

System and Installation Manual



eMirror



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1. System description

The 12,3" monitor has a two-way communication channel with the cameras. Configured according to the side of the vehicle, it displays the information on the screen. The Class II image is shown at the top and Class IV or V at the bottom. The analogical system Class V or VI image is shown at the AHD monitor (see figure 1.1 to 1.7). Optional configuration class IV or V on the top and Class II on the bottom.

eMirror system Cat. II / IV

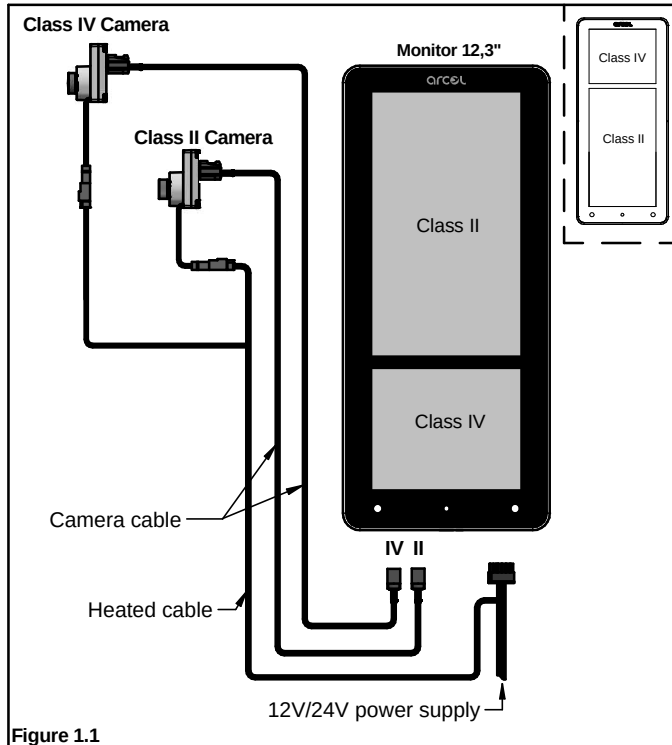


Figure 1.1

eMirror system Cat. II / V

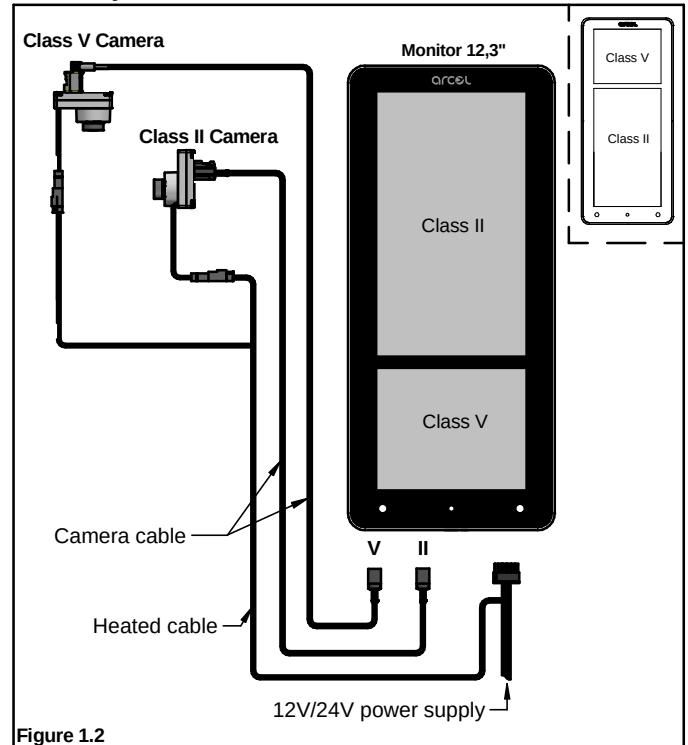


Figure 1.2

eMirror system Cat. II / IV / V

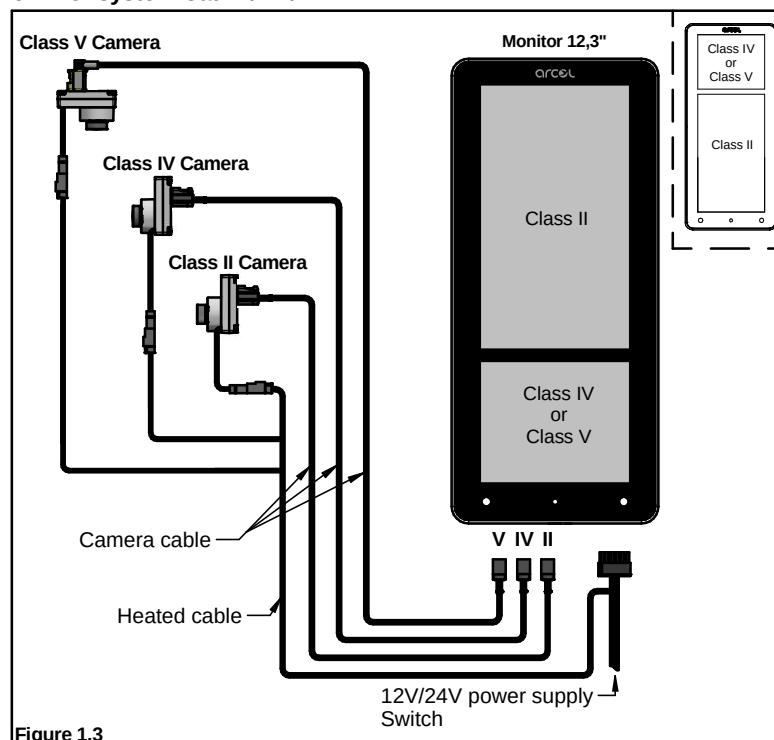


Figure 1.3

System description

*Integration only with 7" AHD monitor

eMirror system Cat. II / IV / V AHD coupled monitor

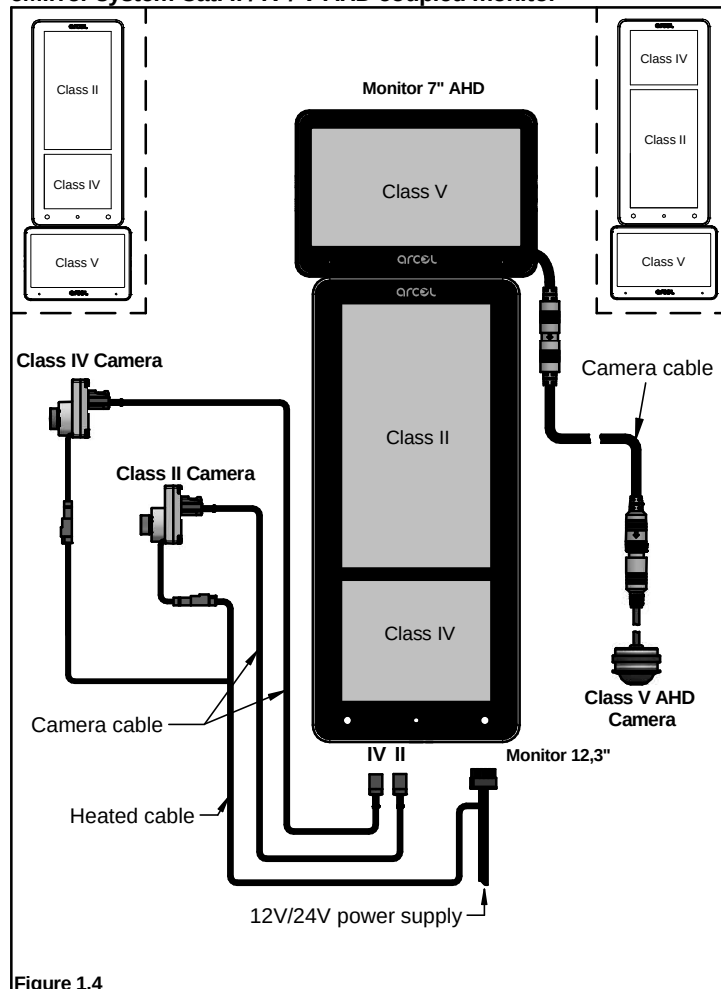


Figure 1.4

eMirror system Cat. II / IV / V AHD & VI AHD coupled monitor

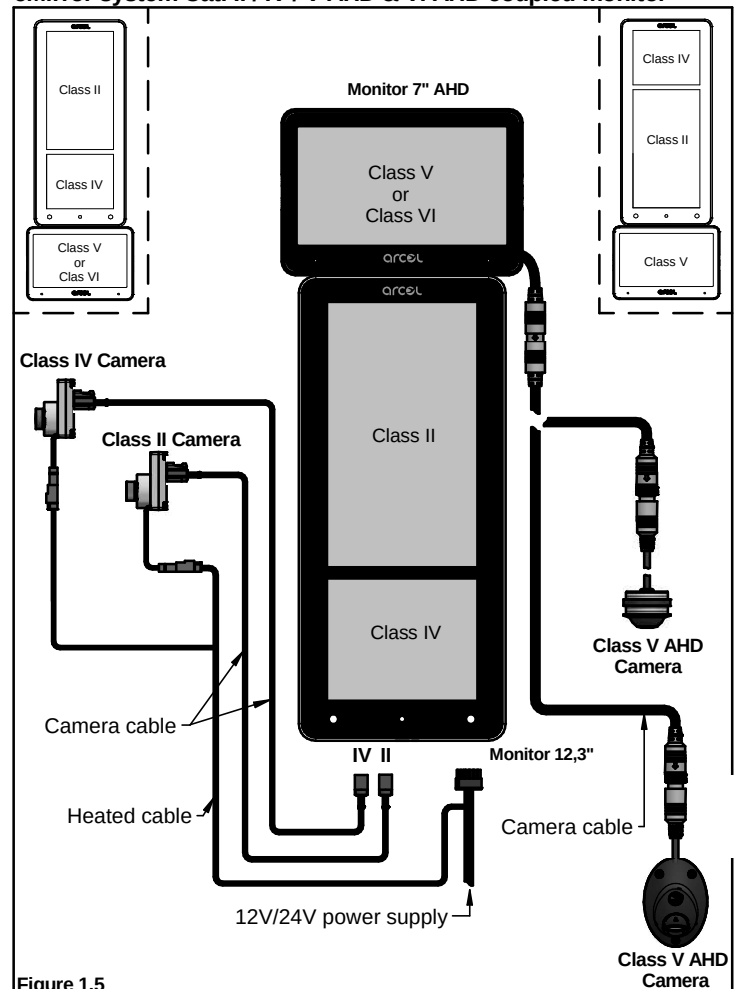


Figure 1.5

eMirror system Cat. II / IV / V AHD with 7" monitor

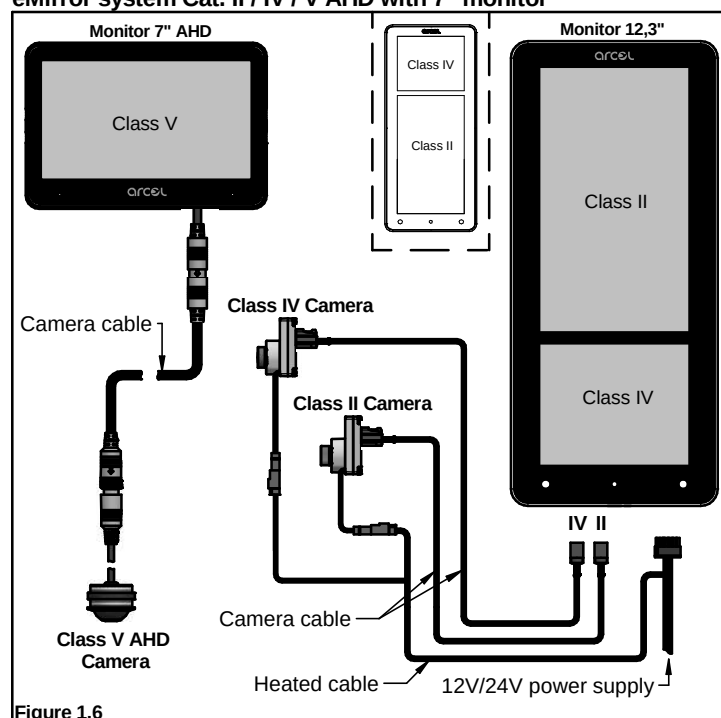


Figure 1.6

eMirror system Cat. II / IV / V AHD with 10" monitor

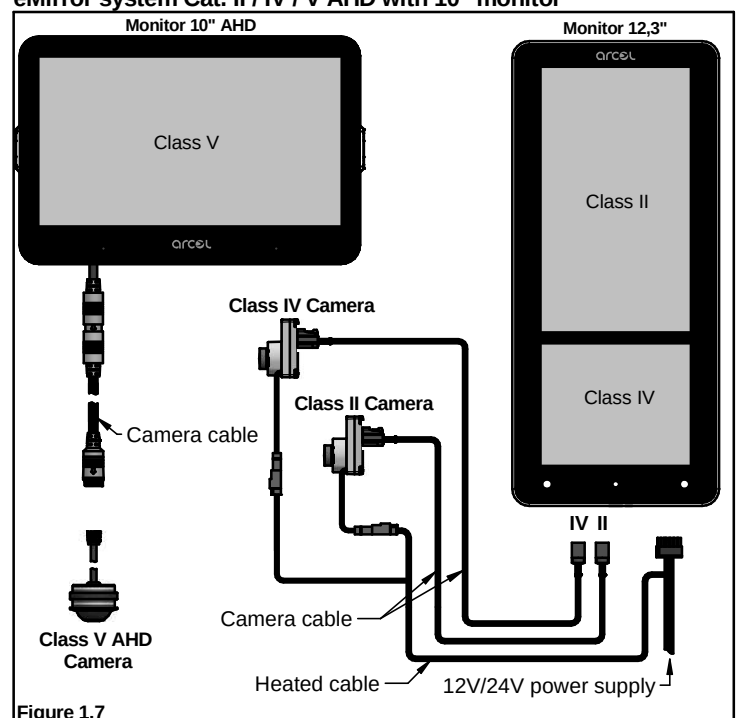


Figure 1.7

2. Categories

2.1. eMirror Class II

The Class II field of vision of the main mirror device shows the driver a width of 5 m which is delimited by a plane parallel to the vertical longitudinal median plane and passing through the outermost point of the vehicle from a point 30 m behind the driver's ocular points towards the horizon.

Moreover, it shows a width of 1 m which is delimited by a plane parallel to the vertical longitudinal median plane and passing through the outermost point of the vehicle starting from a point 4 m behind the vertical plane passing through the driver's ocular points (see figure 2.1).

2.2. eMirror Class IV

The Class IV field of vision for the wide-angle vision device shows the driver a horizontal, flat, at least 15 m wide part of the road, delimited by a lane parallel to the vertical longitudinal median plane of the vehicle and passing through the outermost point of the vehicle and extending from at least 10 m to 25 m behind the driver's ocular points.

Moreover, it shows a width of 4.5 m, delimited by a plane parallel to the vertical longitudinal median plane and passing through the outermost point of the vehicle, starting from a point 1.5 m behind the vertical plane and passing through the driver's point (see figure 2.1).

2.3. eMirror Class V

The Class V field of vision shows the driver a horizontal, flat, 2 m wide part of the road, delimited by a plane parallel to the median longitudinal vertical plane of the vehicle which passes through the outermost point of the vehicle cab on the passenger's side.

Moreover, to the front shows a distance of 1 m delimited by a plane parallel to the vertical plane passing through the driver's ocular points and at a distance of 1.75 m behind the driver's ocular points (see figure 2.1).

2.4. eMirror Class VI

The Class VI field of vision shows the driver a distance of 2 m in front of the transverse vertical plane of the outermost point of the front of the vehicle.

Moreover, it shows a width of 2 m delimited by a plane parallel to the vertical longitudinal median plane and going through the outermost point of the vehicle cabin on the passenger side.

The front of this field of vision opposite to the driver's side is limited by a radius of 2000 mm (see figure 2.2).

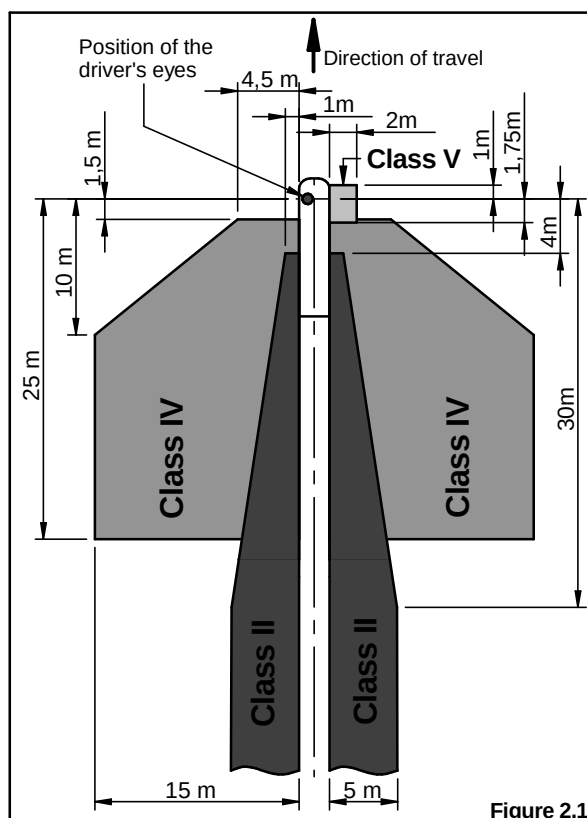


Figure 2.1

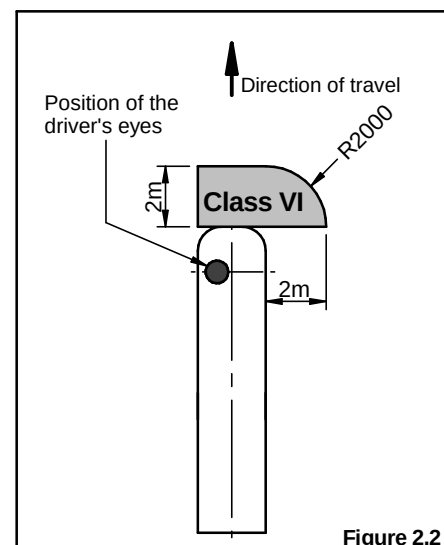
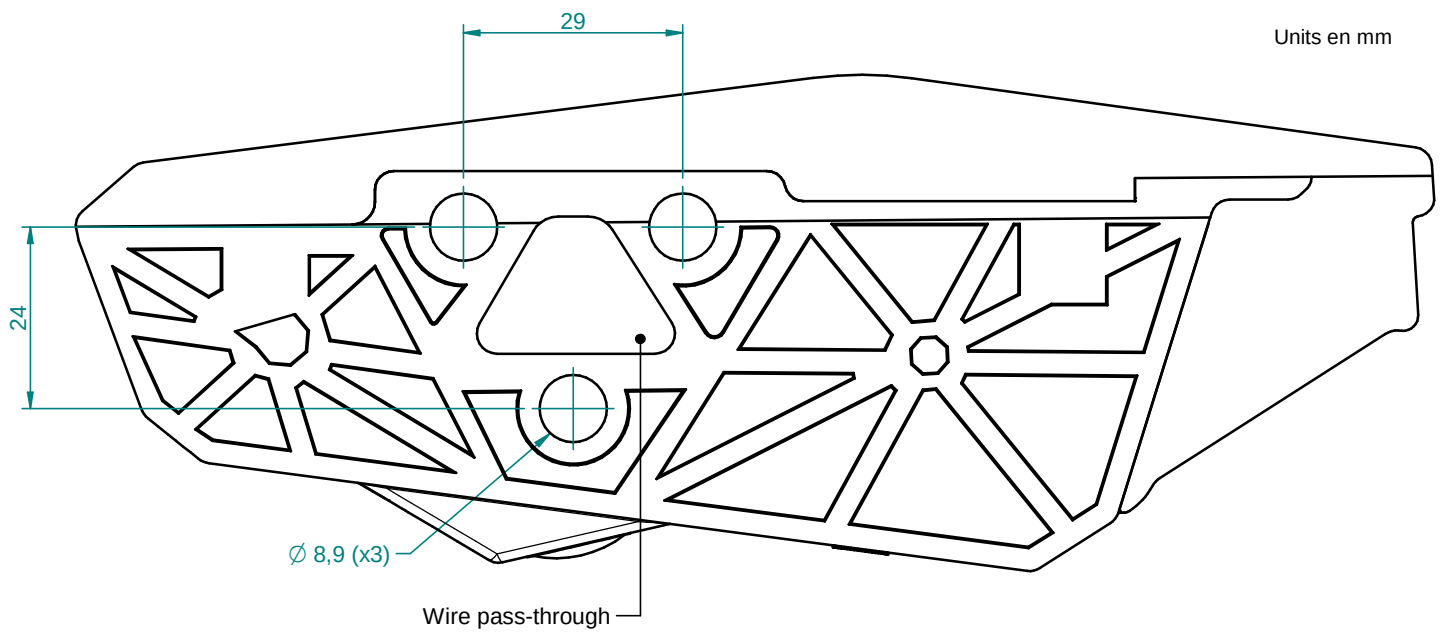


Figure 2.2

3. Camera unit fixing points

Left Side / Right Side



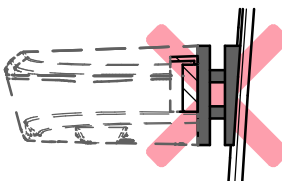
Scale 1:1

4. Camera Unit

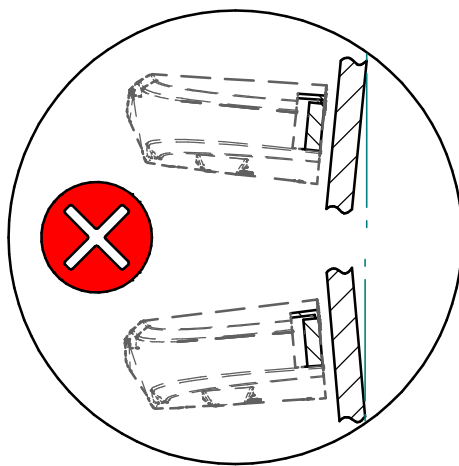
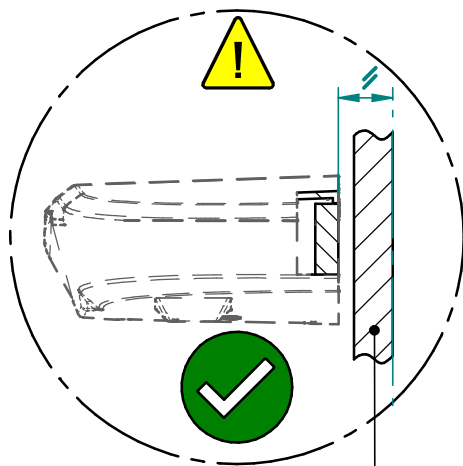
4.1 Vehicle mounting position

The positioning and placement of the cameras is essential for the correct functioning of the system.

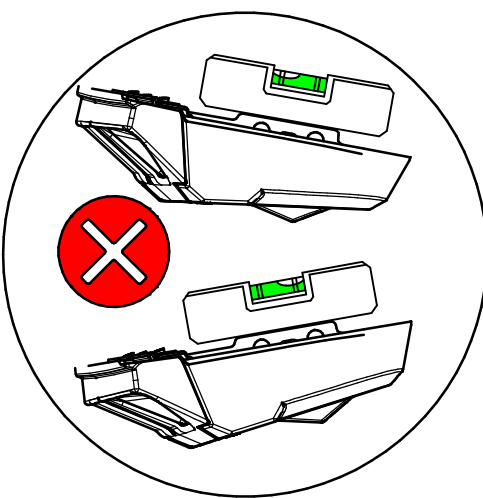
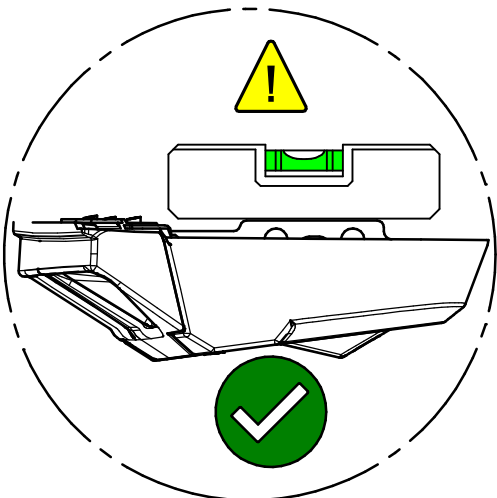
It is recommended that the camera unit is fully coupled to the bodywork, avoiding leaving a gap between the two as elements may collide with it and become trapped causing damage to the system.



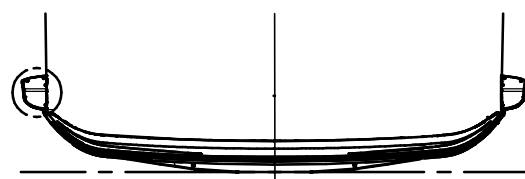
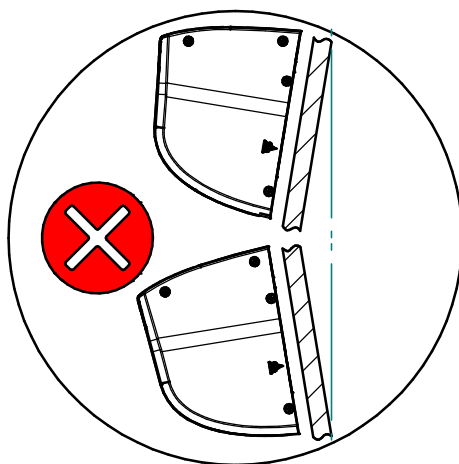
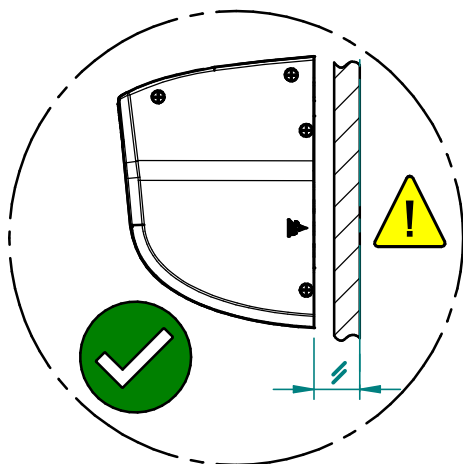
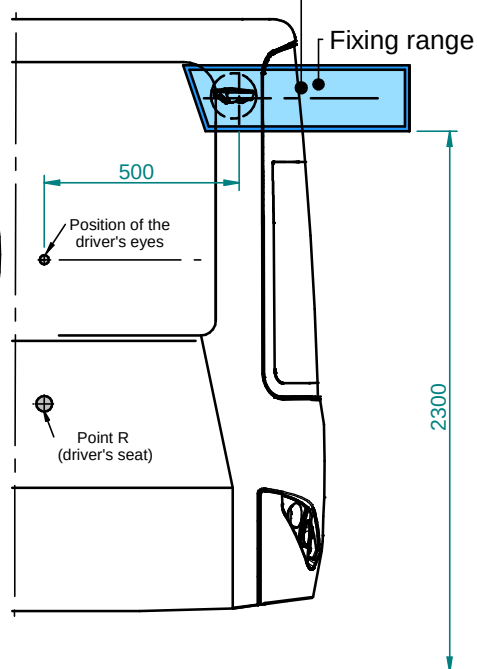
Left Side / Right Side



Outermost point of the vehicle



Industrial Arcol will study the position of the system to ensure compliance with the R46 regulation

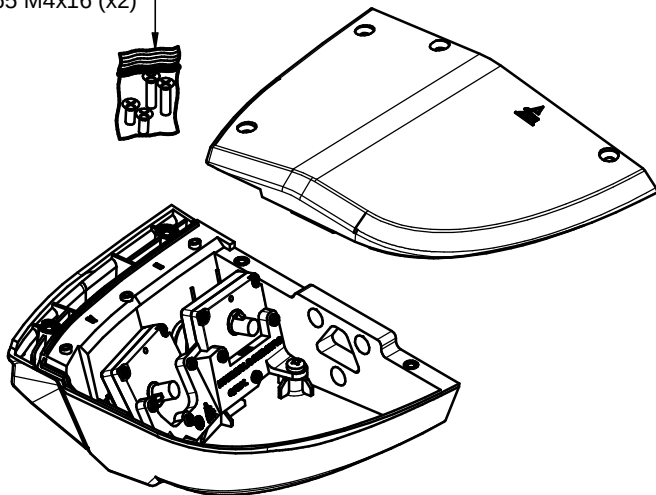


5. Mounting Instructions Camera Unit

5.1 Camera unit mounting Cat. II / IV

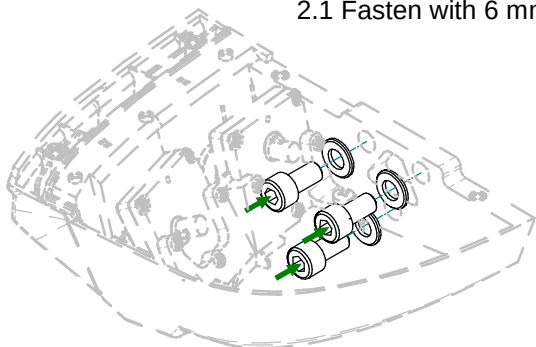
Right Side / Left Side Symmetrical

DIN 965 M4x10 (x2)
DIN 965 M4x16 (x2)



Step 2

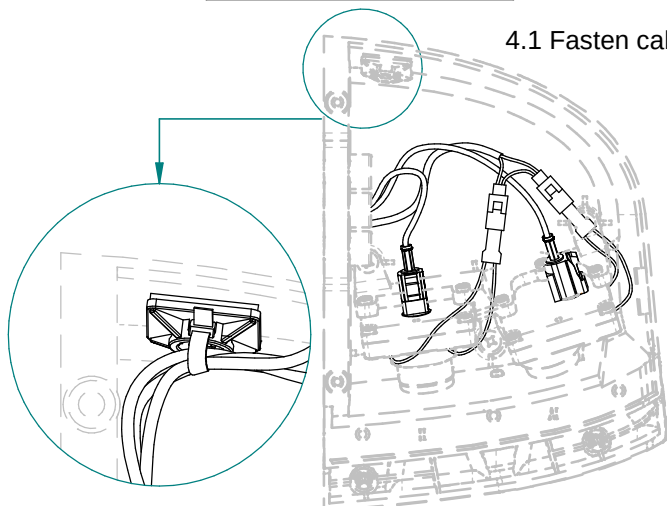
2.1 Fasten with 6 mm hexagonal wrench



- *Mounting position, see page 7.
- *Recommended screws for mounting DIN 912 M8 (Not included).
- *Seal fixation area and wire pass-through to avoid water inlet at system it is recommended.

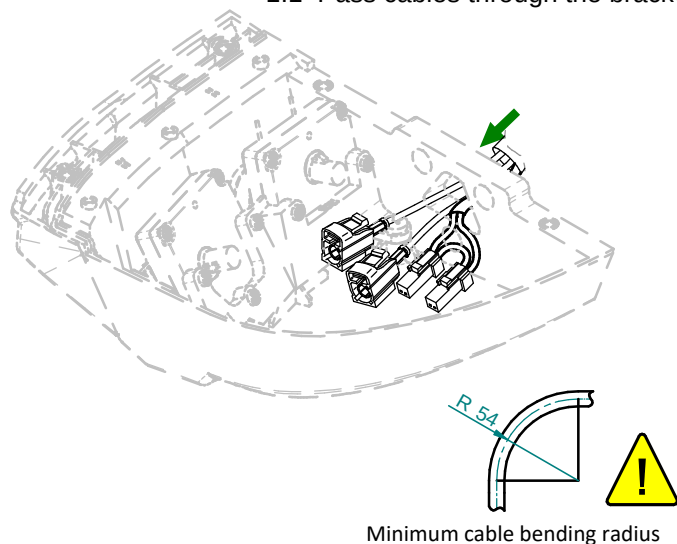
Step 4

4.1 Fasten cables



Step 1

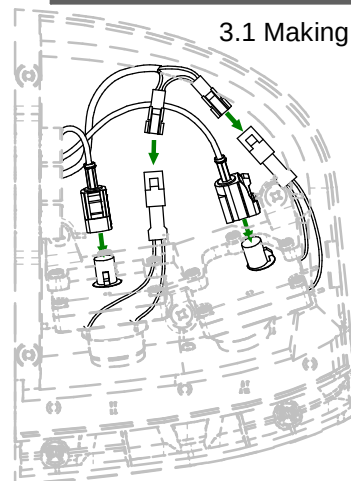
1.1 Pass cables through the bracket



Minimum cable bending radius

Step 3

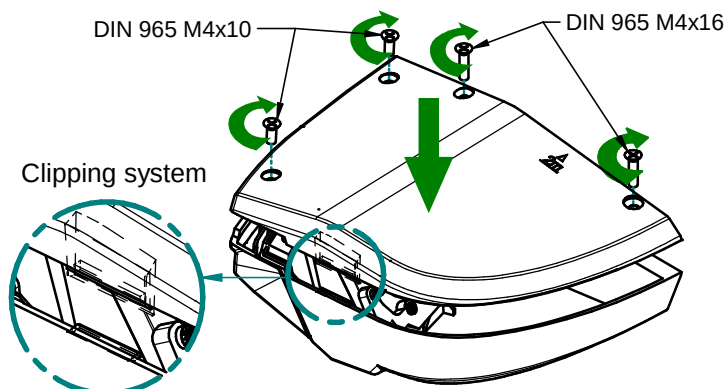
3.1 Making connections



*System connection, see page 19

Step 5

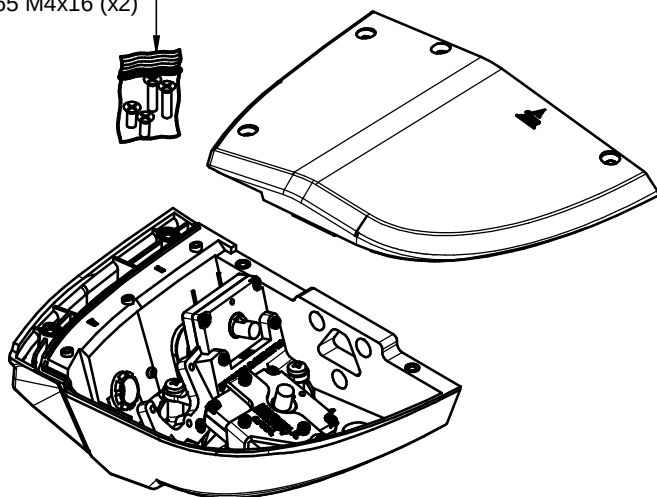
5.1 Place cover
5.2 Fasten with PH2 (Phillips)



5.2 Camera unit mounting Cat. II / V

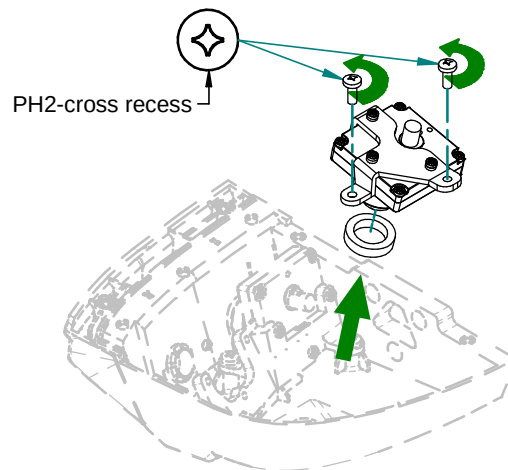
Right Side / Left side UK version symmetrical

DIN 965 M4x10 (x2)
DIN 965 M4x16 (x2)



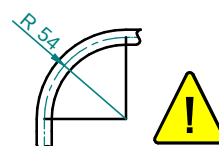
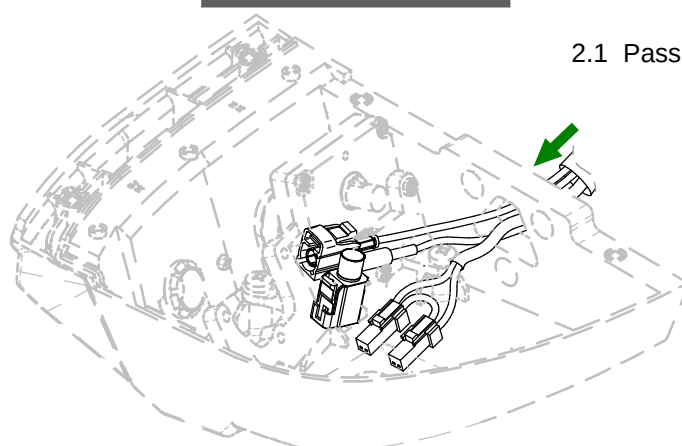
Step 1

1.1 Remove Class V Camera



Step 2

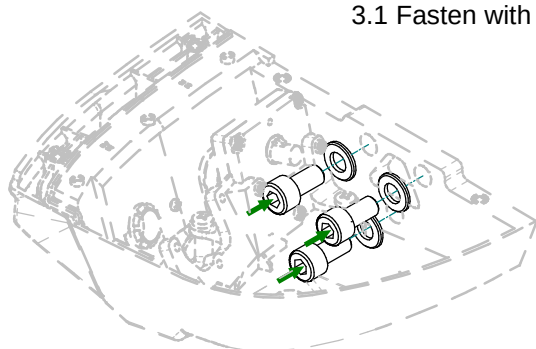
2.1 Pass cables through the bracket



Minimum cable bending radius

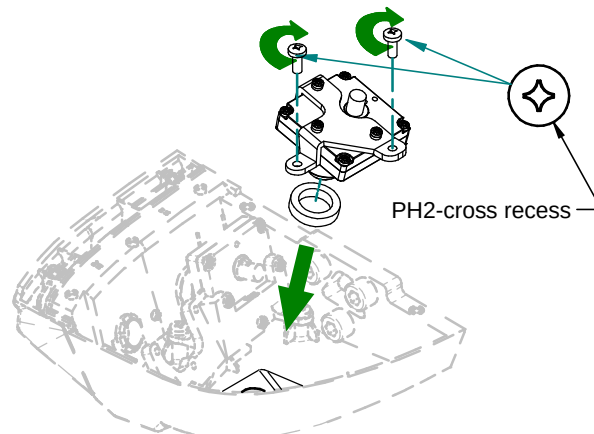
Step 3

3.1 Fasten with 6 mm hexagonal wrench



Step 4

4.1 Place Class V Camera



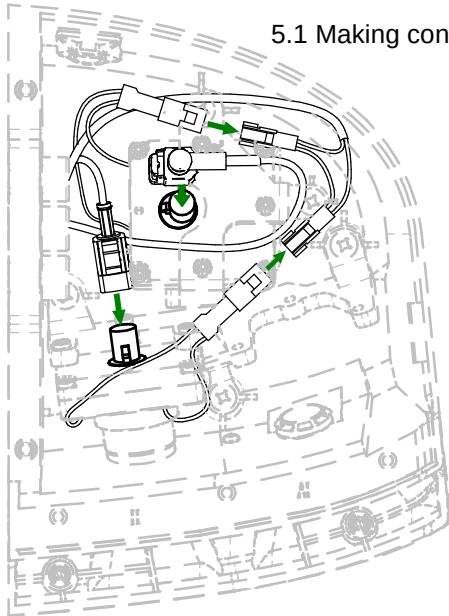
*Mounting position, see page 7.

*Recommended screws for mounting DIN 912 M8 (Not included).

*Seal fixation area and wire pass-through to avoid water inlet at system it is recommended.

Step 5

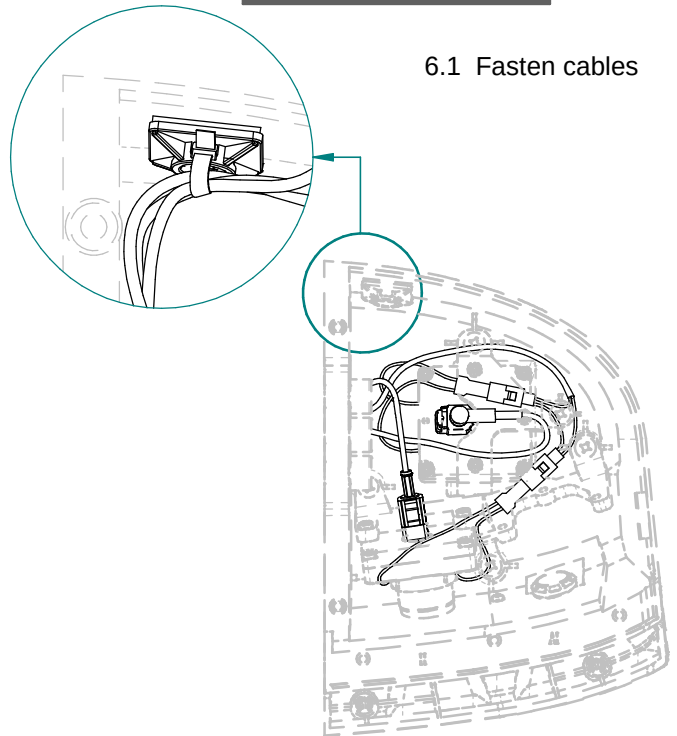
5.1 Making connections



*System connection, see page 20

Step 6

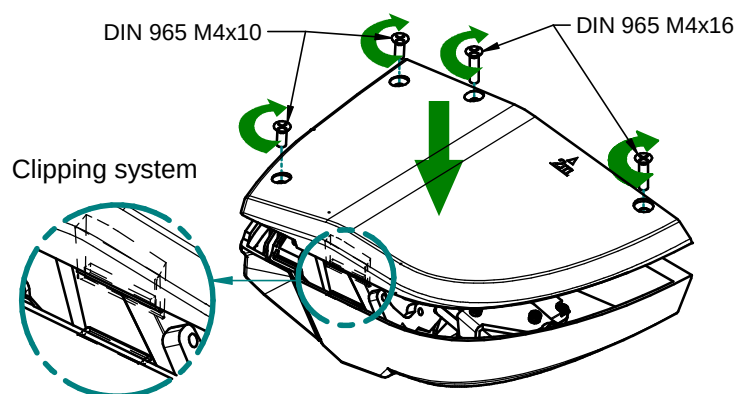
6.1 Fasten cables



Step 7

7.1 Place cover

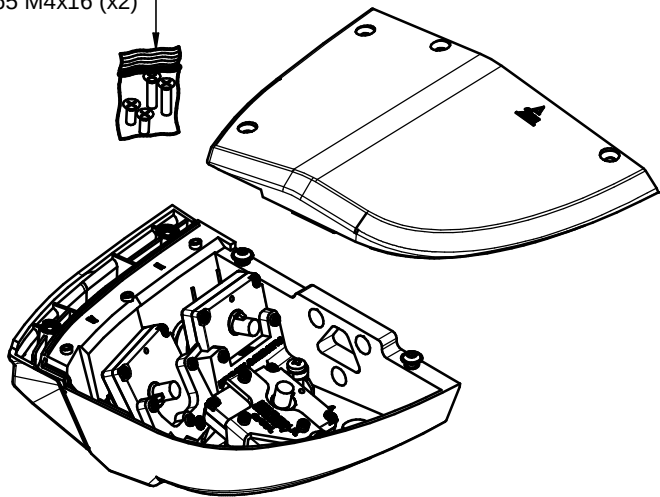
7.2 Fasten with PH2 (Phillips)



5.3 Camera unit mounting Cat. II / IV / V

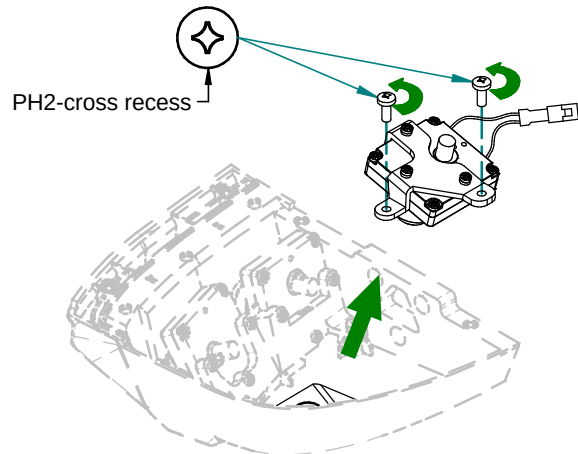
Right Side / Left side UK version symmetrical

DIN 965 M4x10 (x2)
DIN 965 M4x16 (x2)



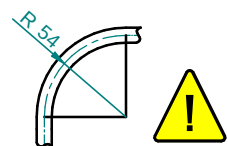
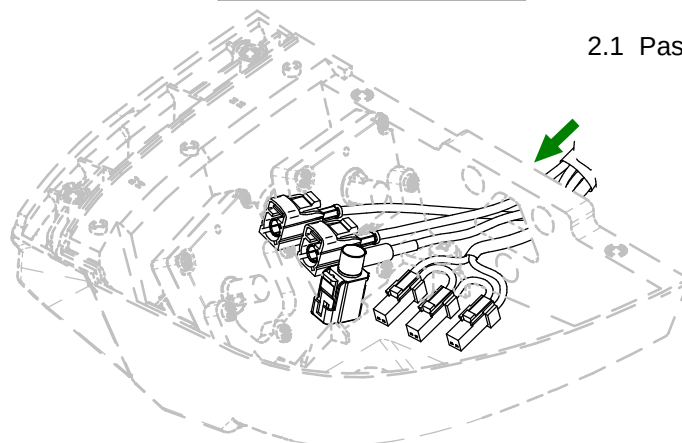
Step 1

1.1 Remove Class V Camera



Step 2

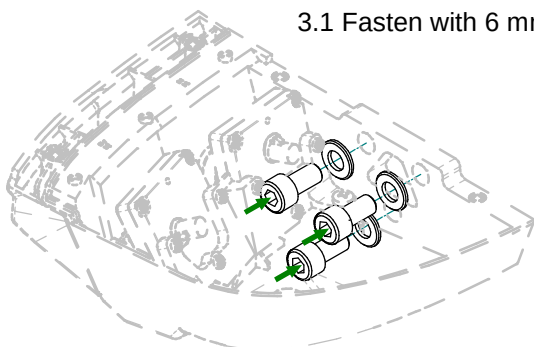
2.1 Pass cables through the bracket



Minimum cable bending radius

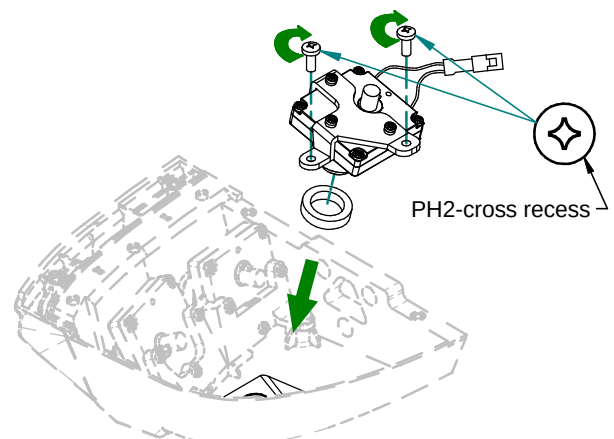
Step 3

3.1 Fasten with 6 mm hexagonal wrench



Step 4

4.1 Place Class V Camera



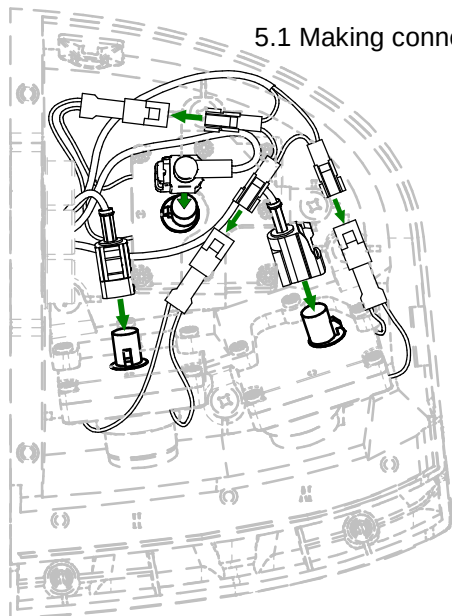
*Mounting position, see page 7.

*Recommended screws for mounting DIN 912 M8 (Not included).

*Seal fixation area and wire pass-through to avoid water inlet at system it is recommended.

Step 5

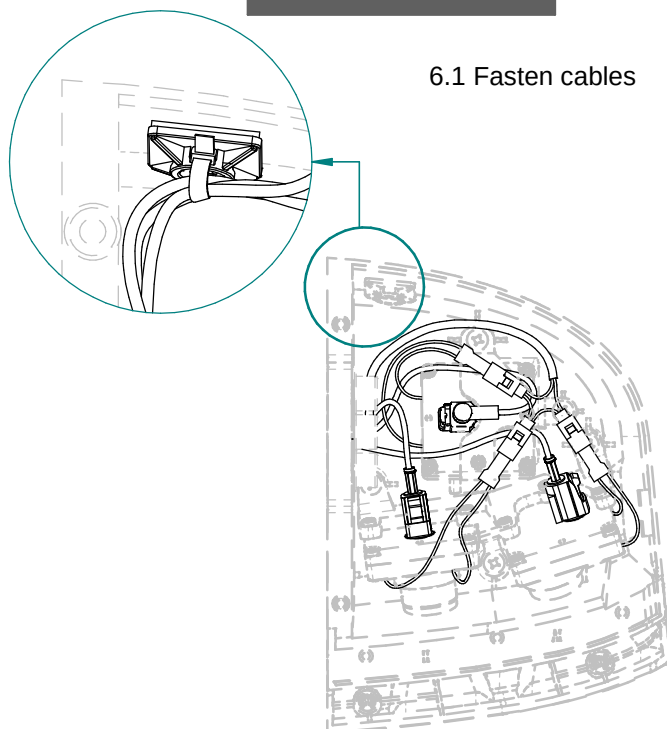
5.1 Making connections



*System connection, see page 21

Step 6

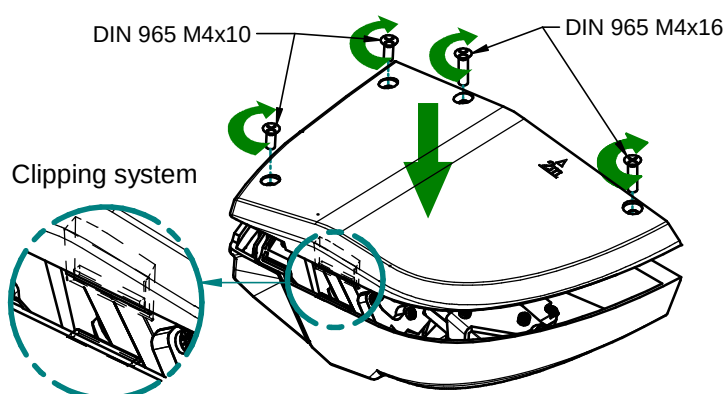
6.1 Fasten cables



Step 7

7.1 Place cover

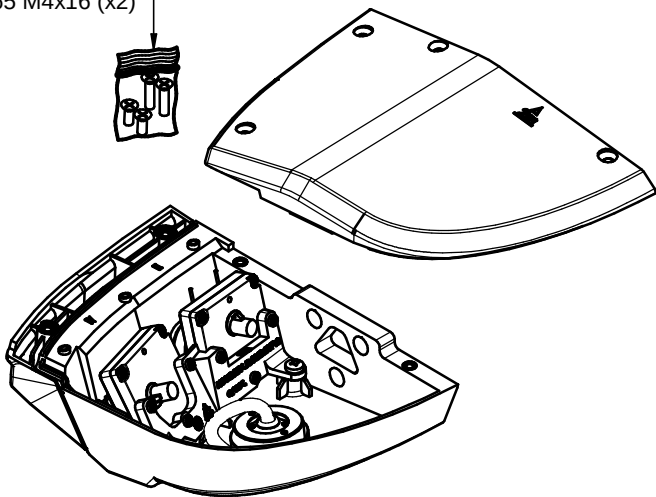
7.2 Fasten with PH2 (Phillips)



5.4 Camera unit mounting Cat. II / IV / V AHD

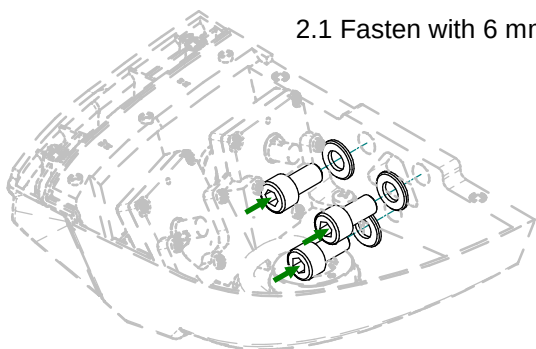
Right Side / Left side UK version symmetrical

DIN 965 M4x10 (x2)
DIN 965 M4x16 (x2)



Step 2

2.1 Fasten with 6 mm hexagonal wrench

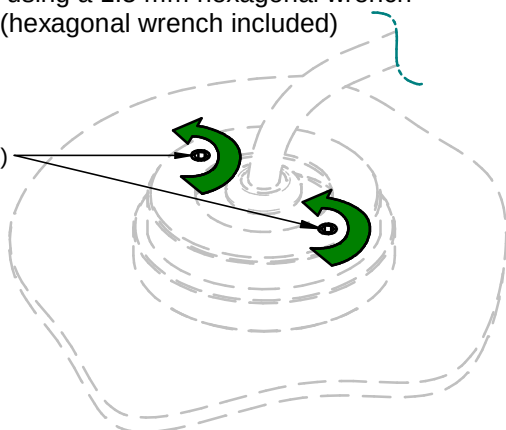


*Mounting position, see page 7.
*Recommended screws for mounting DIN 912 M8 (Not included).
*Seal fixation area and wire pass-through to avoid water inlet at system it is recommended.

Step 4

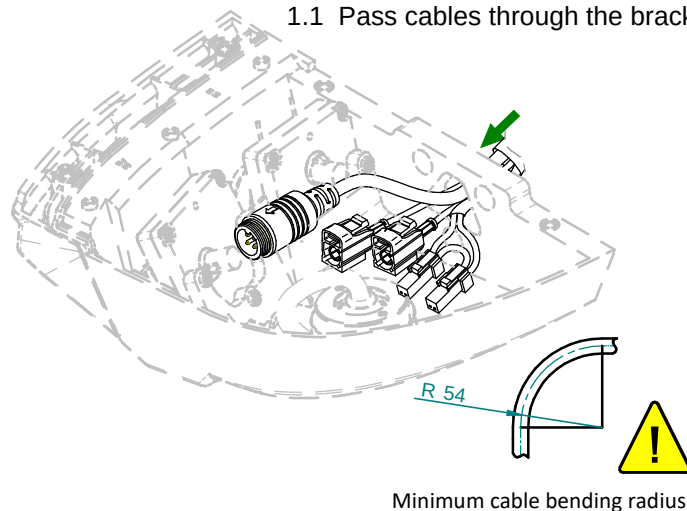
4.1 Loosen the AHD Cat. V camera screw using a 1.5 mm hexagonal wrench (hexagonal wrench included)

DIN 913 M3x5 (x2)



Step 1

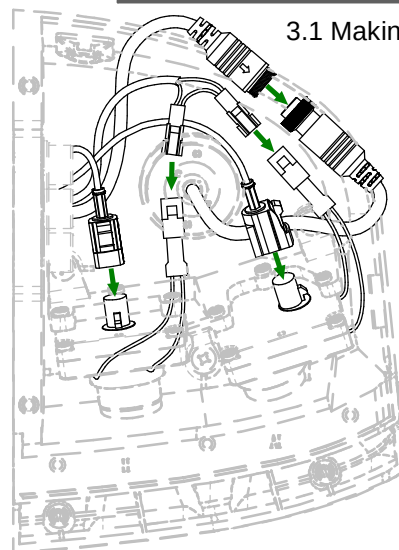
1.1 Pass cables through the bracket



Minimum cable bending radius

Step 3

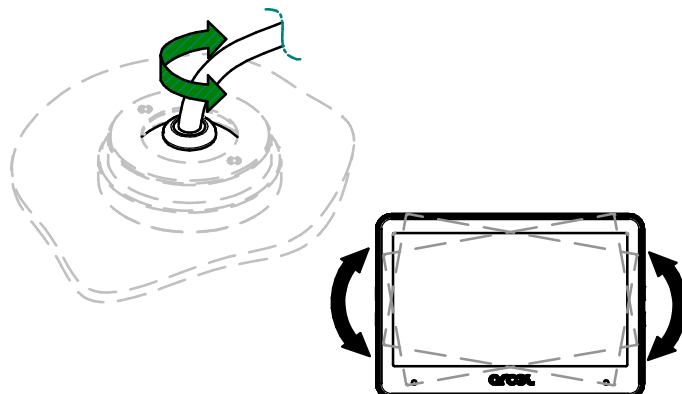
3.1 Making connections



*System connection, see page 22

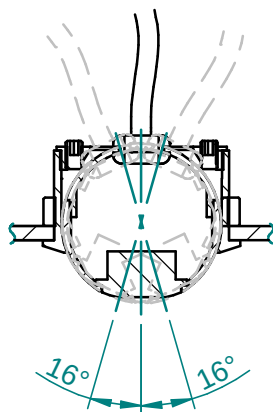
Step 5

5.1 Turn the camera to find the correct angle



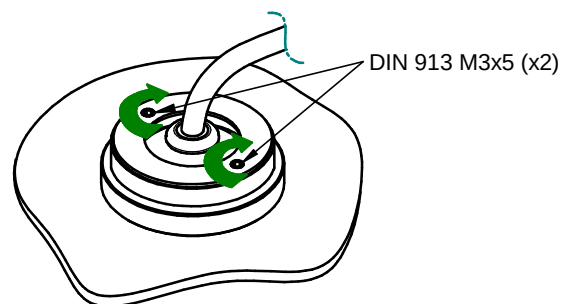
Step 6

6.1 Rotate the camera axis to look forward or backward



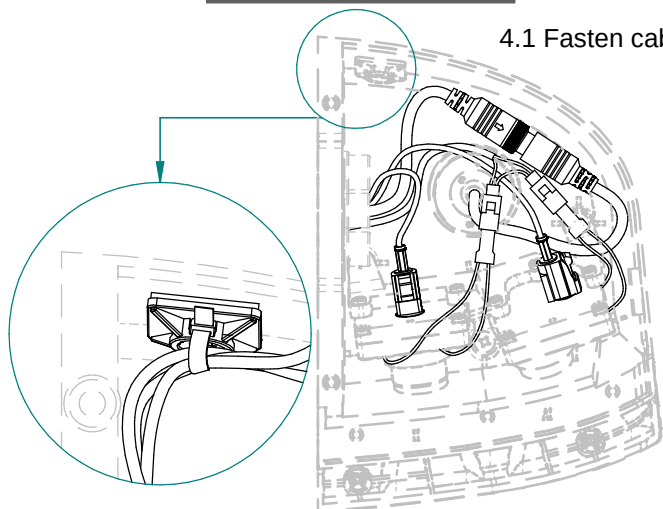
Step 7

7.1 Secure the desired camera position using a 1.5 mm hexagonal wrench (hexagonal wrench included)



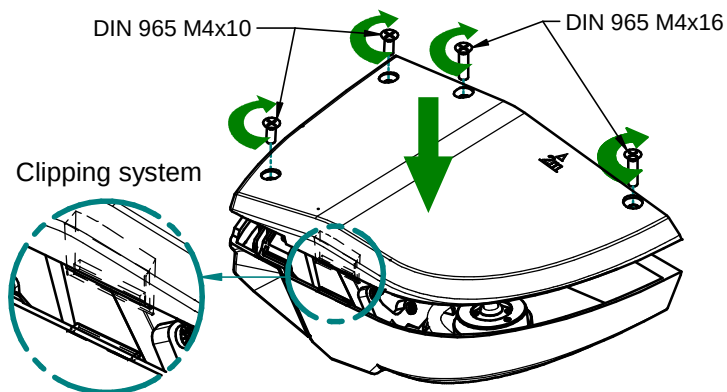
Step 8

4.1 Fasten cables



Step 9

5.1 Place cover
7.2 Fasten with PH2 (Phillips)



6. Monitor

6.1 Mounting position

The positioning and placement of the monitor is essential for the correct operation of the system. The position of both monitors, on the driver and passenger sides, should be perpendicular to the horizontal plane passing through the centres of the monitor and the driver's eyes (see Figure 6.1).

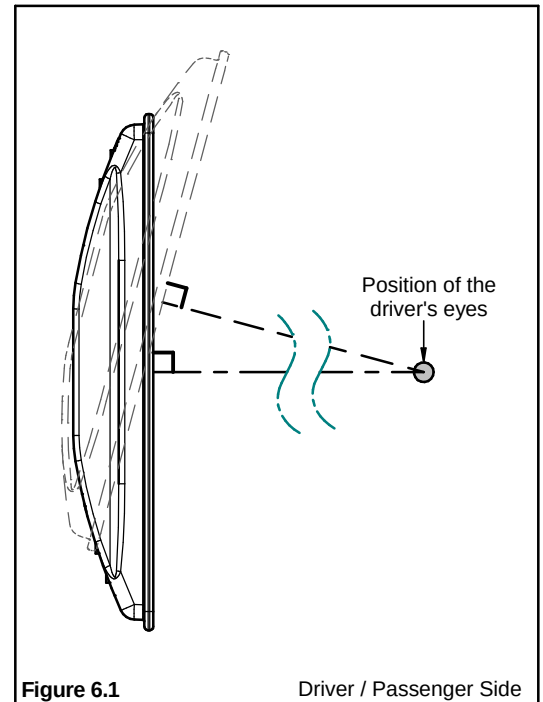
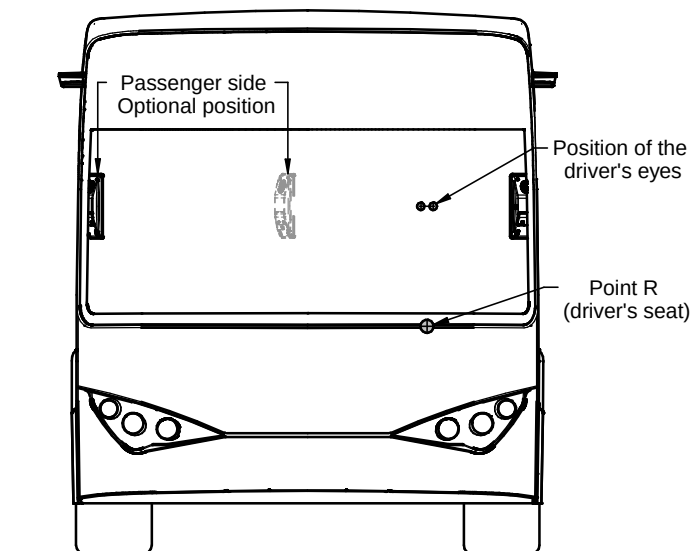


Figure 6.1

Driver / Passenger Side

The monitor on the driver's side must be positioned so that the angle between the vertical plane passing through the centre of the eyes and the vertical plane of the monitor does not exceed 55°. Both monitors, on the driver and passenger sides, should be positioned perpendicular to the vertical plane passing through the centres of the monitor and the driver's eyes (see Figure 6.2).



If the monitor is integrated into the bodywork (e.g. in the pillar), air circulation inside the monitor must be guaranteed for proper cooling.

Units in mm

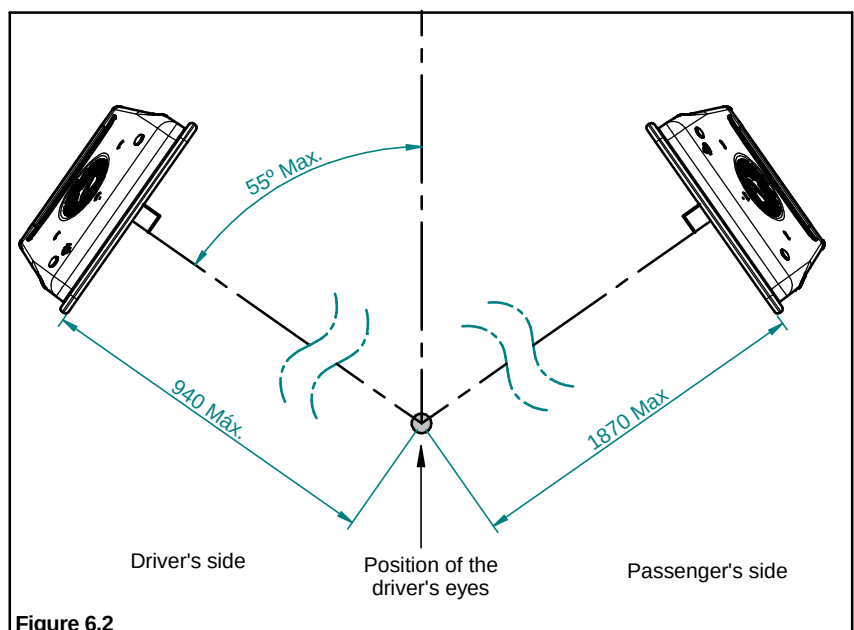
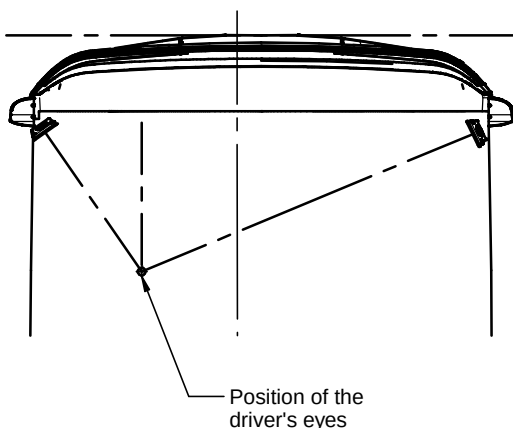


Figure 6.2

7. Monitor Assembly Instruction

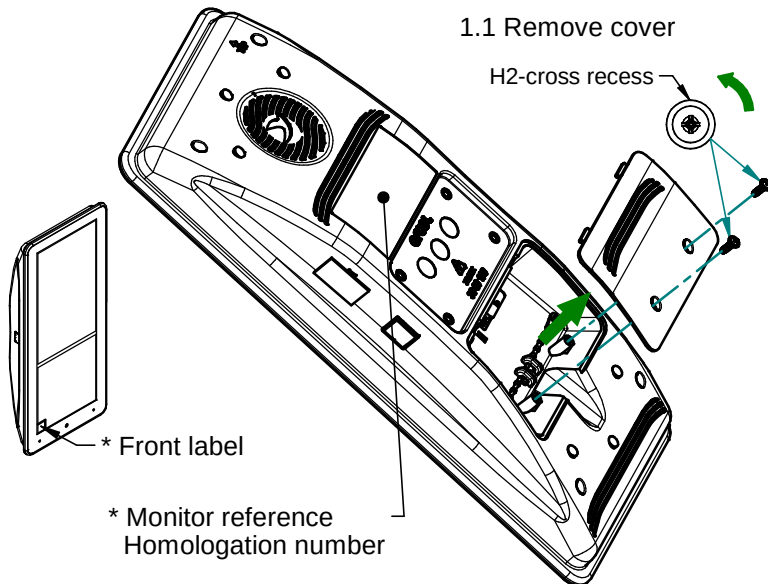
7.1 Monitor mounting 12,3"

** Opcional VESA 35x75, see steps 4, 5 and 6

Step 1

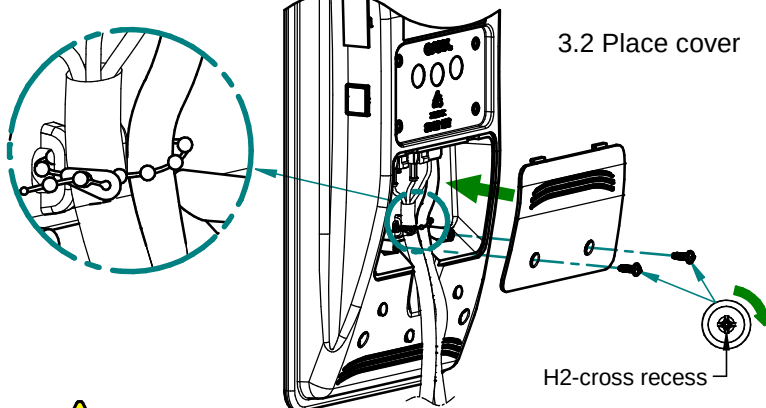


* Reference on back of monitor or front label identifies mounting position



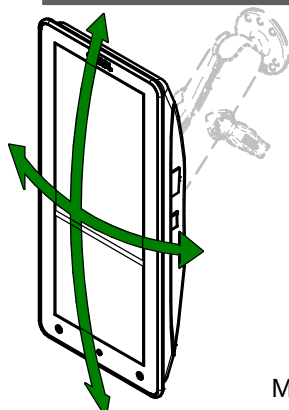
Step 3

3.1 Fasten cables



Do not block the ventilation holes of the monitor

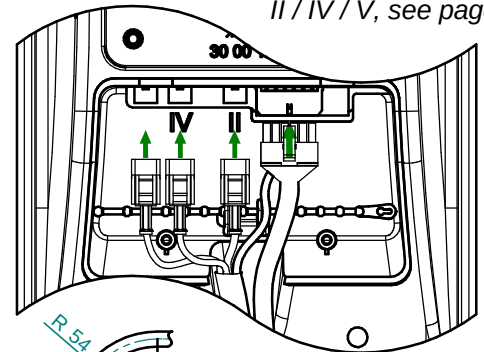
Step 5



Step 2

2.1 Making connections

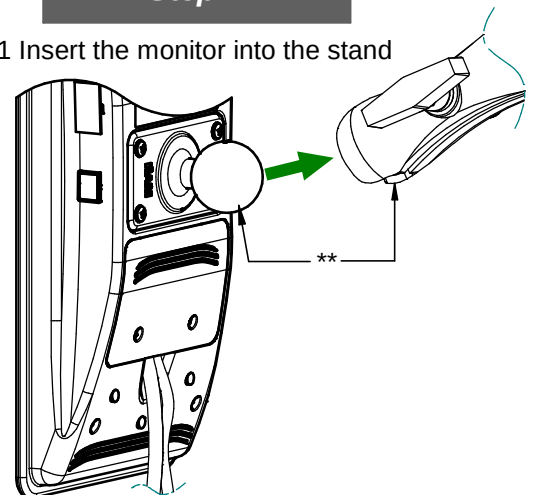
System connection:
II / IV, see page 19
II / V, see page 20
II / IV / V, see page 21



Minimum cable bending radius

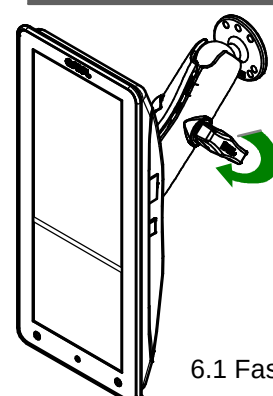
Step 4

4.1 Insert the monitor into the stand



**Optional VESA 35X75 fixing provided by Arcol

Step 6



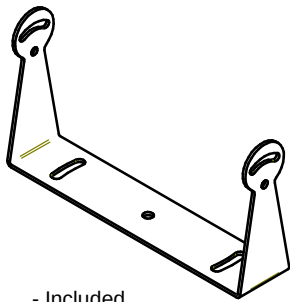
7.2 Monitor mounting 7" AHD or 10" AHD Class V / V & VI

The monitor has three possible fixing systems to the vehicle.

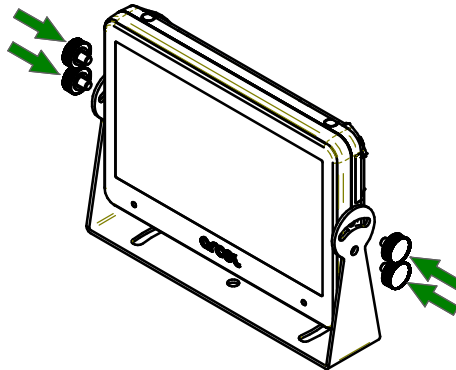
*System Connection II / IV / V AHD, see page 22 and 23. Coupled monitor see page 24 and 25.

*System Connection II / IV / V AHD & VI AHD coupled monitor, see page 26 and 27.

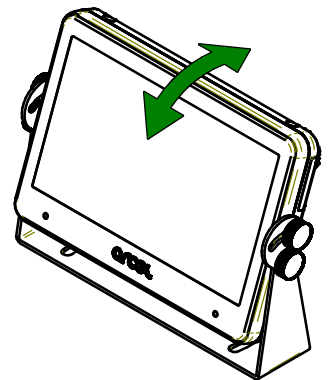
Fixed support



- Included

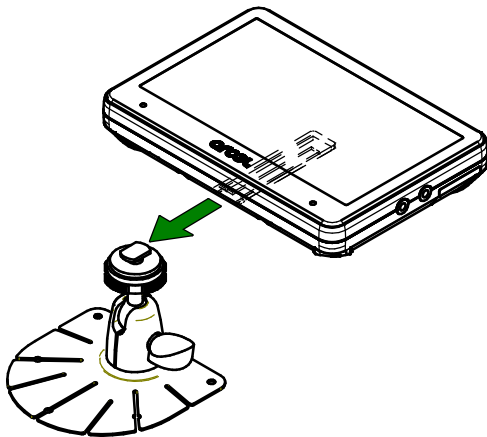


Use the screw for fixed support

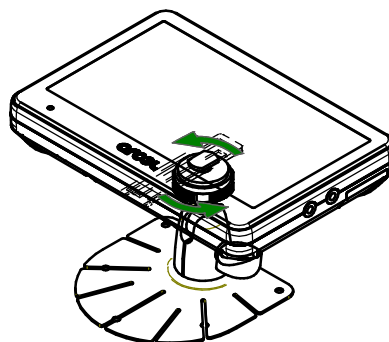


Find the right position and tighten

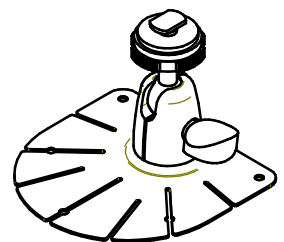
Adaptable support



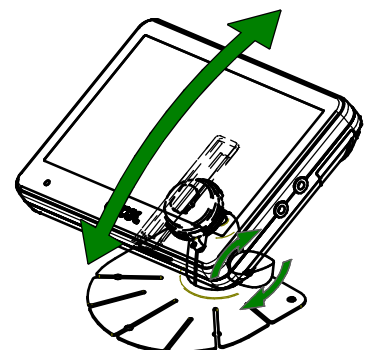
Insert the monitor in the adaptable support



Tighten until is fixed



-Optional



Put in the right position and tighten the handle

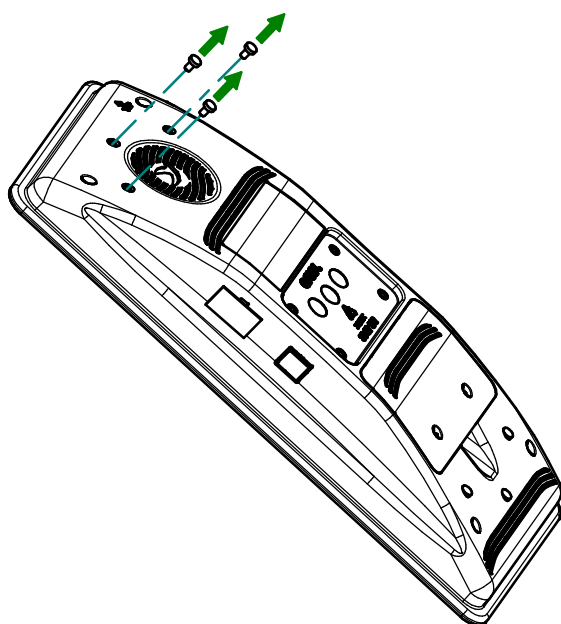
7.3 Monitor mounting 7" AHD coupled monitor system

*System connection II / IV / V AHD coupled monitor, see page 24 and 25

*System connection II / IV / V AHD & VI AHD coupled monitor, see page 26 and 27

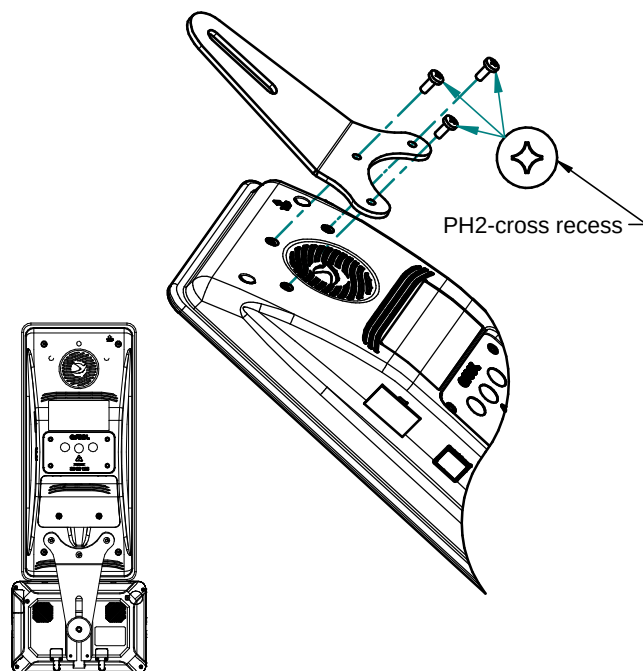
Step 1

1.1 Remove plugs



Step 2

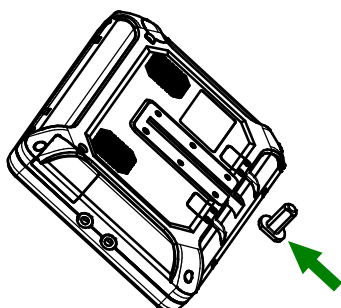
2.1 Fix support



* For lower 7" AHD monitor version,
invert support

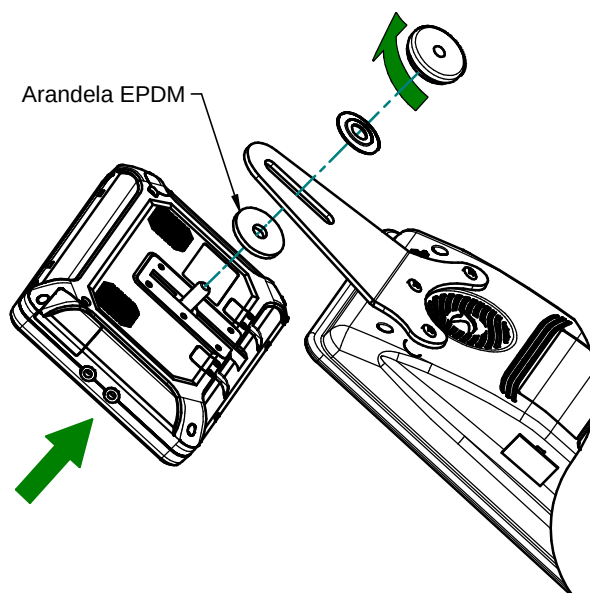
Step 3

3.1 Insert T screw into the 7" AHD monitor



Step 4

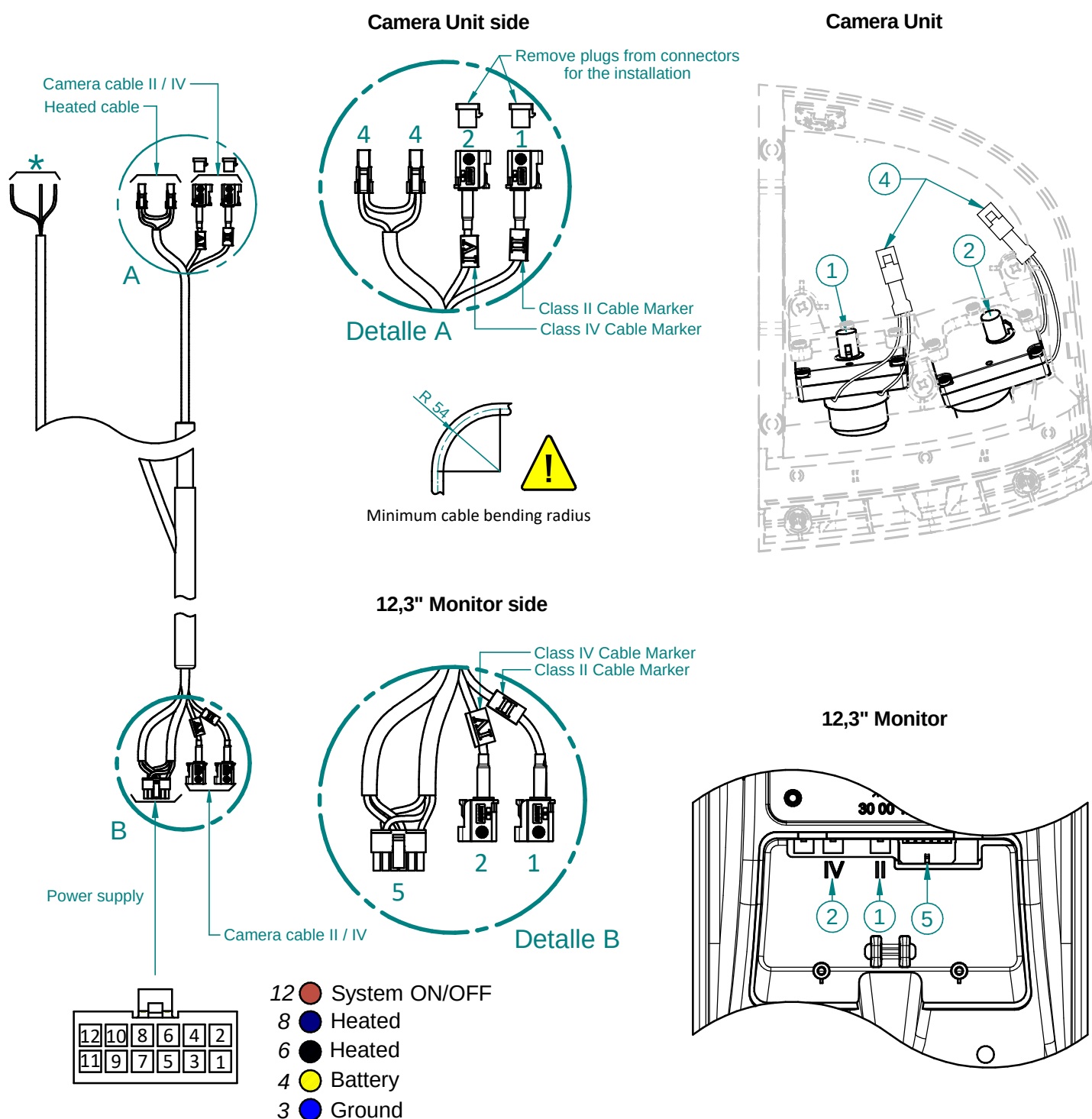
4.1 Place monitor 7" AHD on the support
4.2 Tighten until is fixed



8. Connections

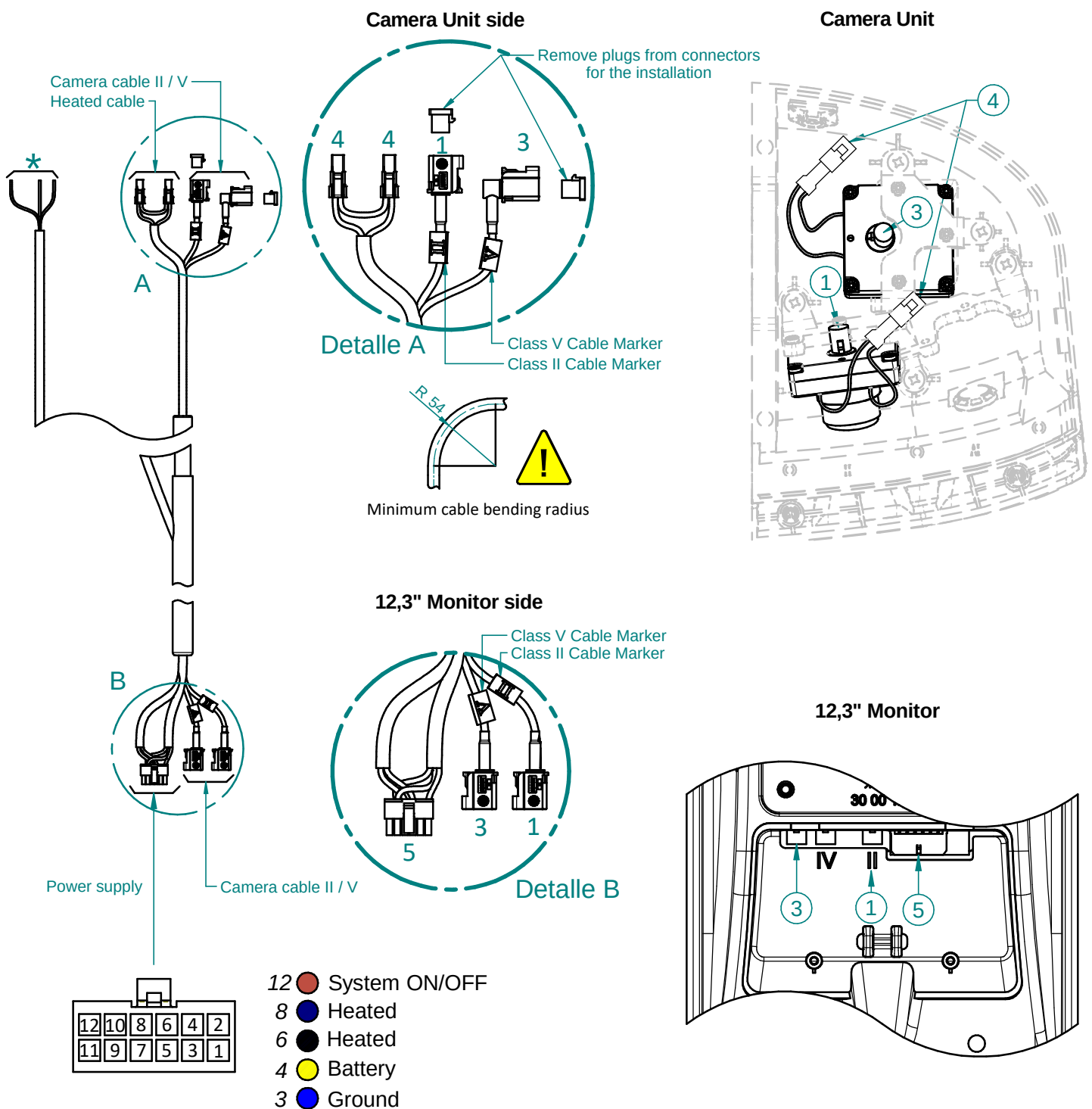
8.1 eMirror category II / IV system connection

* Class II / IV power supply			
Terminal Colour	Function	Voltage	Signal
Blue	Ground (-)	GND	GND
Yellow	Battery (+)	12V/24V	KL 30
Brown	System ON / OFF	12V/24V	KL 15



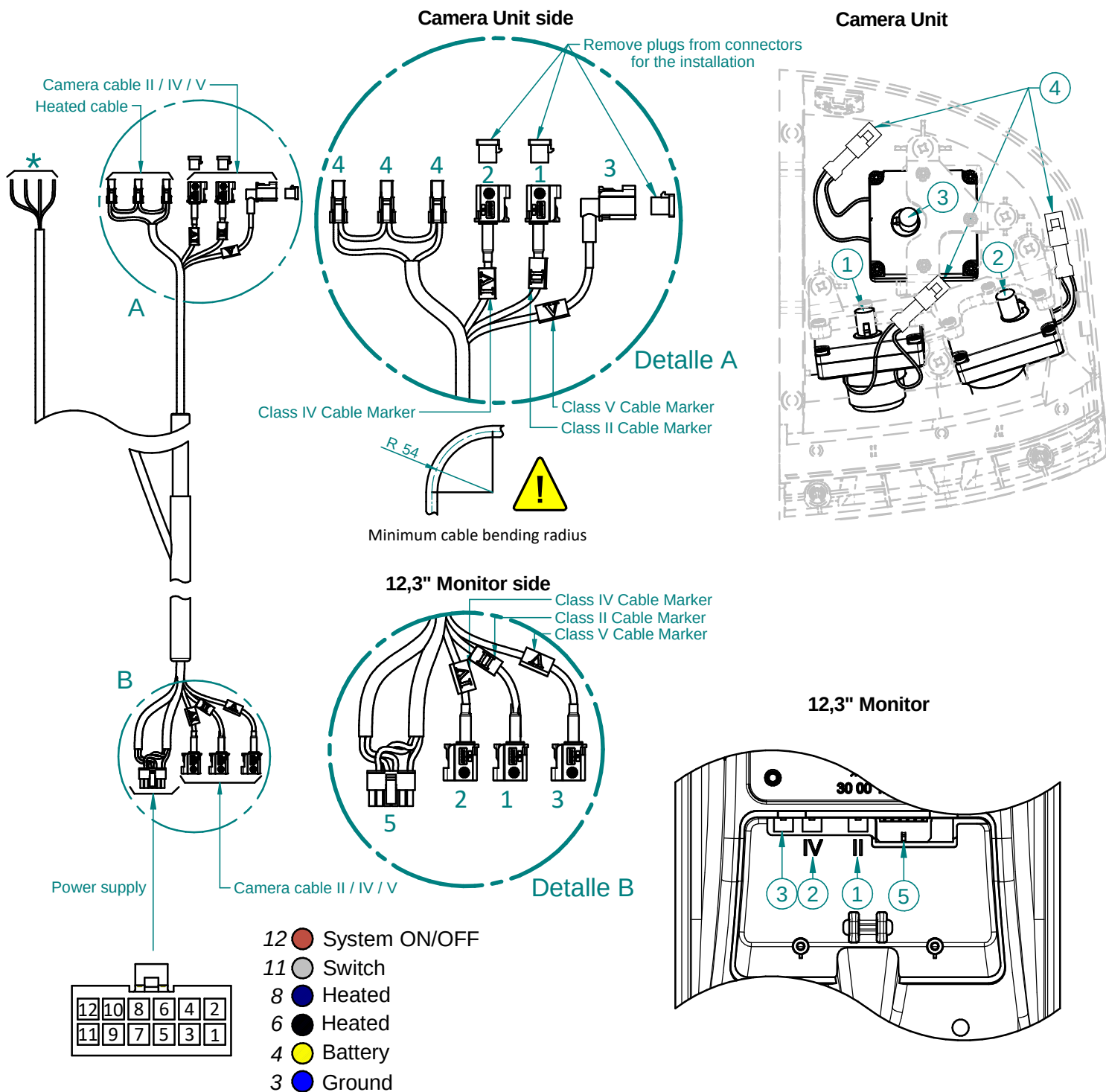
8.2 eMirror category II / V system connection

* Class II / V power supply			
Terminal Colour	Function	Voltage	Signal
Blue	Ground (-)	GND	GND
Yellow	Battery (+)	12V/24V	KL 30
Brown	System ON / OFF	12V/24V	KL 15



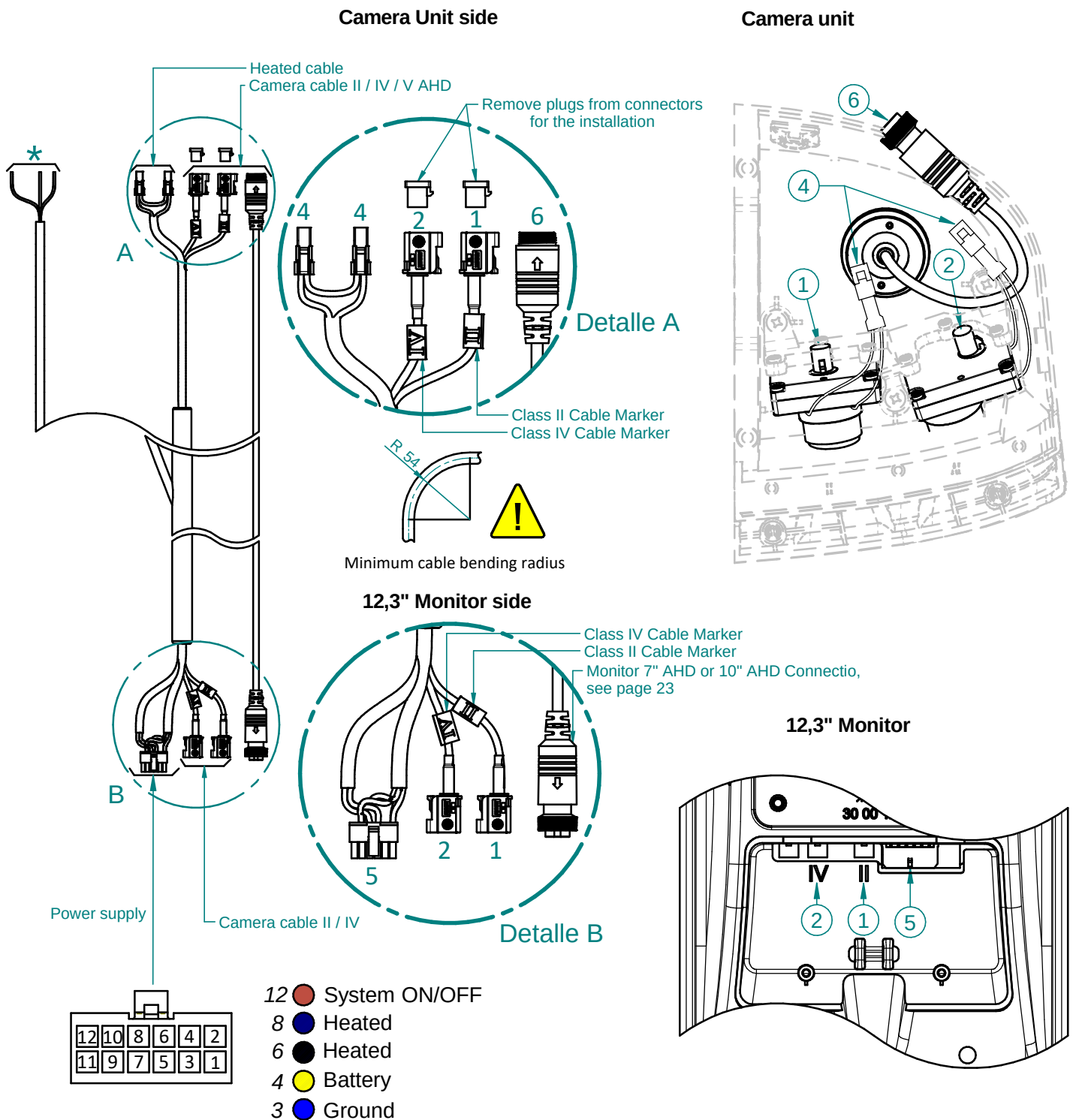
8.3 eMirror category II / IV / V system connection

* Class II / IV / V power supply			
Terminal Colour	Function	Voltage	Signal
Blue	Ground (-)	GND	GND
Yellow	Battery (+)	12V/24V	KL 30
Brown	System ON / OFF	12V/24V	KL 15
Gray	Switch	Class IV - GND Class V - 12V / 24 V	-



8.4 eMirror category II / IV / V AHD system connection

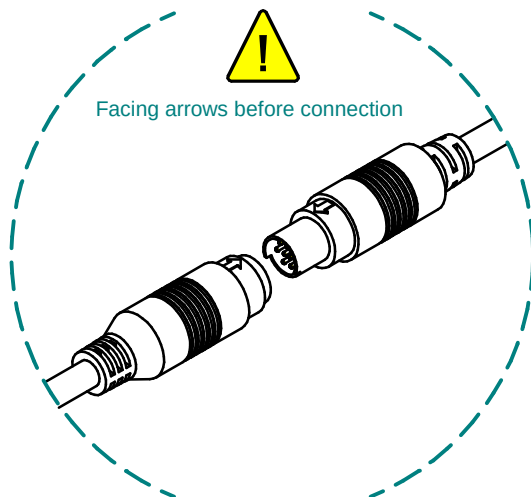
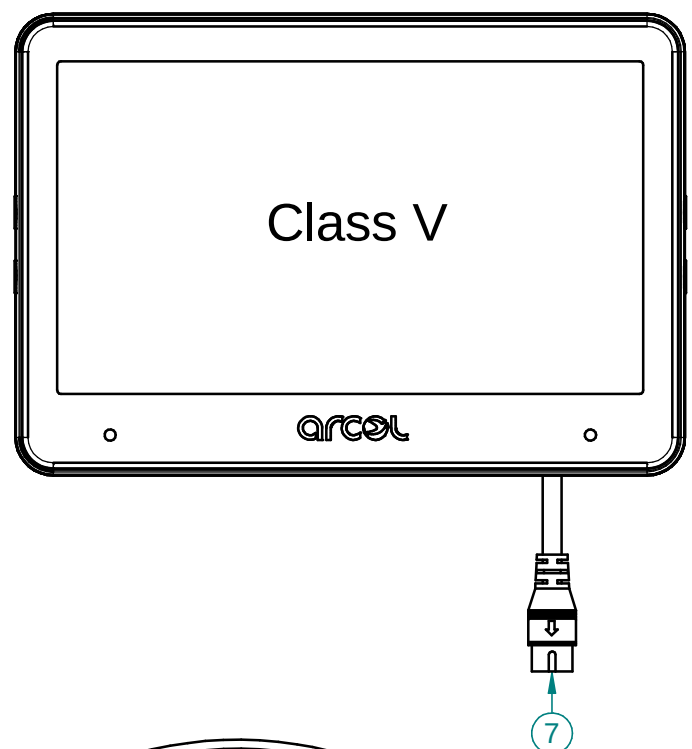
* Class II / IV / V AHD system connection			
Terminal Colour	Function	Voltage	Signal
Blue	Ground (-)	GND	GND
Yellow	Battery (+)	12V/24V	KL 30
Brown	System ON / OFF	12V/24V	KL 15



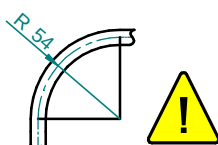
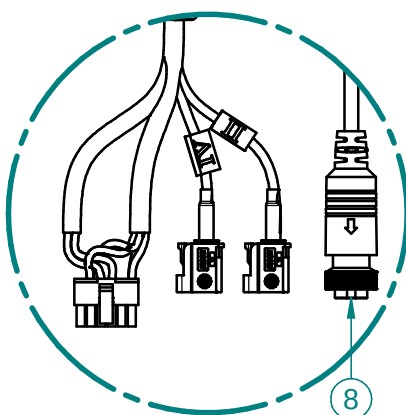
eMirror category II / IV / V AHD system connection

* Monitor 7" AHD Power supply			
Terminal Colour	Function	Voltage	Signal
Black	Ground (-)	GND	GND
Red	Battery (+)	12V/24V	Power
Gray	Trigger 1	12V/24V	Trigger 1
Green	Trigger 2	12V/24V	Trigger 2
Blue	Trigger 3	12V/24V	Trigger 3
Brown	Trigger 4	12V/24V	Trigger 4

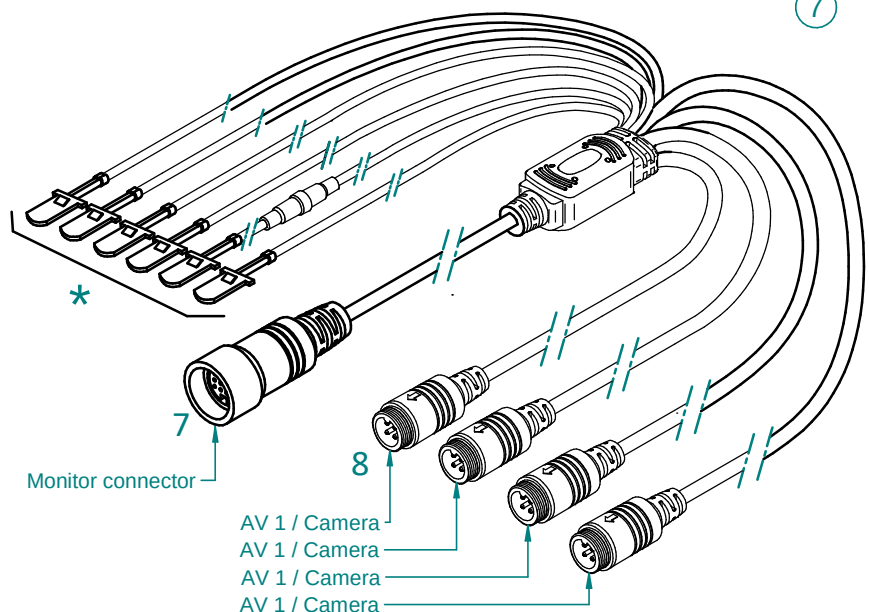
7" AHD or 10" AHD Monitor



Detalle B
Page 22



Minimum cable bending radius

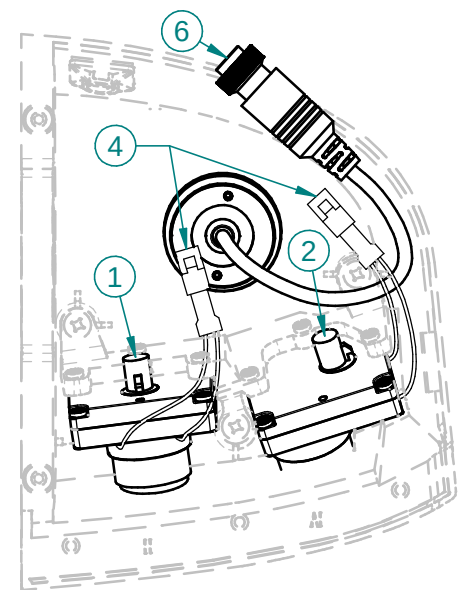
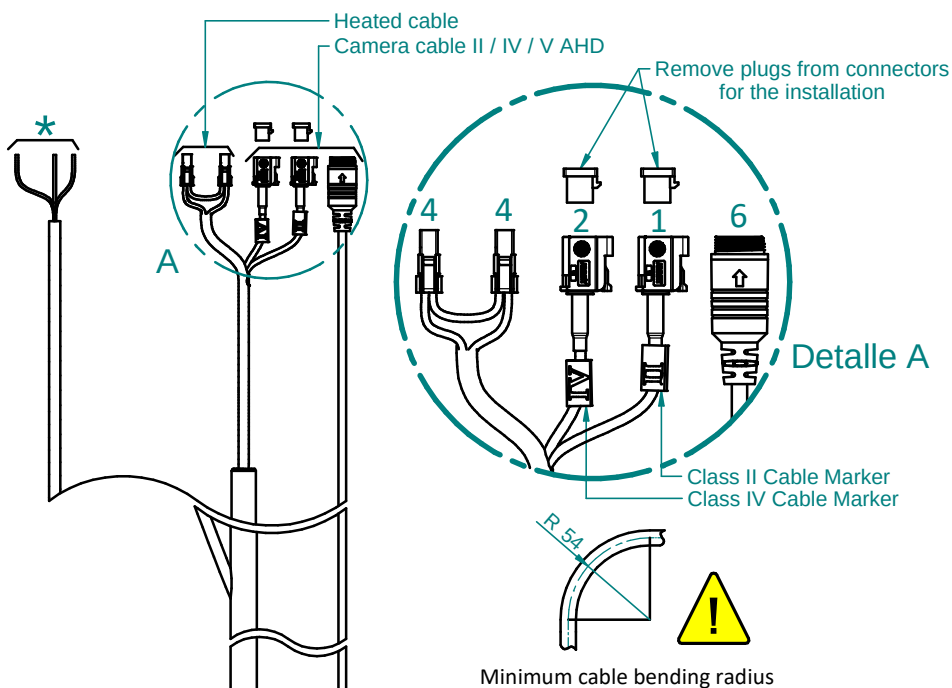


8.5 eMirror category II / IV / V AHD coupled monitor system connection

* Class II / IV / V AHD with Monitor coupled system connection			
Terminal Colour	Function	Voltage	Signal
Blue	Ground (-)	GND	GND
Yellow	Battery (+)	12V/24V	KL 30
Brown	System ON / OFF	12V/24V	KL 15

Camera unit side

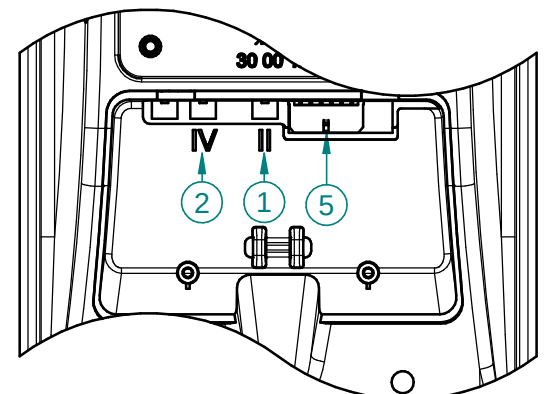
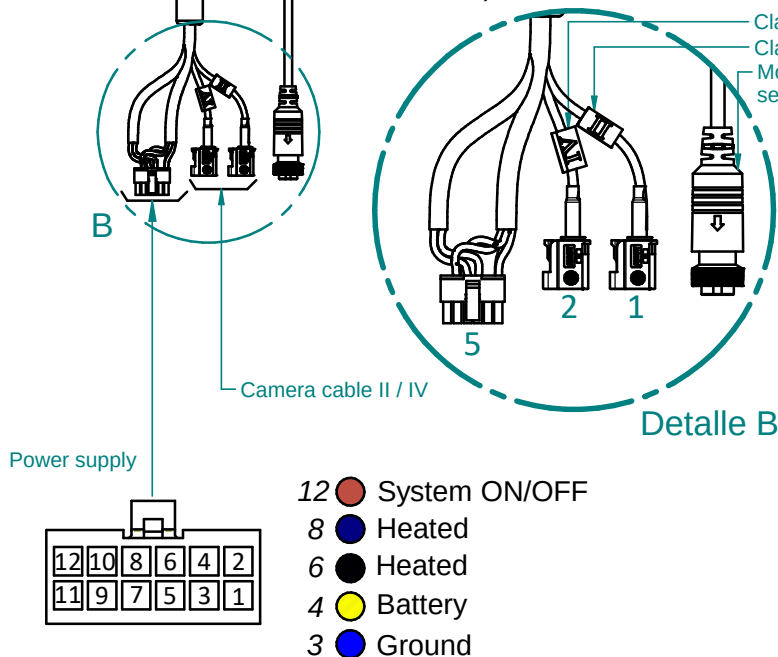
Camera unit



12,3" Monitor side

Class IV Cable Marker
Class II Cable Marker
Monitor 7" AHD Connection, see page 25

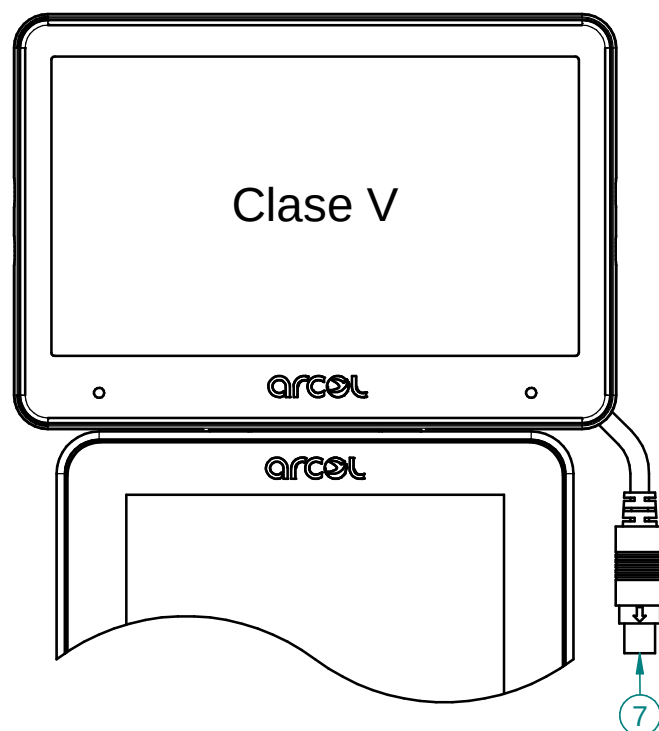
12,3" Monitor



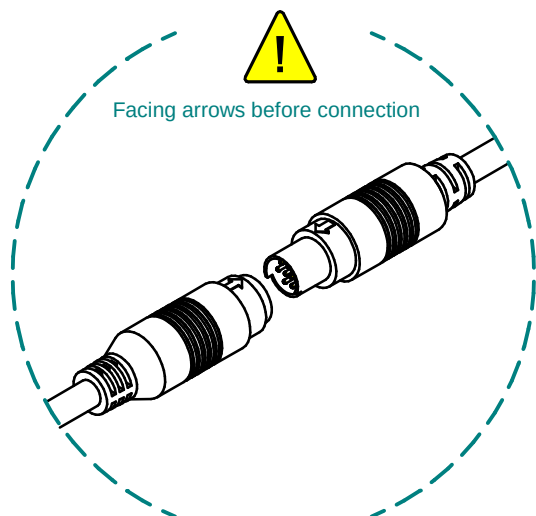
eMirror category II / IV / V AHD coupled monitor system connection

* Monitor 7" AHD Power supply			
Terminal Colour	Function	Voltage	Signal
Black	Ground (-)	GND	GND
Red	Battery (+)	12V/24V	Power
Blue	Trigger 1	12V/24V	Trigger 1
Green	Trigger 2	12V/24V	Trigger 2

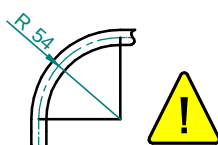
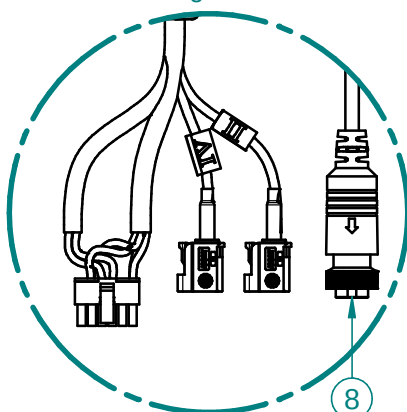
7" AHD Monitor



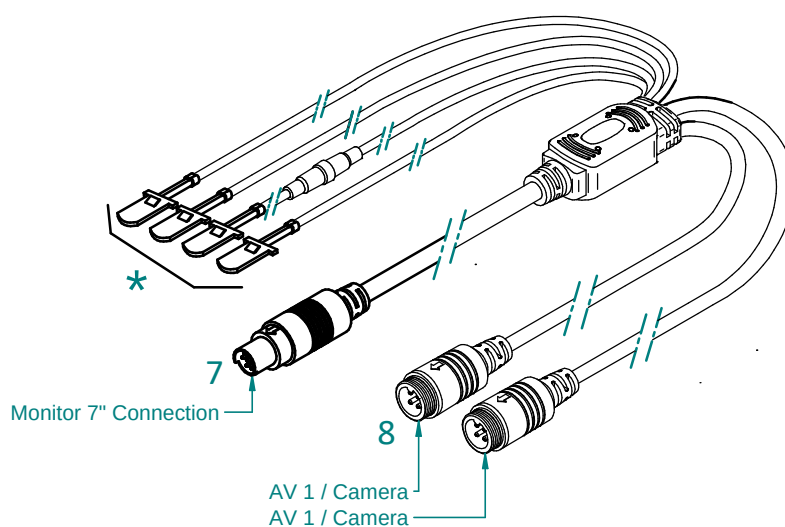
Facing arrows before connection



Detalle B
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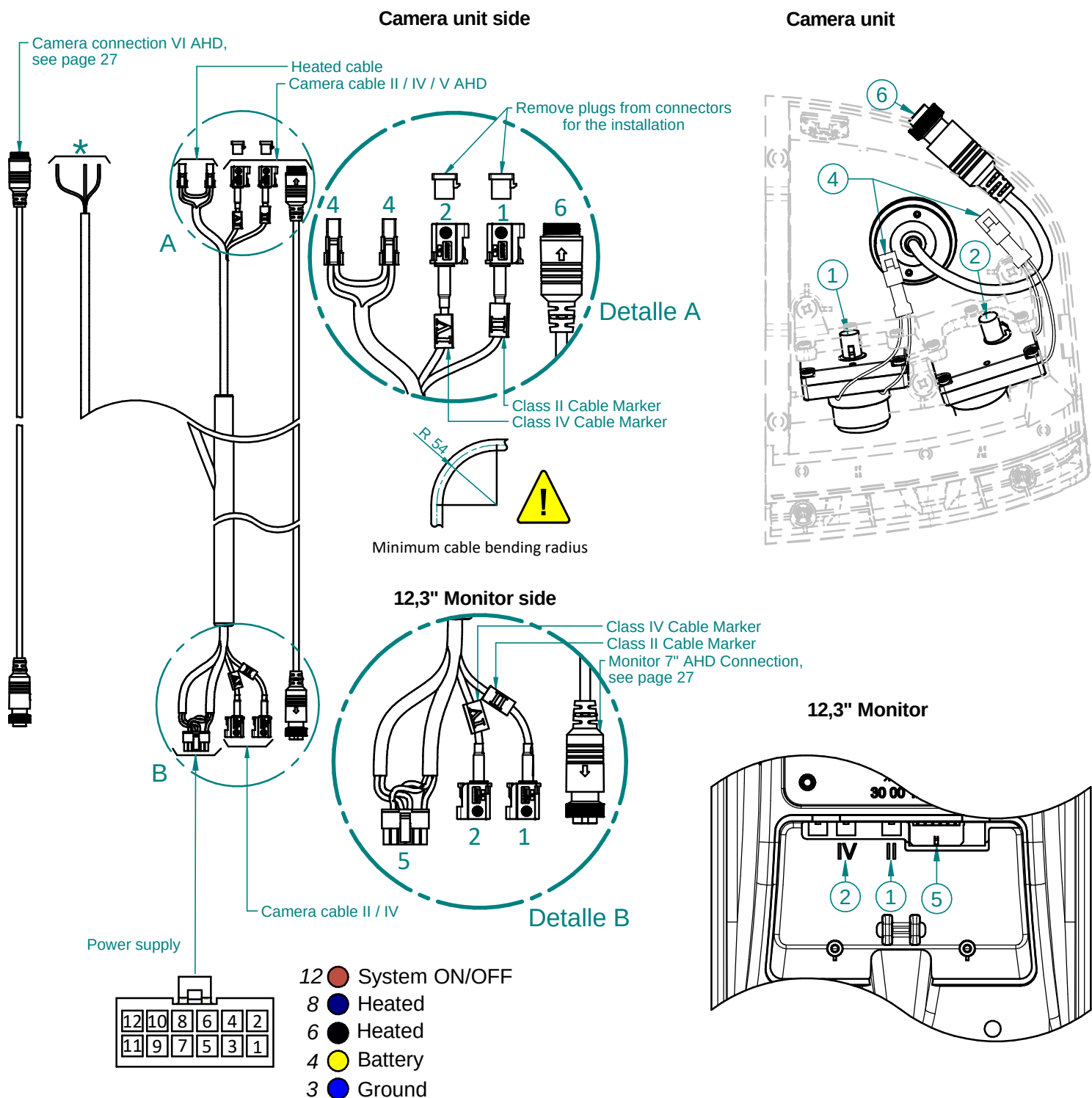
Minimum cable bending radius



8.6 eMirror category II / IV / V AHD & VI AHD coupled monitor system connection

* Class II / IV / V AHD & VI AHD coupled monitor system connection

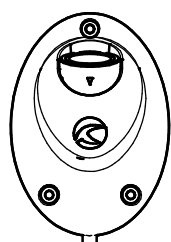
Terminal Colour	Function	Voltage	Signal
Blue	Ground (-)	GND	GND
Yellow	Battery (+)	12V/24V	KL 30
Brown	System ON / OFF	12V/24V	KL 15



eMirror category II / IV / V AHD & VI AHD coupled monitor system connection

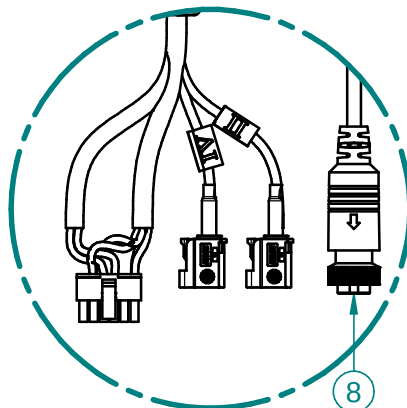
* Monitor 7" AHD Power supply

Terminal Colour	Function	Voltage	Signal
Black	Ground (-)	GND	GND
Red	Battery (+)	12V/24V	Power
Gray	Trigger 1	12V/24V	Trigger 1
Green	Trigger 2	12V/24V	Trigger 2
Blue	Trigger 3	12V/24V	Trigger 3
Brown	Trigger 4	12V/24V	Trigger 4

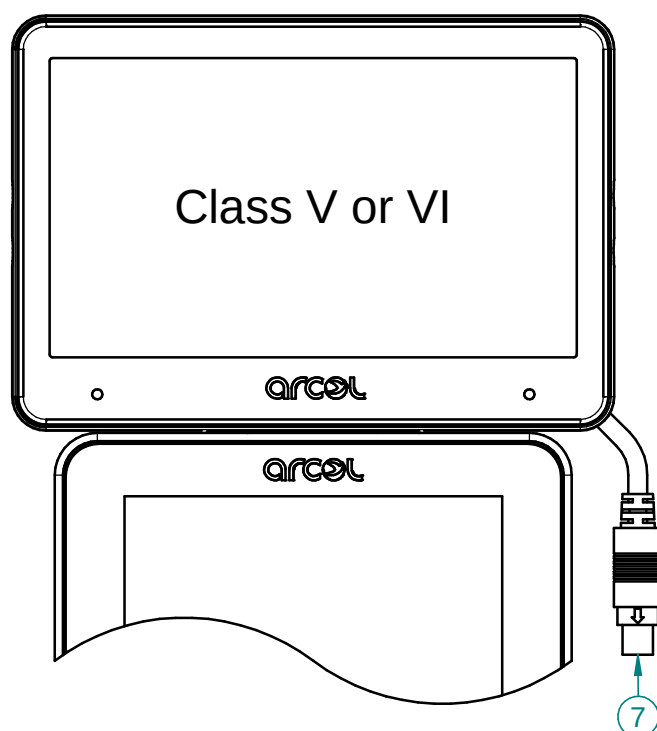


Camera Class VI AHD

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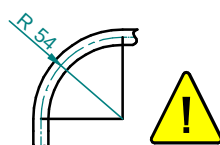
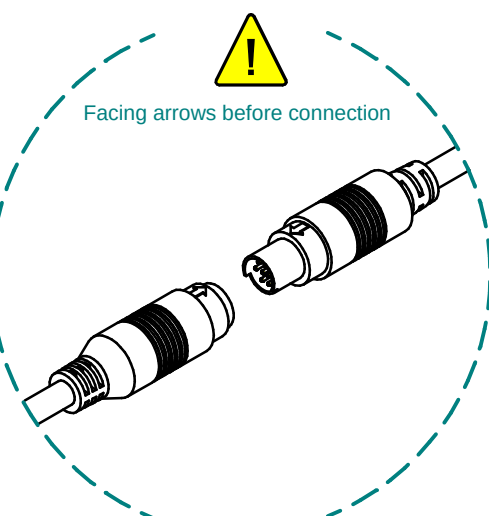


7" AHD Monitor

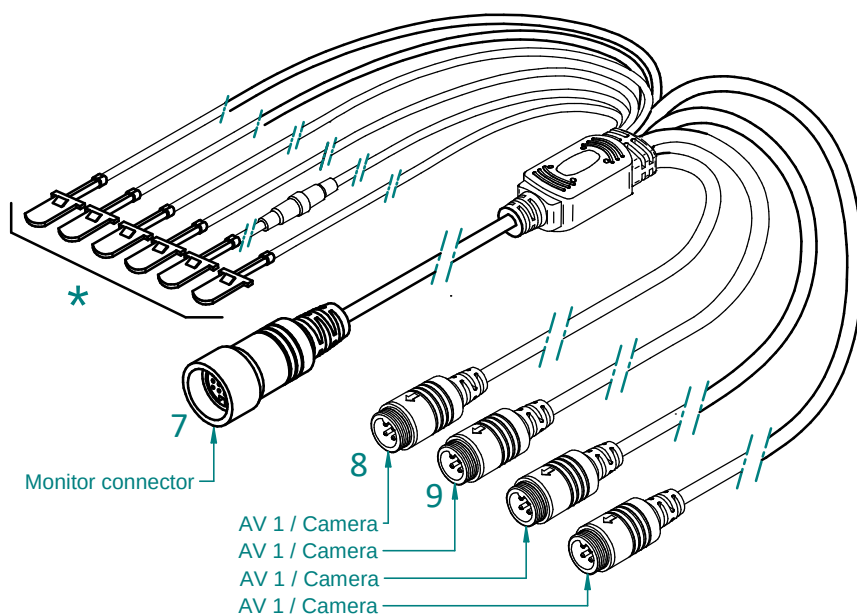


Camera connection VI AHD

Facing arrows before connection

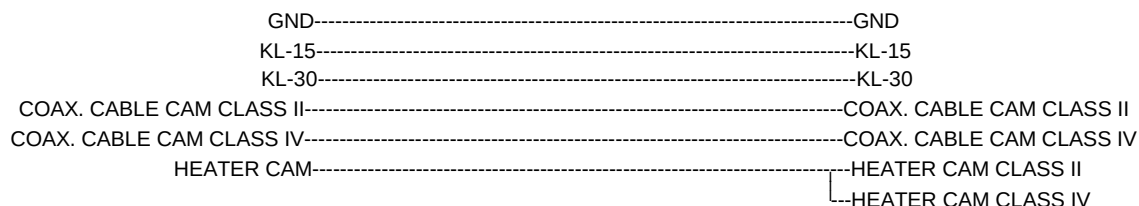


Minimum cable bending radius

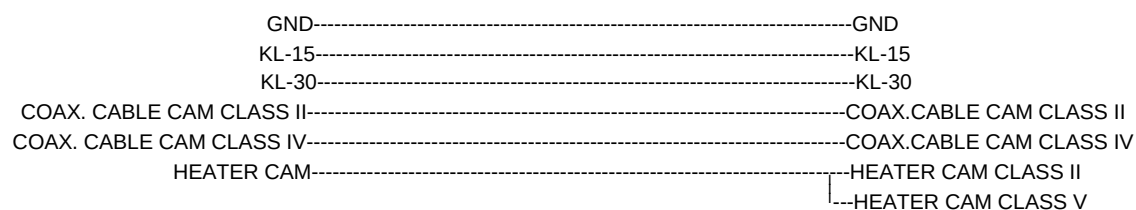


9. eMirror System connection diagram

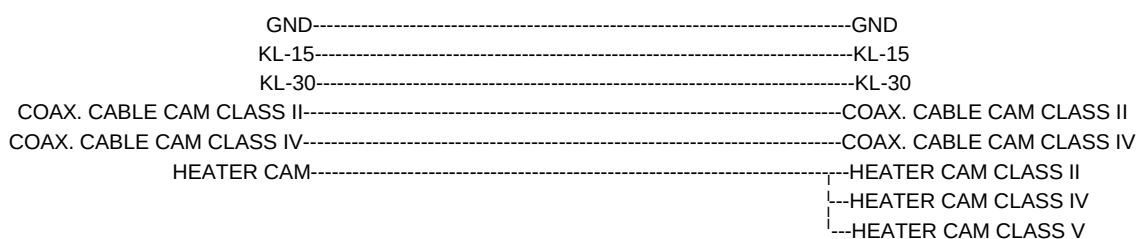
9.1 eMirror System connection diagram Cat. II / IV



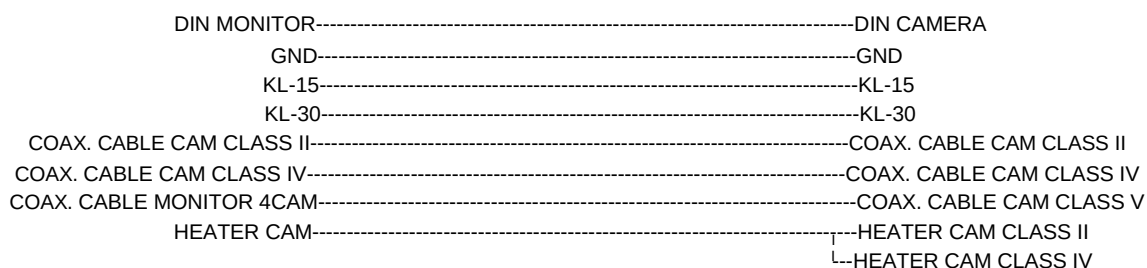
9.2 eMirror System connection diagram Cat. II / V



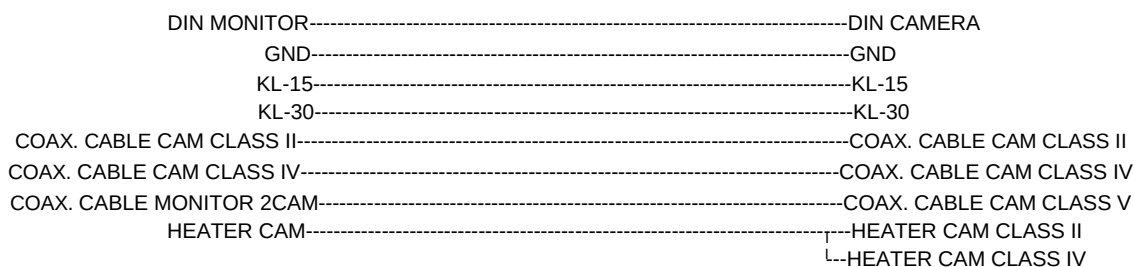
9.3 eMirror System connection diagram Cat. II / IV / V



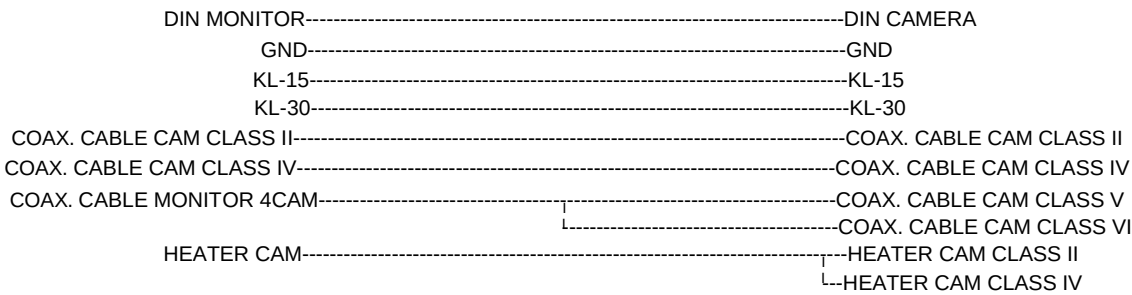
9.4 eMirror System connection diagram Cat. II / IV / V AHD



9.5 eMirror System connection diagram Cat. II / IV / V AHD coupled monitor



9.6 eMirror System connection diagram Cat. II / IV / V AHD & VI AHD coupled monitor 7" AHD



9.7 Observations

The eMirror system must always be connected to the battery.

The system will display the image in less than 7 seconds once the System ON/OFF signal goes from 0V to 12V/24V.

The System ON/OFF line must remain in the ON position for 420 seconds after the vehicle is turned off.

The image will remain on for 450 seconds.

10. Changelog file

V 06/2023:

- Modification of the distances from the driver's eye to the monitors according to extension 01 of the eMirror system approval (see page 14) :

Driver side: is 940 was 800 mm

Passenger side: is 1870 was 1850 mm

- Product description updated acc to product versions

V 05/2024:

- Document update with eMirror version 1.2.

V 07/2024

-Camera unit assembly instructions update.

V 11/2024

-Update with optional configuration: Class IV or V on the top and Class II on the bottom.

V 10/2025:

- Document update with eMirror version 1.4.