



# REAR UNDERRUN PROTECTION BAR

Functional solutions in high-quality design

ECE R58-03 and ECE R58-02

# The strong solution at the market

## Individually adapted for optimal use

### Certified production

In Denmark, ERMAX assembles the complete rear underrun protection bar solutions at own production facilities in Denmark according to the "Kraftfahr Bundesamt" certified "Conformity of Production". Each variant of the rear underrun protection bar is individually adapted. This ensures optimal positioning of the lights and perfect cable structure. This saves weight and increases the life time of the components, makes installation easier and at the same time guarantees a short and reliable delivery time.

### Highlights

- Connection via one interface and 8 T-bolts
- Fully anodized rear underrun protection bar - can also be laquered
- Integration of
  - LED failure control on direct indicator and stop light
  - SIMAC® control
  - Junction box
- Certified according to all relevant standards (ECE R58 Rev. 02 or ECE 58 Rev. 03) and regulations in Europe
- Weight optimized
- TM5, TM10 and TM11 with impact resistant lens made of polycarbonate



**ERMAX®**

### High-quality Design - various applications

ERMAX produces two different rear underrun protection bar profiles - one with the approval according to ECE R58-02 and one according to the new regulation ECE R58-03. The versions of the ERMAX rear underrun protection bar consist of five design variants.

The different versions are available with the following options: LED failure control, SIMAC control (flashing side marker lights), with plugs or with junction box. You will find information about the various types on the following pages.

All variants are supplied with a protection cover over the junction box or over the connectors of the tail lights.



TM4



TM5 - Polycarbonate



TM7



TM16 - Polycarbonate

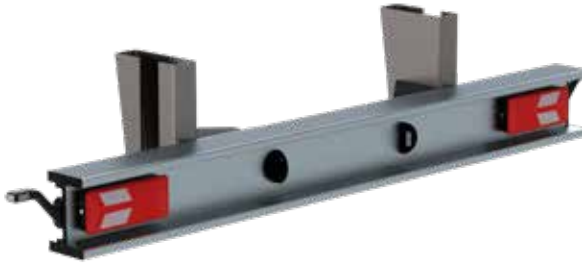


TM11 - Polycarbonate

# Distances and dimensions

## Legal requirements ECE R58 revision 3

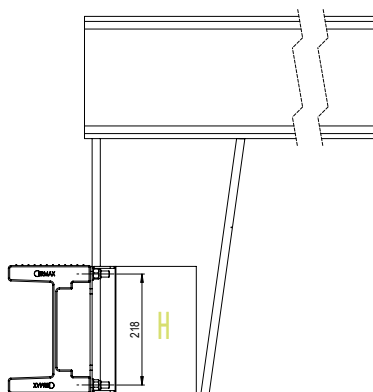
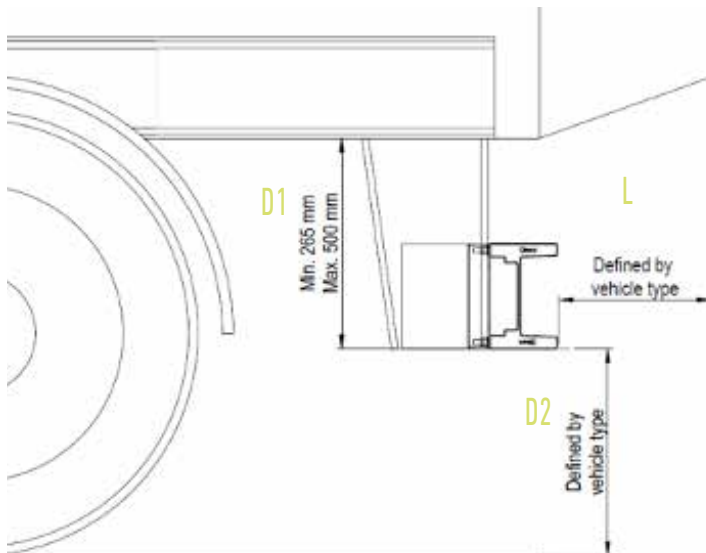
Since the rear underrun protection bar is a safety solution, it is governed by strict legal requirements. This increases safety for both the driver and other road users. That is why there are also legal requirements and safety clearances about where the underrun protection bar has to be placed on the vehicle.



The new ERMAX rear underrun protection bar with

- Total weight of only 28 kg
- Mounting brackets of 8 kg

meets the new requirements according to ECE R58-03.



The side engagement of the rear underrun protection bar must be 0 - 100 mm, and must be the same size on both sides.

### L Maximum permissible overhang

- 300 mm (R58.03)
- 400 mm (R58.02)

### D1 Permissible height of the consoles

- Minimum 265 mm (R58-02 / R58-03)
- Maximum 500 mm (R58-02 / R58-03)

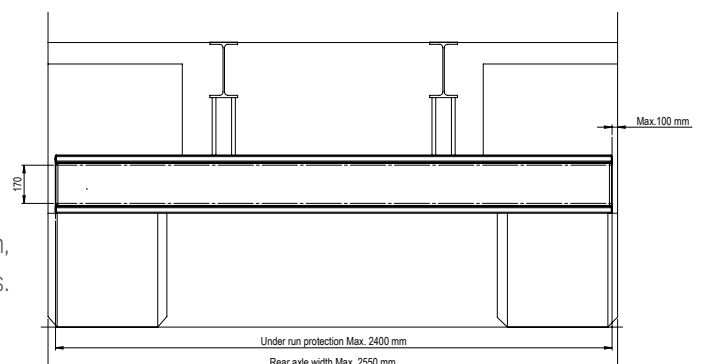
### D2 Maximum permissible ground clearance (vehicle not loaded)

- 450 mm (R58-03)
- 550 mm (R58-02)

### H Permissible minimum profile height of the underrun protection bar

- 120 mm (R58-03)
- 100 mm (R58-02)

The permissible dimensions can vary depending on the vehicle category and chassis type.



# Impressive technology

## Individual solutions as required

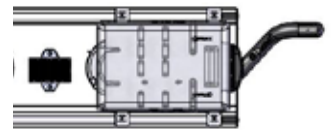
There are various designs of the rear underrun protection bar solutions from ERMAX. These designs consist of various components with innovative solutions and control units - offering a very flexible rear underrun protection bar customized for the individual vehicle and needs.

The following control units and solutions are integrated in the ERMAX rear underrun protection bar.

### LED failure control

- Built-in intelligent control for monitoring and failure report of LED tail lights according to ECE R48 – for indicator and stop functions.
- The use of a technology which is NOT limited to ISO13207 and therefore suitable for all vehicles\*.
- Facilitates the overall assembly of the vehicle significantly - no additional parts required.

\* Valid for all known brands in the EU countries from 11/2019.



### SIMAC® Control system - flashing side marker lights

- Intelligent control of flashing side marker lights SIMAC® according to ECE R48.
- Strong contribution to increasing road safety.
- Facilitates the overall assembly of the vehicle significantly - no additional parts required.

### Junction box / Plug connections

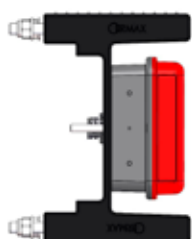
- ERMAX offers the classical solution with junction box where all cables from the lights are led into the box without external plugs.
- As an alternative solution ERMAX offers a solution with AMP and Super-Seal plugs connected behind the lights. This makes the direct access possible and thus a faster replacement by e.g. collision damages of a light.



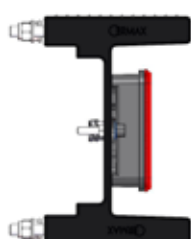
### Always a safe choice no matter what light

- Due to the form of the profile – not only from the back – but also from the front, the lights are safely placed and thus protected from the front and rear side.
- Due to the over and underlying profiles the lights are protected against most collisions.

Examples ECE R58-3



TM10 Tail light



TM11 Tail light



TM5 Tail light



TM4 Tail light

## Optimal use

### Long-term quality installation

All plugs are designed to meet IP69K for use at the rear of the vehicle.

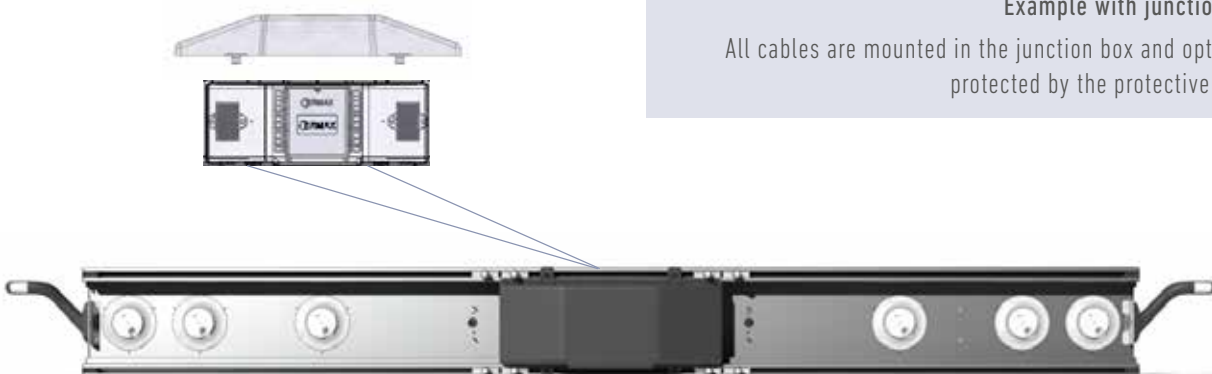
In order not just to secure a long-lasting functionality but also a long-lasting protected installation, every system with plugs also has a cover solution.

For solutions with junction box, a protective cap is mounted over the box.



#### Example with plugs behind the lights.

All plug connections are mounted under the protection cover and thus optimally protected.



#### Example with junction box.

All cables are mounted in the junction box and optimally protected by the protective cover.

The fully configured underrun protection bar can be installed via just one interface (without SIMAC) - through the pre-assembled rear cable with 15-pin bayonet socket together with 8 T-bolts. **Simple and time-optimized.**

# Rear underrun protection bar with TM5 tail lights

## Unbeatable durability

- Space-saving – ultra slim built-in depth of the TM5 tail lights
- Unsurpassed durability - impact resistant lens made of polycarbonate
- Increased traffic security – Eternal Light technology



Measure (WxDxH): 2780 (2400 mm without OEM) x 160 x 252 mm

### Variant - ECE R58-02

Article no.	Type	Junction box	SIMAC	LED failure control	
				Direct indicator	Stop
098 258 100	LED	-	-	-	-
098 258 110	LED	-	-	✓	-
098 258 130	LED	-	✓	✓	-
098 258 140	LED	✓	-	-	-
098 258 150	LED	✓	-	✓	-
098 258 160	LED	✓	✓	-	-
098 258 170	LED	✓	✓	✓	-

### Variant - ECE R58-03

Article no.	Type	Junction box	SIMAC	LED failure control	
				Direct indicator	Stop
098 259 100	LED	-	-	-	-
098 259 110	LED	-	-	✓	-
098 259 130	LED	-	✓	✓	-
098 259 140	LED	✓	-	-	-
098 259 150	LED	✓	-	✓	-
098 259 155	LED	✓	-	✓	✓
098 259 170	LED	✓	✓	✓	-
098 259 175	LED	✓	✓	✓	✓

## Rear underrun protection bar with TM7 tail lights

### Classical solution

- Compact round lights with a chrome look
- Easy mounting
- Classical LED look



Measure (WxDxH): 2780 (2400 mm without OEM) x 160 x 252 mm

#### Variant - ECE R58-02

Article no.	Type	Junction box	SIMAC	LED failure control	
				Direct indicator	Stop
098 258 200	LED	-	-	-	-
098 258 210	LED	-	-	✓	-
098 258 230	LED	-	✓	✓	-
098 258 240	LED	✓	-	-	-
098 258 250	LED	✓	-	✓	-
098 258 260	LED	✓	✓	-	-
098 258 270	LED	✓	✓	✓	-

#### Variant - ECE R58-03

Article no.	Type	Junction box	SIMAC	LED failure control	
				Direct indicator	Stop
098 259 200	LED	-	-	-	-
098 259 210	LED	-	-	✓	-
098 259 230	LED	-	✓	✓	-
098 259 240	LED	✓	-	-	-
098 259 250	LED	✓	-	✓	-
098 259 255	LED	✓	-	✓	✓
098 259 270	LED	✓	✓	✓	-
098 259 275	LED	✓	✓	✓	✓

# Rear underrun protection bar with TM16 tail lights

## Solution with D approval

- Modern round lights with a chrome look
- Easy mounting
- Unique Design



Measure (WxDxH): 2780 (2400 mm without OEM) x 160 x 252 mm

### Variant - ECE R58-03

Article no.	Typ	Verteilerbox	SIMAC	LED Ausfallkontrolle	
				Blink	Stop
098 259 340	LED	✓	-	-	-
098 259 350	LED	✓	-	✓	-
098 259 370	LED	✓	✓	✓	-



# Rear underrun protection bar with TM10 tail lights

## Unbeatable durability

- Unsurpassed durability - impact resistant lens made of polycarbonate
- Increased traffic security – Eternal Light technology
- As full LED or hybrid



Measure (WxDxH): 2780 (2400 mm without OEM) x 160 x 252 mm

### Variant - ECE R58-02

Article no.	Type	SIMAC	LED failure control	
			Direct indicator	Stop
098 258 300	Hybrid ▲	–	NA	NA
098 258 320	Hybrid ▲	✓	NA	NA
098 258 400	LED	– *	– *	– *

### Variant - ECE R58-03

Article no.	Type	SIMAC	LED failure control	
			Direct indicator	Stop
098 259 320	Hybrid ▲	✓	NA	NA
098 259 450	LED	– *	– *	– *

▲ Position light, side marker light and license plate light as LED

### \* Failure control at the underrun protection bar with TM10 LED tail lights

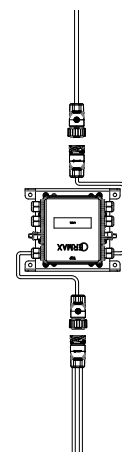
The combined LED control boxes from ERMAX offer the possibility of using the LED direct indicator light and stop light failure control as well as the SIMAC control function in the lighting installation.

The LED control boxes also have function as a junction box, where all ISO12098 tail light functions can be achieved.

There are 2 variants of the junction box:

098 298 160 - LED failure control of direct indicator and stop light functions

098 298 170 - LED failure control of direct indicator and stop light functions and SIMAC



Junction box with:

- Failure control of direct indicator light and stop light
- SIMAC®



# Rear underrun protection bar with TM11 tail lights

## Unsurpassed full LED functionality

- Unsurpassed durability - impact resistant lens made of polycarbonate
- Increased traffic security – Eternal Light technology
- High reliability - LED failure control optional and SIMAC integrated



Measure (WxDxH): 2780 (2400 mm without OEM) x 160 x 252 mm

### Variant - ECE R58-02

Article no.	Type	SIMAC	LED failure control	
			Direct indicator	Stop
098 258 520	LED	✓	-	-
098 258 530	LED	✓	✓	-
098 258 580	LED	✓	✓	✓

### Variant - ECE R58-03

Article no.	Type	SIMAC	LED failure control	
			Direct indicator	Stop
098 259 520	LED	✓	-	-
098 259 530	LED	✓	✓	-
098 259 580	LED	✓	✓	✓

With the TM11 tail light the Ermax rear bumper has a real all-rounder on board: further to the standard functions the TM11 also has an optional LED indicator failure control and a flash function for the side marker lights (SIMAC) integrated in the light housing – mounting will never be easier!



TM11 LED



LED control unit "Snap-in"



SIMAC control "Snap-in"

## Rear underrun protection bar with TM4 tail lights

### A classic - new developed

- Classical elegant design - new developed
- LED failure control and SIMAC integrated



Integrated LED failure control for monitoring the direction indicator function and stop light function



098 259 075



098 259 095

Measure (WxDxH): 2780 (2400 mm without OEM) x 160 x 252 mm

### Variant - ECE R58-03

\* With D-approval

Article no.	Type	Junction box	SIMAC	LED failure control	
				Direct indicator	Stop
098 259 075 *	LED	✓	✓	✓	✓
098 259 095 **	LED	✓	✓	✓	✓

\*\* The triangular reflectors must be installed separately

## Underrun protection bar with TM2 tail lights

- Tail light with bulb - the remaining lights are LED
- Easy mounting



Measure (WxDxH): 2780 (2400 mm without OEM) x 160 x 252 mm

### Variant - ECE R58-02

Article no.	Type	SIMAC	LED failure control	
			Direct indicator	Stop
098 258 635	Bulb	NA	NA	NA

### Variant - ECE R58-03

Article no.	Type	SIMAC	LED failure control	
			Direct indicator	Stop
098 259 635	Bulb	NA	NA	NA

# Rear underrun protection bar ECE R58-02

## Anodized - without lights

Anodized aluminium - 3 variants packed individually in a cardboard box or pallet packaging.

End caps and T-bolts must be ordered separately.



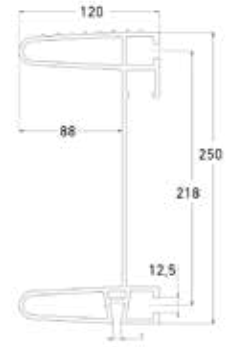
Pos 1



Pos 2



Pos 3



Pos 4



Pos 5

### Variant - ECE R58-02

Article no.	Pos	Variant type	Drilling	Packaging
098 259 000	1	Without drilling	-	Individually (1 pcs)
098 258 000	2	For built-in lights (TM5, TM7)	6 x Ø135 mm	
098 258 001	3	For 7-function lights (TM10, TM11)	2 x Ø44 mm, 8 x Ø30 mm	

098 259 000-Bulk	1	Without drilling	-	Pallet 25 pieces
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Article no.	Pos	Description	Packaging
098 299 610	4	End cap, plastic (2 pcs. per underrun protection bar)	Bag with 2 pcs.
099 110 004	5	T-bolts (4 pcs. per underrun protection bar)	Bag with 4 pcs.

OBS.  
End caps and T-bolts  
must be ordered  
separately

# Rear underrun protection bar ECE R58-03

## Anodized - without lights

Anodized aluminium - 4 variants packed individually in a cardboard box or pallet packaging.

End caps and T-bolts must be ordered separately.



\* If 2x 4 TM4 tail lights are to be mounted, an additional hole (right) for the cable from the rear light must be drilled.

### Variant - ECE R58-03

Article no.	Pos	Variant type	Drilling	Packaging
098 259 005	1	Without drilling	-	Individually (1 pcs)
098 259 006	2	For built-in lights (TM5, TM7)	6 x Ø135 mm	
098 259 007	3	For 7-function lights (TM10, TM11)	2 x Ø44 mm, 8 x Ø30 mm	
098 259 008 *	4	For surface mounted lights (TM4)	16 x Ø7 mm, 8 x Ø28/20 mm	

099 259 005	1	Without drilling	-	Pallet 20 pcs
099 259 006	2	For built-in lights (TM5, TM7)	6 x Ø135 mm	
099 259 007	3	For 7-function lights (TM10, TM11)	2 x Ø44 mm, 8 x Ø30 mm	
099 259 008 *	4	For surface mounted lights (TM4)	16 x Ø7 mm, 8 x Ø28/20 mm	

Article no.	Pos	Description	Packaging
099 299 616	4	End cap, plastic (2 pcs. per underrun protection bar)	Bag with 2 pcs.
099 299 615	4	End cap, plastic (2 pcs. per underrun protection bar)	40 pcs.
099 110 004	5	T-bolts (8 pcs. per underrun protection bar)	Bag with 4 pcs.

OBS.  
End caps and T-bolts  
must be ordered  
separately

# Spare parts and accessories

## ECE R58-02



The consoles mentioned in the certificate (pos. 1) are mounted at the chassis frame. The associated reinforcement brackets (pos. 2) must be used for specific widths of the chassis frame according to the guidance in the certificate.



Consoles as well as reinforcement brackets are offered from ERMAX as accessories, but may also be produced by the vehicle manufacturer, provided that the technical instructions in the certificate are followed exactly.



\* when using reinforcement bracket 8 pcs. has to be used

### Spare parts and accessories

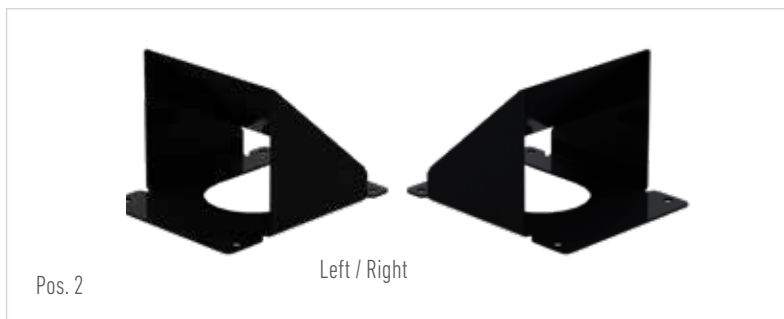
Pos.

Article no.

Console - Square profile for welding on the chassis frame	1	098 299 620
Reinforcement bracket - Left side 098 299 602 / right side 098 292 603 A frame width between 840-1250 requires 2 pcs. By use of these reinforcement brackets, additional 4 T-bolts will be needed. (099 110 004)	2	098 299 602 098 299 603
End cap, plastic - Bag with 2 pcs. (2 pieces per underrun protection bar are needed)	3	098 299 610
T-bolt M12x55 mm with square head - Bag with 4 pcs. (4 pieces per underrun protection bar are needed)	4	099 110 004

## Spare parts and accessories

### ECE R58-03

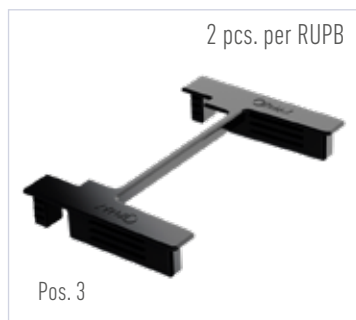


The consoles mentioned in the certificate (pos. 1) are mounted at the chassis frame. The associated reinforcement brackets (pos. 2) must always be present.

Depending upon the width of the chassis frame (distances between the consoles) the reinforcement brackets must be placed inside or outside the consoles in order to support the underrun protection bar.

Consoles as well as reinforcement brackets are offered from ERMAX as accessories, but may also be produced by the vehicle manufacturer, provided that the technical instructions in the certificate are followed exactly.

According to the certificate, the consoles may also be integrated in the chassis.



#### Spare parts and accessories

Pos.

Article no.

Console 1 - Profile for welding on the chassis frame	1	099 299 623
Console 2 - Profile for welding on the chassis frame	1	099 299 622
Reinforcement bracket - left / right (1 pcs) Frame distance 1250-1450 mm : The reinforcement brackets must be installed on the inside of the consoles. Frame distance 980-1249 mm : The reinforcement brackets must be mounted on the outside of the consoles. 4 x 099 110 004 T-bolts M12 x 55 mm are needed for each bracket / totally 8 pcs.	2	099 299 625
End cap, plastic - Bag with 2 pcs (2 pieces per underrun protection bar are needed)	3	099 299 616
T-bolt M12x55 mm with square head - Bag with 4 pcs. (8 pieces per underrun protection bar are needed)	4	099 110 004

# The Lighting System

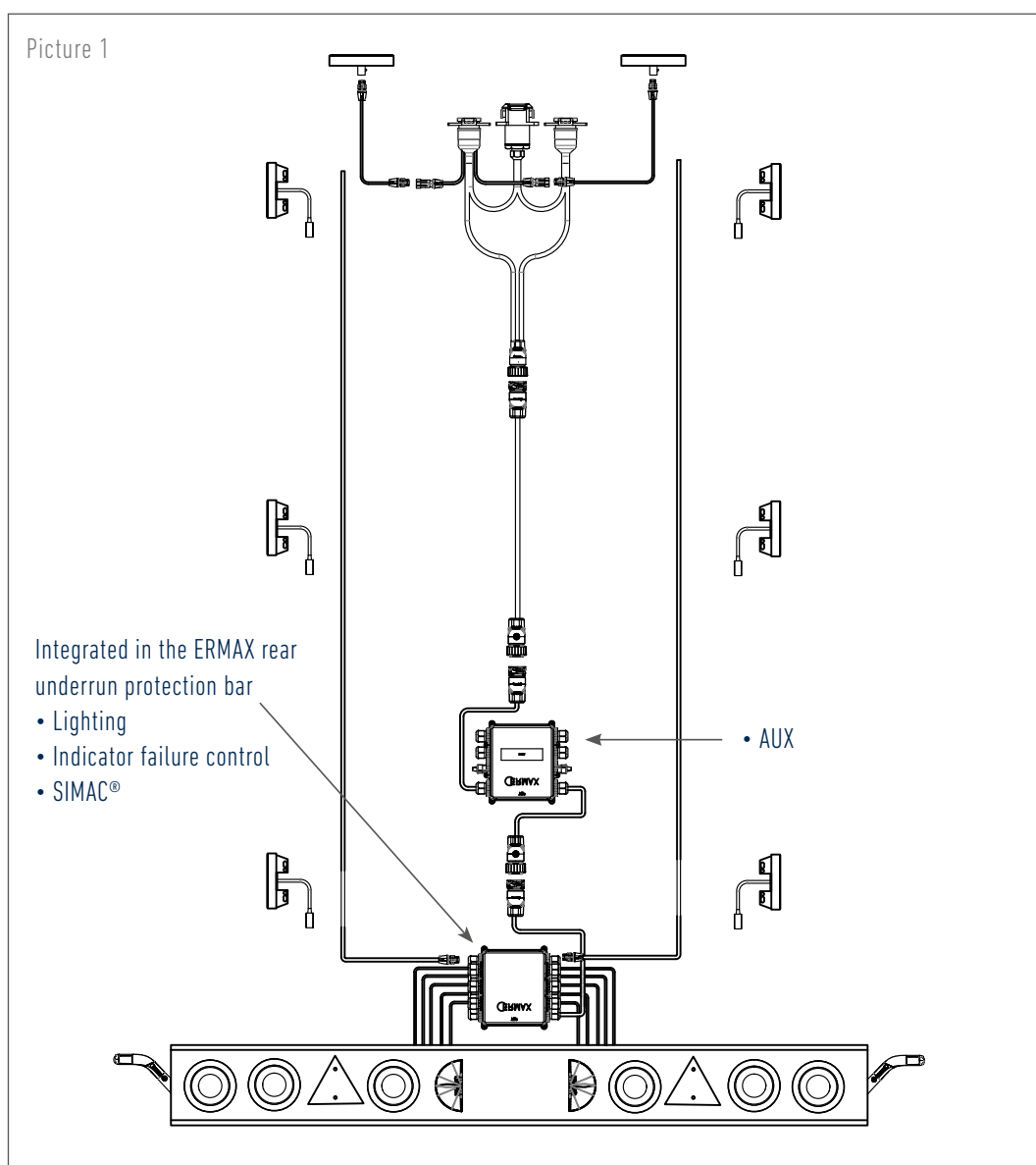
As supply source for other electrical applications

## Flexibility & long-lasting benefits

The ERMAX lighting- and rear underrun protection bar solutions offer the best possible conditions for other electrical sources of additional systems e.g. lift axles, reverse alarm etc., to take over the existing ERMAX lighting. These can be removed from the cable source or connected to the junction box on the underrun protection bar.

The legal requirement regarding lighting systems on a vehicle are still increasing. With ERMAX systems, this intelligence can be integrated in the junction box at the underrun protection bar. The requested additional functions by the legal requirements (e.g. AUX) are to be taken from a junction box inserted in the main cable in the front of the rear bumper (picture 1).

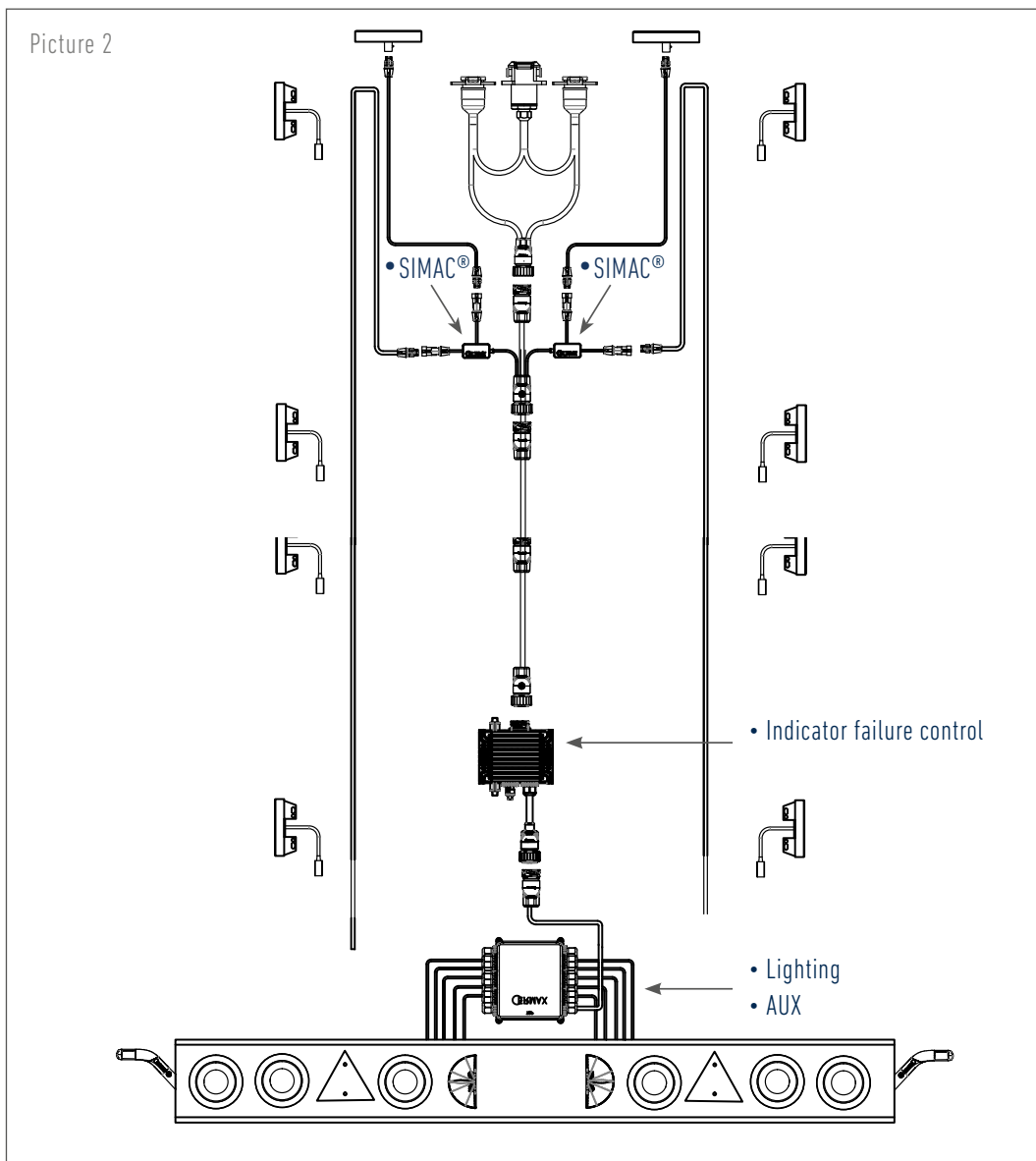
### Example 1: Ermax configuration





The flexibility of the ERMAX configuration makes it possible, however, that the functions concerning the indicator failure control and SIMAC (the flashing side marker lights) can be inserted elsewhere in the system. With this configuration it is possible to use the AUX connections in the junction box on the rear underrun protection bar (picture 2).

### Example 2: ERMAX configuration







Brands of the BPW Group:



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