" RLED, 24V
0223000 - page 33

4. Switcher UNI
0404040 - page 36

Cables
To be ordered separately, see page 34.
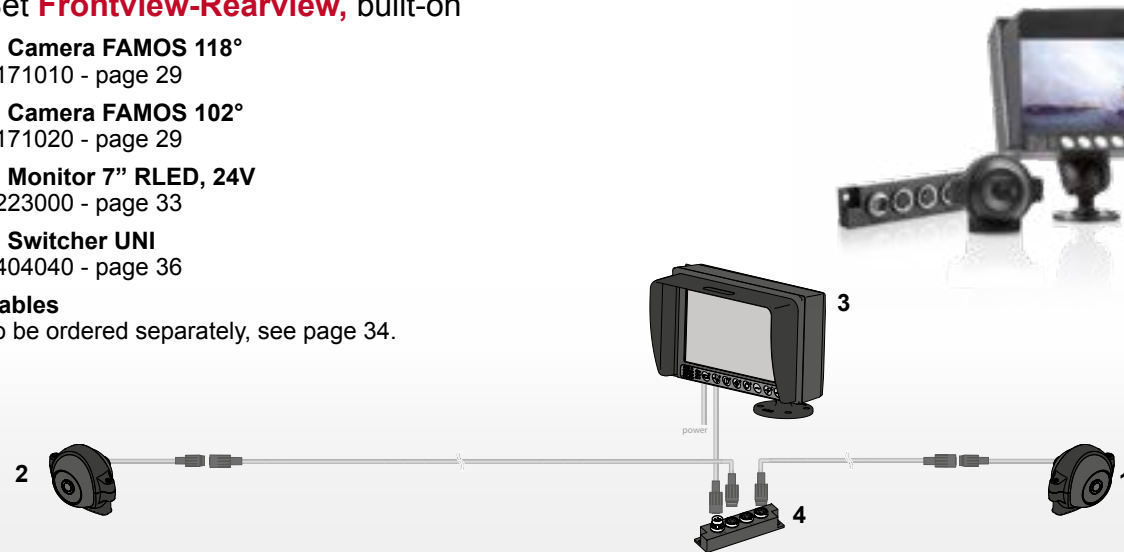
Set **Rear IR Nightview** RNV1000

1. Camera FAMOS IR LED 118°
0171600 - page 30

2. Monitor 7" RLED, 24V, including adjustable bracket 132mm
0223000 - page 33

Cables
To be ordered separately, see page 34.
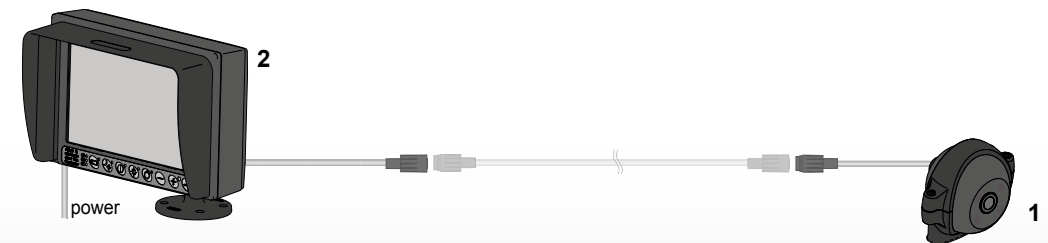
Set **Crew Space Awareness System**

1. Camera FAMOS 118° (4x)
0171010 - page 29

2. Monitor 7" RLED, 24V, including standard bracket (4x)
0223100 - page 33

Cables (4x)
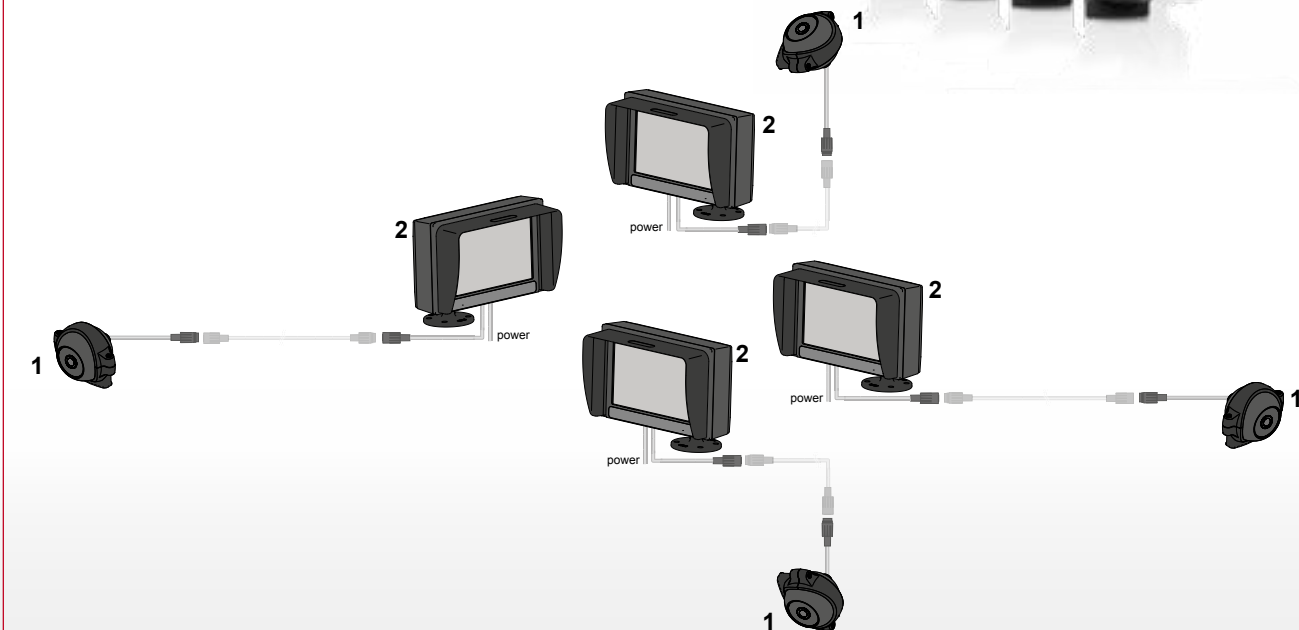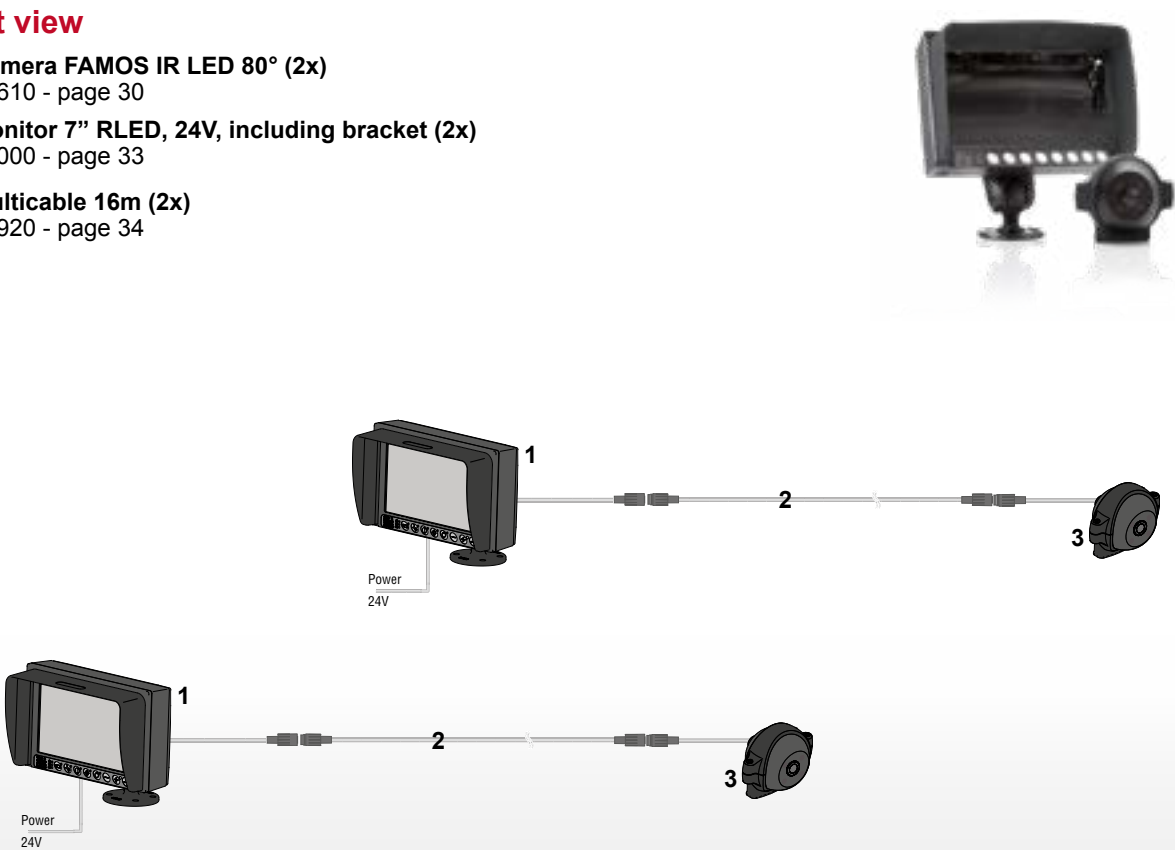To be ordered separately, see page 34.

Set Crew Space Awareness System IR Nightview

1. Camera FAMOS IR LED 118° (4x)
0171600 - page 30

2. Monitor 7" RLED, 24V, including standard bracket (4x)
0223100 - page 33

Cables (4x)
To be ordered separately, see page 34.

Set DEVS Safety

1. AF-Zoom Camera PAL Serial
0103531 - page 32

2. Thermal Imaging Camera TIC 320 9Hz
0103730 - page 32

3. Camera FAMOS IR LED 118°
0171600 - page 30

4. Monitor 12" RLED Serial, including adjustable bracket 190mm
0411130 - page 33

5. Pan & Tilt unit 24V/DC
0507061 - page 38

6. Fastening plate
0507100 - page 38

7. Smartbox Stainless steel
0504730 - page 38

8. Keyboard handheld AF
0502610

9. DVR One channel
0000300 - page 37

10. Special Multi cable 6m 7p

11. Multi cable 16m
0301920 - page 34

12. Special cable 5m + Connectors
ORL-SC-GCH-0026-5m

Riot view

1. Camera FAMOS IR LED 80° (2x)
0171610 - page 30

2. Monitor 7" RLED, 24V, including bracket (2x)
0223000 - page 33

3. Multicable 16m (2x)
0301920 - page 34

Power 24V
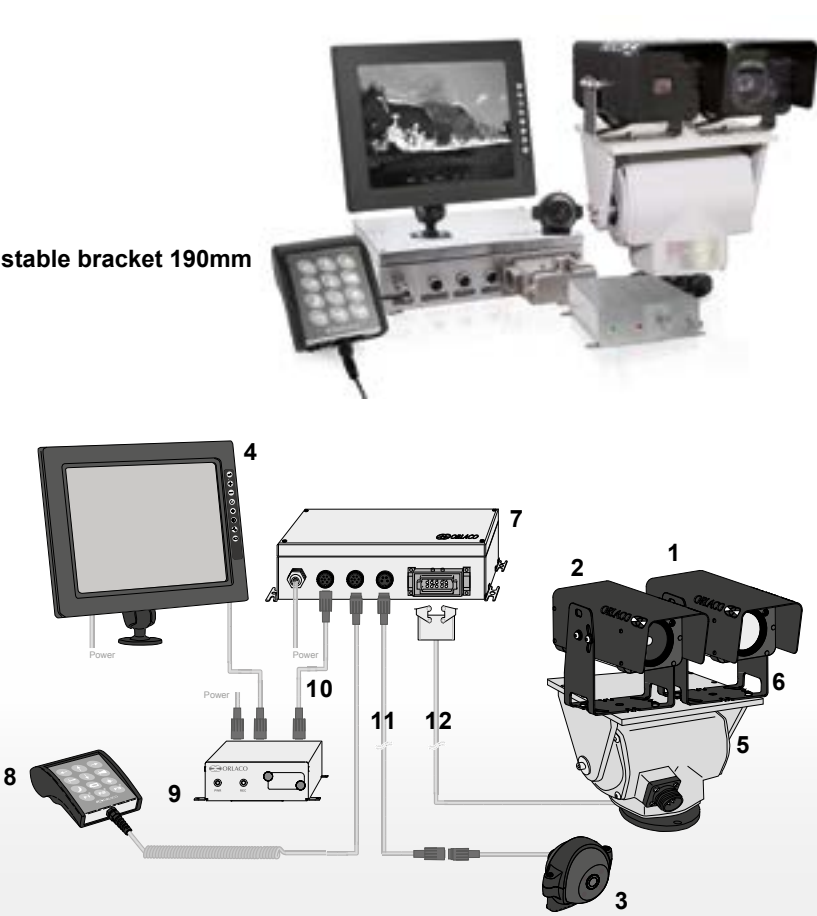
Set Frontview Zoomcam

1. AF-Zoom Camera PAL Serial
0103531 - page 32

2. Monitor 12" RLED Serial
0411130 - page 33

3. Pan & Tilt unit 24V/DC
0507061 - page 38

4. Fastening plate
0507100 - page 38

5. Smartbox Stainless steel
0504730 - page 38

6. DVR - One channel
0000300 - page 37

7. Control panel mount
0502620

8. Joystick
0506500

9. IR illuminator
0507300 - page 38

10. Special Multi cable 6m 7p

11. Special cable 5m + Connectors
ORL-SC-GCH-0026-5m

12. Special IR Illuminator Switch
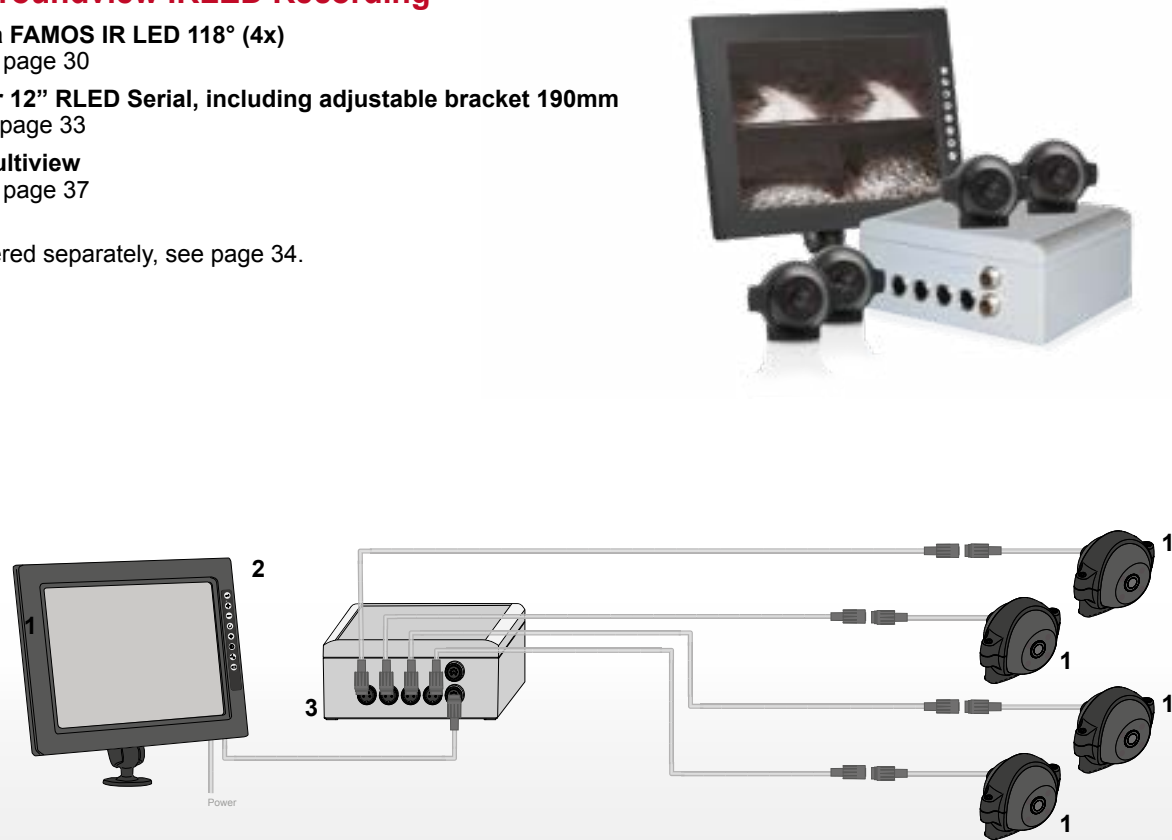
Set Surroundview IRLED Recording

1. Camera FAMOS IR LED 118° (4x)
0171600 - page 30

2. Monitor 12" RLED Serial, including adjustable bracket 190mm
0411130 - page 33

3. DVR Multiview
0000250 - page 37

Cables
To be ordered separately, see page 34.

Set Surround IR Nightview

1. Camera FAMOS IR 118° (4x)
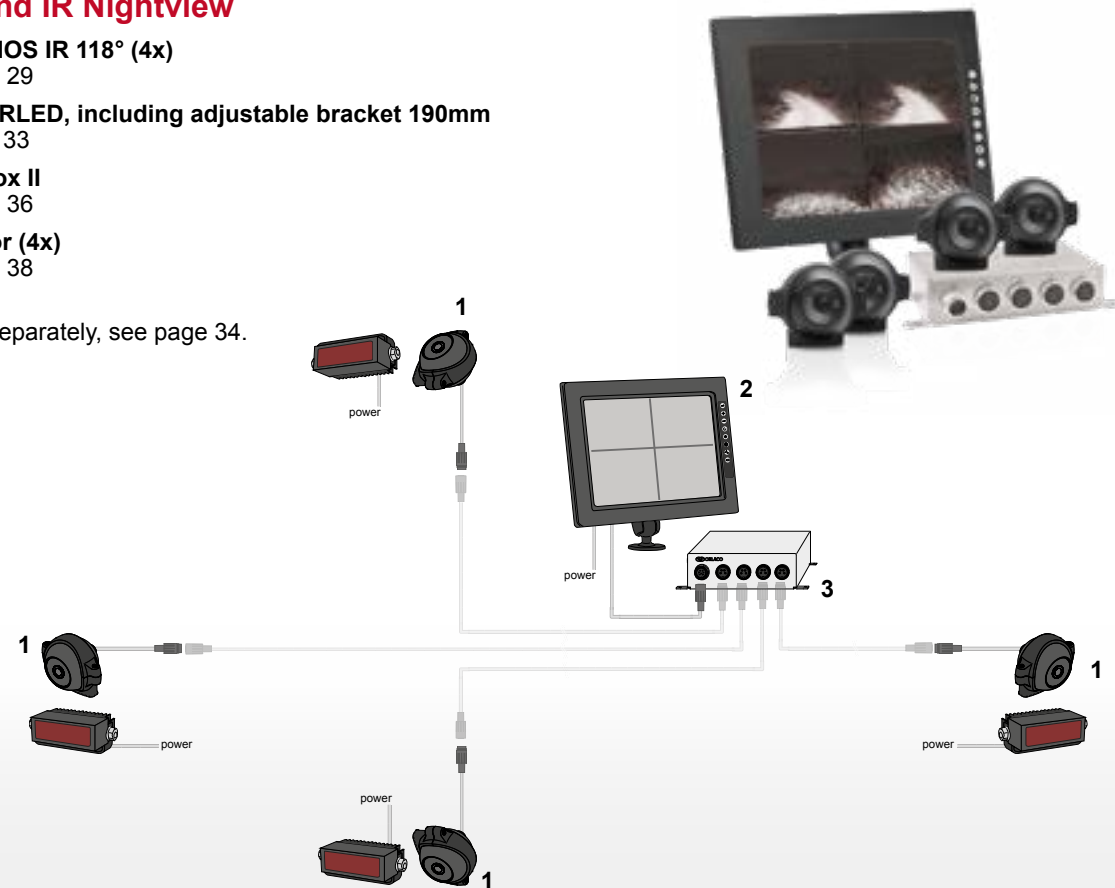0178010 - page 29

2. Monitor 12" RLED, including adjustable bracket 190mm
0411130 - page 33

3. MultiView Box II
0405100 - page 36

4. IR illuminator (4x)
0507300 - page 38

Cables
To be ordered separately, see page 34.

Set Surroundview AR6500M (0406511)

1. Camera FAMOS 118° (4x)
0171010 - page 29

2. Monitor 12" RLED Serial, including adjustable bracket 190mm
0411130 - page 33

3. MultiView Box II
0405100 - page 36

Cables
To be ordered separately, see page 34.

Surround view

• Surround view can be applied on any type of vehicle.
• COTS+ cameras
• Increased view when maneuvering in obscure and unknown territory.
• Images available: 180°, 270° or 360°.
• Surround view offers an overview of objects and people around a vehicle. They are always visible, thanks to overlapping camera images.
• Suitable for both 7" and 12" Orlaco monitors.
• Operating temperature between -40° and +85°C.
• A maximum of four different overviews can be programmed.
• No time-consuming calibration of cameras.
• Surround view can be designed and programmed in accordance with the customer's wishes.
• Contact Orlaco for more information and advice.

The dimensions and design of military vehicles and the environments in which it operates makes it difficult for the driver to have a complete overview of the situation. Surround view provides a 360° field of vision around the vehicle, enabling the driver to maneuver safely under complex circumstances. The positioning of the vehicle is often essential in order to operate quickly and strategically. The system gives a maximum view on all four areas beside the vehicle on one monitor. The camera images overlap, without missing any obstacle. By providing the driver with an immediate overview, Surround View significantly increases safety and efficiency during complicated operations.

Forward manoeuvring

Reverse mode

CornerEye® covers field of vision Class V & VI with one camera

Get excellent view on blind spots around trucks with the revolutionary new CornerEye camera monitor system. Ultimate digital technology and effective application come together in this u nique vision system. The system has a wide angle lens that, combined with the latest technologies, delivers a field of vision of 270°. CornerEye covers the obligatory Class V & VI and even beyond, increasing your vision.
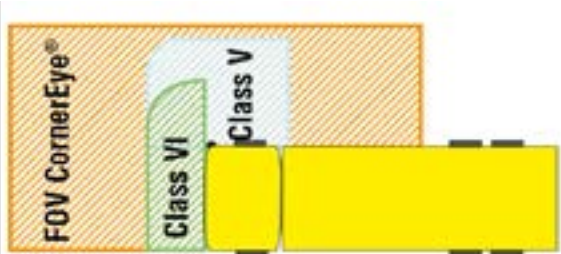
• HD camera and 10" HD monitor
• 270° field of vision
• Real time: zero latency
• Shock and vibration proof
• Ruggedized design
• Designed to comply with automotive requirements
• Camera IP69K watertight
• Short mounting time
• Custom made bracket per brand on request

CornerEye Set

0400040 Set CornerEye HD

• Including HMOS camera with bracket, 10" monitor with bracket and 3m digicoax cable.
• Can not be extended with extra cameras.

CornerEye Parts

0185610 Set HMOS camera with bracket

• Including camera HMOS 180˚ and extension bracket.

0402620 Camera bracket
• Camera HMOS not included

0224000 Monitor 10" HLED

• 1m multi cable (power) open wired, 1m multi cable (video) including 4p molded female coax connector.

The qualifications of our Digital Cameras

• High resolution CMOS rolling shutter
• 1280 x 960 video image
• Light sensitivity 0.1 lux
• Excellent impact- and vibration-resistance

• Excellent EMC performance 100 V/m
• Automotive molding-filled housing, watertight IP69K according to DIN 40050-9

• Operating temperature between -40°C to +85°C
• IP68 dust- and waterproof according to IEC 60529
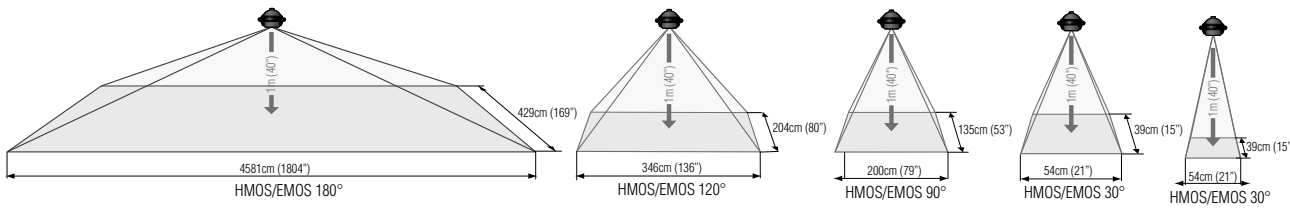
Johnson's Criteria

The Johnson's criteria defines what is meant by "seeing a target". The minimum required resolution according to Johnson's criteria are expressed in terms of image resolution across a target, in terms of several tasks: Detection (4px), Recognition (16px) and Identification (26px). The measurements are based on optimal conditions with an object size of 2.3m x 2.3m and are theoretical. Practical situations may deviate.
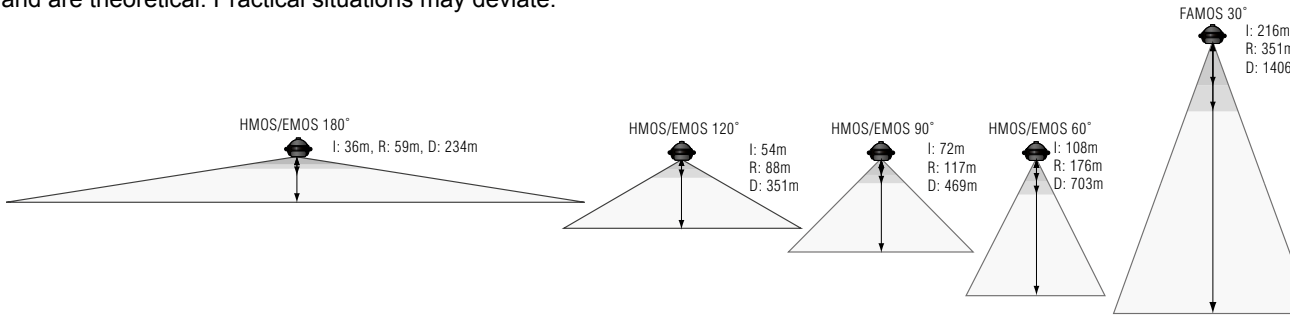
Cameras HMOS
Compact, industrial high definition Digicoax camera.

Type	Art. no.
30°	0185040
60°	0185030
90°	0185020
120°	0185010
180°	0185000

• The camera has a 0,5m digicoax cable including a digicoax waterproof molded 4p male connector

Cameras HMOS IR
Camera with a high dynamic rate > 115dB

Type	Art. no.
120°	0185100

Monitor HLED

• Automotive TFT liquid crystal display module, LED backlight
• 1m multi cable (power) open wired, 1m multi cable (video) including
  4p molded female digicoax connector
• 1280 x RGB x 800 video image

0224010   Monitor 10" HLED MR1

Digicoax cable
Designed for use with HMOS cameras.

0311000	1m	0311010	2m
0311020	3m	0311030	5m
0311040	7,5m	0311050	8m
0311060	9m	0311070	11m
0311080	16m	0311090	21m

Digicoax switcher
Inputs and power supply for a maximum of 4 Digicoax HMOS cameras.

• Cameras can be switched over automatically with a HLED MR1 monitor

0404240   Switcher Digicoax - 4 channel

Monitor brackets
• Suitable for Monitor 10" HLED.

0402610   Monitor Bracket 105mm

0401290   Monitor Bracket 127mm
• Dashboard mounting

2015740   Clamp unit with ball joint
• Accommodates rails from ø 12,7mm to 31,75mm.

1000499   Digital Camera bracket

Cameras EMOS
Low latency, high definition ethernet camera specifically
designed for onboard computer systems.

Type	Art. no.
30°	0186040
60°	0186030
90°	0186020
120°	0186010
180°	0186000

• Image streaming in MJPEG or H.264
• Total system latency less than 100ms
• Communication according to ISO 17215 protocol

The qualifications of our HD-IP zoom cameras

• HD Image CMOS Sensor
• Chemically hardened lens
• 30x zoom, 2,3° to 63,7°
  horizontal opening angle
• Built-in night vision
  function (0 lux mode)

• Nitrogen-filled housing,
  100% watertight (IP 69K)
• Heated lens glass,
  therefore no problems
  with condensation or frost
• Shock and vibration

  resistant
• Video streaming over TCIP/IP
• Conform ONVIF-protocol
• Operating temperature between
  -40°C and +60°C
• Input Voltage 18...30V/DC

AF Zoom HD-IP Cameras
• Including 5m ethernet cable, open wired
• Watertight IP68 and IP69K

0103810   AF-Zoom HD-IP Camera Aluminium
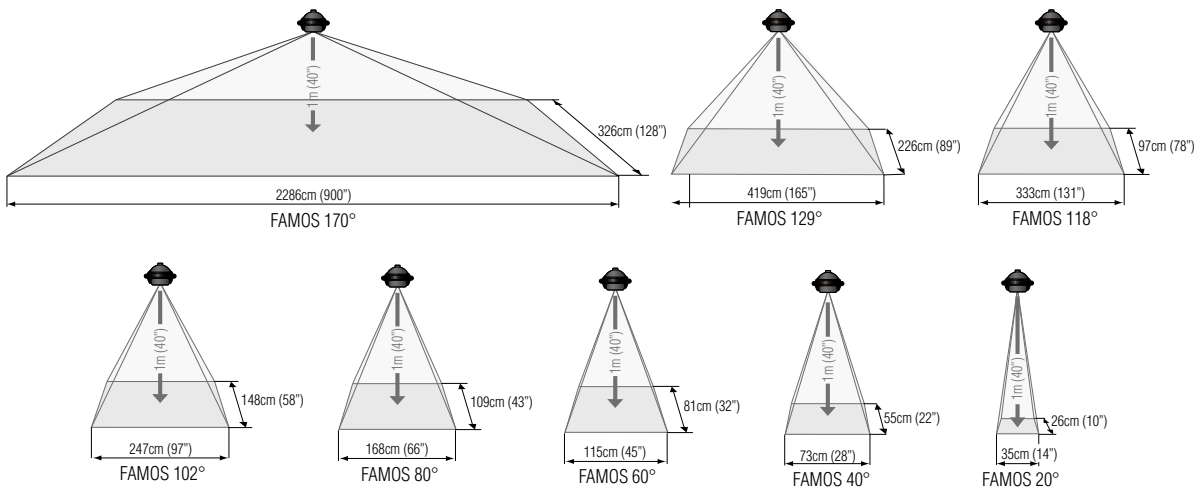
0103820   AF-Zoom HD-IP Camera SSt

Or design your system yourself

Step 1: Select your camera
Step 2: Select your desired cable
Step 3: Select your monitor
Step 4: Select the required options
It is also possible to configure your system online on our website: www.orlaco.com

Whatever you select, the system can be easily installed and is plug-and-play.
Note: For two or more cameras a switcher, 4Cam RLED Monitor or MultiView Box and additional cables are required. Contact us for support.
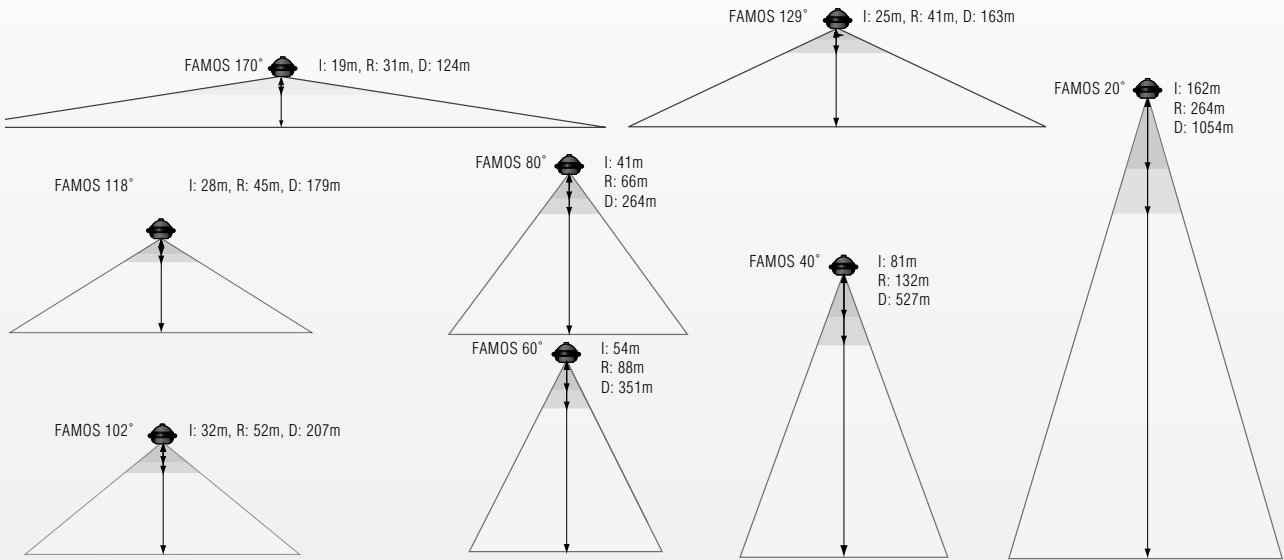
The qualifications of our FAMOS Compact Cameras

- COTS+, MIL-standard compliant
- Next generation CMOS sensor
- Light sensitivity 0.05 lux
- Integrated *Safety ticker* to show that camera is running and active
- Optimized impact- and vibration-resistance

- Chemically hardened lens
- Automotive molding-filled housing, watertight IP69K according to DIN 40050-9
- Improved EMC-standards
- Operating temperature between -40°C to +85°C

- Heated lens glass, therefore no problems with condensation or frost
- Fixed lens
- IP68 dust- and waterproof according to IEC 60529
- The camera has a 0,5m cable including a watertight molded 4p male connector

FAMOS 170° 2286cm (900") 326cm (128")
FAMOS 129° 419cm (165") 226cm (89")
FAMOS 118° 333cm (131") 97cm (78")
FAMOS 102° 247cm (97") 148cm (58")
FAMOS 80° 168cm (66") 109cm (43")
FAMOS 60° 115cm (45") 81cm (32")
FAMOS 40° 73cm (28") 55cm (22")
FAMOS 20° 35cm (14") 26cm (10")

Johnson's Criteria

The Johnson's criteria defines what is meant by "seeing a target". The minimum required resolution according to Johnson's criteria are expressed in terms of image resolution across a target, in terms of several tasks: Detection (4px), Recognition (16px) and Identification (26px). The measurements are based on optimal conditions with an object size of 2.3m x 2.3m and are theoretical. Practical situations may deviate.

FAMOS 170° I: 19m, R: 31m, D: 124m
FAMOS 129° I: 25m, R: 41m, D: 163m
FAMOS 118° I: 28m, R: 45m, D: 179m
FAMOS 102° I: 32m, R: 52m, D: 207m
FAMOS 80° I: 41m R: 66m D: 264m
FAMOS 60° I: 54m R: 88m D: 351m
FAMOS 40° I: 81m R: 132m D: 527m
FAMOS 20° I: 162m R: 264m D: 1054m

Cameras FAMOS

Type	Art. no. PAL	Art. no. NTSC
20°	0171060	0171160
40°	0171050	0171150
60°	0171040	0171140
60° MIRROR	0171960	-
80°	0171030	0171130
102°	0171020	0171120
102° MIRROR	0171220	0171240
118°	0171010	0171110
118° MIRROR	0171210	0171230
129°	0171000	0171100
129° MIRROR	0171880	0171100
170°	0171070	0171170

Camera FAMOS MIRROR SW
Camera with mirrored image and guiding lines.

Type	Art. no. PAL	Art. no. NTSC
102° MIRROR	0171250	0171260

Cameras FAMOS IR
870 / 940nm IR sensitive camera.

Type	Art. no. PAL	Art. no. NTSC
80°	0178000	-
118°	0178010	-
118° MIRROR	0178020	-

Cameras FAMOS IR LED

Day-night camera including 4 High Power Infrared LEDs 850nm. The IR LED's will be automatically activated. Based on the output of the CMOS sensor the IR illumination value will be set to ensure the best possible image.
• UV-transparent front cover

Type	Art. no. PAL	Art. no. NTSC
80°	0171610	0171630
118°	0171600	0171620
118° MIRROR	0171900	0171910

Cameras FAMOS IR LED Switch

In case of a black out, the LEDs in the camera can be switched off.

Type	Art. no. PAL	Art. no. NTSC
80°	0171680	-
118°	0171690	-
118° MIRROR	0171280	-

• With 0.5m cable including a waterproof molded 7p male connector

Camera AMOS CFMC

Camera for mounting at the inside of the right-hand side fork.
• Waterproof camera IP69K according to DIN 40050-9
• Next generation CMOS sensor
• Including 1m multicable 4p connectors

0198710   Camera AMOS CFMC 51° (PAL)

0198700   Camera AMOS CFMC 51° + LEDs (PAL)
Camera with two integrated high bright LEDs.

Camera AMOS CPH

Extremely robust small camera for mounting on a vulnerable position.
• Waterproof camera IP69K according to DIN 40050-9
• Fixed lens, angle of aperture: 51°
• Next generation CMOS sensor
• The camera has a 0,6m cable including a waterproof
  4p connector male

0199700   Camera AMOS CPH 5100P (PAL)

0199730   Camera AMOS CPH 5100N (NTSC)

Mounting means - Compact Cameras

0401270   Camera bracket
Compact bracket specially designed for the Compact Camera.

• Cap can be resprayed in the color of the vehicle
• Including mounting kit
• Compact Camera are not included

0401210   Camera bracket with extension
Extended bracket specially designed for Volvo FM / FH Frontview and Mercedes-Benz.

• Including mounting kit
• Rubber extension part
• Compact Camera is not included

0403400   Compact Camera magnet bracket
For quick mounting of Compact Camera on steel profiles.

8400670   Compact Camera bracket
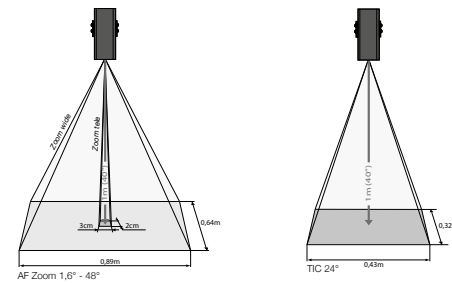Assembly set for Compact Camera.

0402320   Protective cover
Cover specially designed for the Compact Camera.
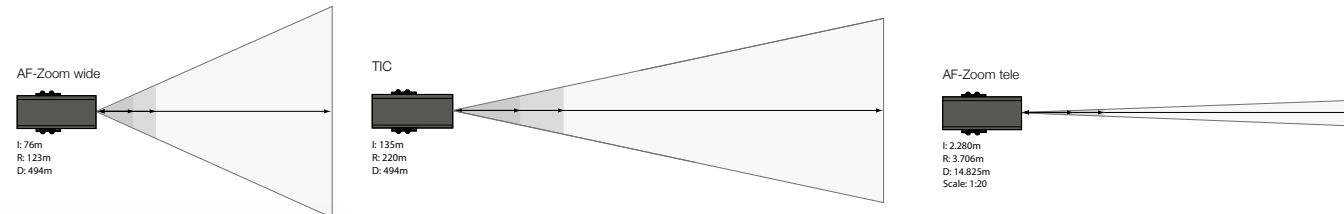
• Stainless steel housing

The qualifications of our Zoom Cameras

- Operating temperature between -40°C to +85°C
- Built-in brightness function to ensure better visibility on dark areas
- 480x zoom, 1.6° to 48° horizontal opening angle
- Built-in night vision function (0 lux mode)

- Nitrogen-filled housing, 100% watertight (IP 69K)
- Heated lens glass, therefore no problems with condensation or frost
- Shock and vibration resistant

AF Zoom 1,6° - 48°

TIC 24°

Johnson's Criteria

The Johnson's criteria defines what is meant by "seeing a target". The minimum required resolution according to Johnson's criteria are expressed in terms of image resolution across a target, in terms of several tasks: Detection (4px), Recognition (16px) and Identification (26px). The measurements are based on optimal conditions with an object size of 2.3m x 2.3m and are theoretical. Practical situations may deviate.

AF-Zoom wide
I: 76m
R: 123m
D: 494m

TIC
I: 135m
R: 220m
D: 494m

AF-Zoom tele
I: 2,280m
R: 3,706m
D: 14,825m
Scale: 1:20

AF-Zoom Cameras
- Including 6m multicable fitted with 7p connector (female)
- Power supply 12V - 24V/DC when cable is <50m
  Power supply 18V - 24V/DC when cable is >50m

0103532   AF-Zoom Camera Aluminium (PAL)

Thermal Imaging Cameras (TIC)
- Thermal Imager Uncooled VOx microbolometer
- Including 6m multicable fitted with 7p connector (female)
- 24° lens (up to 450m detection)
- 12-30V/DC max 8W
- 2x and 4x zoom

0103732   TIC Aluminium 9Hz
Import license per order required

Pan & Tilt Zoom Camera
- Weight: 5kg (including 5m cable with 7p connector)
- Pan angle 360° (180° to left, 180° to the right)
  tilt angle 180° (90° up, 90° down)
- Pan & tilt speed 12,5°/sec
- 6 presets for camera positions

0506953   PTZ Camera Aluminium PAL
0506962   PTZ Camera Aluminium NTSC

The possibilities offered by Orlaco LED monitors

- Automotive 7inch TFT liquid crystal display module, LED backlight
- Operating temperature between -40°C to +85°C
- Impact and vibration resistance meet the stringent requirements
- High resolution pixel WVGA 800xRGBx480

- Power protected against:
  - Induction voltages
  - Load dumps
  - Over- and undervoltage
- Mirror image setting
- Brightness automatically adjusts to the ambient light
- Integrated sun visor

- Option of a marker line per camera on the screen for the optimum determination of distance
- IP67 according to IEC 60529
- Full On-Screen-Display (OSD) in 12 languages
- Watertight molded connectors

Monitors 7" LEDD
- For double DIN slide opening in the dashboard

0221000   Monitor 7" LEDD, 24V
- 2m multi cable (power) open wired, 2m multi cable (video) including 4p molded female connector
- Input Voltage 18...30V/DC +/-10%

Monitors 7" RLED
- User-adjustable 132mm mounting bracket

0223000   Monitor 7" RLED R2, 24V
- 2m multicable (power) open wired, 2m multicable (video) including 4p female connector
- Input Voltage 18...30V/DC +/-10%

0208603   Monitor 7" RLED R2, 12V
- 2m multicable (power) open wired, 2m multicable (video) including 4p female connector
- Input Voltage 12...60V/DC +/-10%

0208632   Monitor 7" RLED Serial
- For serial connection (Zoom- , PTZ- or TIC cameras)
- 6m multicable (power) open wired, 6m multicable (video) including 7p female connector
- Input Voltage 18...30V/DC +/-10%

Monitors 12"
- User-adjustable 190mm mounting bracket

0411000   Monitor 12"
- 4m multicable (power) open wired, 4m multicable (video) including 4p female connector

0411130   Monitor 12" Serial
- For serial connection (Zoom- , PTZ- or TIC cameras)
- 6m multicable (power) open wired, 6m multicable (video) including 7p female connector

The advantages of Orlaco cables

- All cables are specially developed by Orlaco
- ADR approved
- Special cables are available for various circumstances
- Resistant to oil and petrol
- Watertight cable connectors
- Operating temperature -40°C to +85°C

Multi cable standard

This standard cable can be used if no special requirements like mechanical protection or dynamic movement of the cable is needed.

Including 4p molded connectors:

0301960	1m	0301870	2m
0301890	3m	0301880	5m
0301910	7,5m	0301930	8m
0301950	9m	0301900	11m
0301920	16m	0301940	21m
0301990	40m		

Including 7p molded connectors:

0304420	0,5m	0304260	2m
0304410	6m	0304610	11m
0304620	16m	0305030	21m

Armored cable (type 1220280)

This cable offers good protection against severe conditions. This is due to the additional internal galvanised braided steel wire armor.

Including 4p molded connectors:

0303342	1,5m	0303352	3m
0303472	5m	0303362	7,5m
0303372	9m	0303482	11m
0303492	16m	0305021	20m
0305011	28m		

Including 7p connectors with protection cap:

0303520	1,5m	0303290	15m
0304140	20m		

Cable per metre (connectors not included)

1220110	Standard Multicable 1x coax, 3x wires
1220170	Multicable 1x coax, 5x wires
1220280	Multicable armored 1x coax, 5x wires
1220250	Multicable 1x coax, 12x wires PUR
1220350	Multicable 2x coax, 5x wire PUR
1220600	Dynamic cable 1x coax, 5x wire PUR
1220900	Power cable 7x wire AWG20
1222000	Coax cable 75 OHM RG59
1210300	Control cable 8 x 0.25mm^2

Any required connectors can be ordered separately. (see page 35)

Connectors

- Recommended for multicable (1220170)

1310831	Connector 4p female PG7 Gold
1312040	Connector 4p male PG7 Gold

- Recommended for armored cable (1220800)

1310850	Connector 4p female PG9 Gold
1312050	Connector 4p male PG9 Gold
1311250	Connector 7p female PG9 Gold
1322450	Connector 7p male PG9 Gold

Bulkhead connectors

- Suitable for lead-through on bodywork

0357011	Bulkhead connector 4p
0357051	Bulkhead connector 7p

Cable disconnection set

0351100	Cable disconnection set 10p

- Watertight
- With caps

Adapter plugs

0357500	Adapter plug 4p male - 7p female
0357510	Adapter plug 4p female - 7p male

Adapter cables

0304000	Adapter cable 4p female - 4p female
0304050	Adapter cable 4p male - 4p male
0303860	Adapter cable 4p female - BNC
0303770	Adapter cable 4p female - Cinch (if OEM monitor is used)
8975850	Powercord

Multiview

The MultiView box is an advanced video imaging system for up to 4 cameras. There are many possibilities of different split views in 5 selectable video channels.
• A MultiView box can only be connected to an Orlaco Serial Monitor or via the Serial Cable 6m (8976330) when a non-serial monitor is used

0405100   MultiView box II
• 4 camera inputs (4x Compact Camera)

0405110   MultiView box II Serial
• 4 camera inputs (3x Compact Camera, 1xAF-Zoom Camera)
• Including adapterplug 4p male - 7p female

Preset view options for channel 1-4:   Default channel 5

NOR   ALL   DUA   TRI   REA   D+R   SUR 1   SUR 2   QUAD

Switchers

Input and power supply for three cameras and in combination with a Y-split cable: four cameras.
• Cameras can be switched over automatically or manually

0404040   Switcher UNI
• Waterproof IP54 according to IEC 60529
• 4p output for monitor

0404080   Switcher UNI IP67
• Waterproof IP67 according to IEC 60529
• 4p output for monitor

0404061   Switcher Serial
• Waterproof IP67 according to IEC 60529
• 7p output for monitor
• Only in combination with a Serial monitor
• Possibility to connect 1 serial Orlaco camera (AF Zoom)

0404300   Switcher 4Cam, ext switch wire
This video switcher for third party monitors has 4 video inputs and 1 video output
• Connect up to 4 cameras (PAL or NTSC) to a third party monitor (only applicable for third party monitors)
• Including 3,85m switch cable

Video distributors

• For connecting a second monitor.

0407070   Video distributor 1 in - 2 out, 4p
• Including 0,2m cables and 4p connectors

0407090   Video distributor 1 in - 2 out, 7p
• Including 0,2m cables and 7p connectors

0407001   Video distributor 1 in - 3 out, no cable
For connecting a second and third Orlaco monitor.
• 7-32 V/DC
• Cables and connectors are not included

0407050   Video distributor 4 in - 12 out
• Cables and connectors are not included

Digital video recorder

0000300   DVR one channel
Digital video recorder with one camera input and one video output
• Can be used with a compact camera (4p) or serial camera (7p)
• Video loop function
• Automatic timestamp
• Including 32GB SDHC-card for max 72 hours of storage and SD-card reader

0000250   DVR Multi view
Digital video recorder with four camera inputs and one video output with multiview options.
• Suitable for compact cameras (4p)
• Including 128GB 80 MB/s SDXC-card for max 72 hours of storage

0000260   DVR 4CAM
Digital video recorder with four camera inputs and four video outputs.
• Suitable for compact cameras (4p)
• Including 128GB 80 MB/s SDXC-card for max 72 hours of storage

Video control unit

0504730   Orlaco Smartbox
For connect and control the Orlaco AF-Zoom camera, Pan & Tilt and TIC camera.

• IP67
• Stainless steel housing

Infrared illuminator

0507300   IR-CIV870 Lamp
For NightView in combination with a FAMOS IR or AF-Zoom Camera.

• 870nm IR light
• Max. 15W
• IP67
• Maximum range 40m
Import license per order required

Pan & Tilt units

0507061

• IP 68 watertight
• Maximum weight 6 Kg
• Left/right reach 360° speed: 30° sec.
• Reach up 30° down 90° speed: 10° sec.

0507040

• IP 68 watertight
• Left/right reach 360° speed: 32° sec.
• Reach up 25° down 90° speed: 12° sec.
• Maximum weight 16 Kg

0507100   Fastening plate
For quick mounting of camera on Pan & Tilt unit.

0403310   Shock-absorbers for Compact Camera
In situations where shock absorption plays a major role, we recommend that the specially developed shock absorbers are used when installing the Compact Camera.

2015500   Adjustable mounting bracket
• Length 132mm

2015600   Adjustable mounting bracket
• Length 190mm

COTS+ standard
Thanks to our high quality standards, we deliver all our products as **COTS+ standard**. Orlaco **COTS+** quality guarantees that the product withstands the harshest conditions (operating temperatures, shock resistance e.g.). This ensures you of consistent performance and reliability of our products.

ISO Certifications

All Orlaco products are manufactured according to the latest *Quality Management System Standards*:

ISO/TS 16949 : 2009
ISO 9001 : 2008

Additionally, all Orlaco products are manufactured according to the latest *Environmental Management System Standard*:

ISO 14001 : 2004

CERTIFIED IATF 16949   CERTIFIED ISO 9001   CERTIFIED ISO 14001

Type-Approval Certifications

Regulations 10 and 46 are used to determine the Type-Approval for **EMC** and **Indirect Vision** (Mirror Directive). **R46** describes mirror specifications for truck compliancy. Orlaco Frontview systems meet all these requirements. **R10** describes the **EMC** behavior of the Orlaco Camera and Monitor systems.

TÜV Automotive Certifications

The *European Agreement concerning the International Carriage of Dangerous Goods by Road* (**ADR**) demands additional equipment. Orlaco Camera and Monitor systems and connection cables comply with these regulations.

Compliance

Our Camera and Monitor systems are produced entirely in line with the **CE-marking** and the most recent applicable directives and product standards (e.g. **EMC**, **FCC**, **Machinery**, **R&TTE**). Orlaco products are compliant with **RoHS** and **REACH**.

ORLACO | WORLDWIDE

It is Orlaco's viewpoint that optimal vision around every vehicle and vessel should be the norm. It provides safety, less damage, comfort and efficiency. *Vision is our mission®*. A revealing mission. We develop professional vision solutions for every situation:

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