

Function

The instrument cluster is prepared with options for connecting and setting parameters for various types of function indications to adapt the vehicle's driver environment correctly to its area of use. The function indications can be divided as follows:

- Light indications that are notified to the driver in the form of indicator lamps. Those available for bodywork functions depend on the vehicle specification.
- Acoustic indications, which provide information to the driver in the form of acoustic signals.
- Display messages (symbols and text in the display).

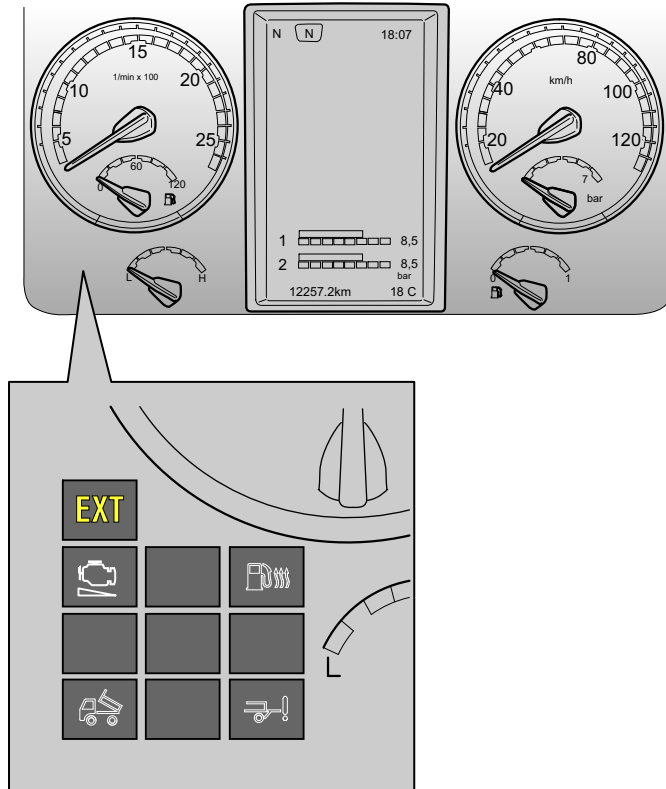
Light indications and display messages can be combined or used separately.

The function indications are activated by C234 with +24 V or ground, BIC (Bodywork Interface Configuration) or External CAN. BIC and External CAN are part of the BCI functionality option.

There are 1 or 2 LEDs behind each lamp. The factory settings¹ are adapted to the most common bodywork functions, which means that the parameters do not need to be adjusted in most cases.

For certain functions, for example tail lift, the symbol is already in the symbol lens.

Examples of factory settings for the indicator lamps are found under the heading Signal types and activation of the function.



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1. No acoustic indications or display messages have been preset at the factory.

Application

It is important to use the function indications in the correct way for the following reasons:

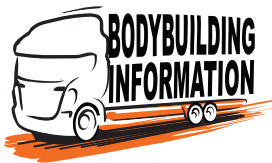
- So that the meaning of a specific function indication is not underestimated.
- So that they are consistent with the vehicle's ordinary function indications.

To facilitate the usage and interpretation of the various function indications, different statuses can be assigned to light indications, sound indications and display messages.

Status	Implication	Examples	Driver's action	Presentation
Alarm	Risk of serious injuries or death	Safety belt warning, the parking brake is applied, gas leak	Take action immediately	Red lamp or against a red background
	Great risk of damaging the vehicle or other property	Serious engine fault, fault in the charging circuit		
Warning	Risk of damage to the vehicle	Faulty tachograph, extremely low or too high air pressure in tyres	Rectify the fault as soon as possible	Yellow lamp or against a yellow background
	Temporarily active function or function in a state that requires extra attention by the driver	ESP active, tool hatch open	Be alert to the fact that a function is active	
Information	Status or value from a function that is functioning normally	Low level of washer fluid, low air pressure in tyres		Normally a white lamp, a green lamp or against a white background, but can also be displayed in other colours
	Active function	Main beam on, retarder active		

Different types of acoustic signals can complete and reinforce alarm or warning. Acoustic signals are used above all to ensure that the driver is alerted to the message immediately.

All ordinary function indications are described in the vehicle's Driver's Manual.



Acoustic indications in the instrument cluster

The table below shows the available acoustic indications.

More information on activation of the different acoustic indications is found under the heading Signal type and activation of function.

Order of priority of the acoustic indications

Since only one acoustic indication can be active at a time the acoustic indications follow a specific order of priority. The acoustic indication with the highest priority always takes precedence.

Priority	Status	Signal
1	Warning 1	Single
2	Continuous alarm	Repeated
3	Warning 2	Single
4	Warning 2 continuous	Repeated
5	Warning 1 continuous	Repeated

- An acoustic indication is repeated until the cause of the acoustic indication is rectified.
- Single acoustic indications sound only for a pre-determined time and then fall silent.

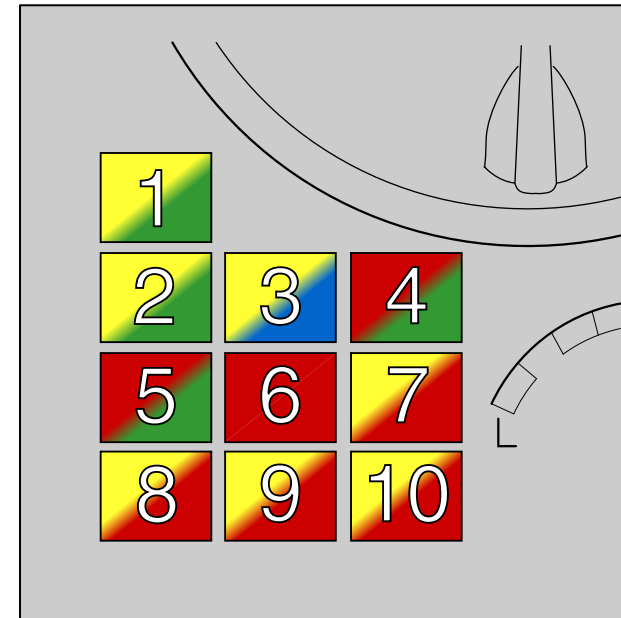
Indicator lamps

Positions of indicator lamps

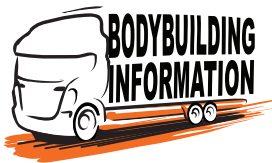
There are 10 lamp positions. Each lamp position can be allocated 1 or 2 different statuses.

The table and illustration show the positions of the indicator lamps in the instrument cluster and the statuses they can be allocated.

1. Warning or information (yellow or green)
2. Warning or information (yellow or green)
3. Warning or information (yellow or blue)
4. Alarm or information (red or green)
5. Alarm or information (red or green)
6. Alarm (red)
7. Warning or alarm (yellow or red)
8. Warning or alarm (yellow or red)
9. Warning or alarm (yellow or red)
10. Warning or alarm (yellow or red)



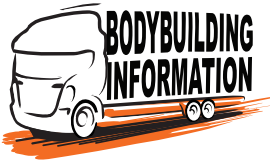
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The order of priority of the light indications

If two light indications in the same lamp position are activated at the same time, only the one with the highest priority will come on.

Priority	Status	Colour
1	Alarm	Red
2	Warning	Yellow
3	Information	Green
4	Information	Blue



Symbol lenses

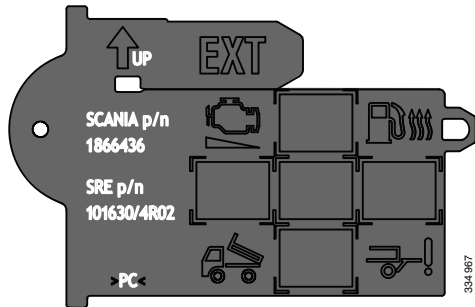
In front of the indicator lamp LEDs there is a removable symbol lens. Certain symbols on the symbol lens are pre-printed from the factory, but the appearance and position of the symbols can vary depending on customer choice and vehicle type. The bodybuilder can use any free places for own symbols.

To change the original positions, it is possible to fit a new symbol lens. There are 7 symbol lenses to choose from.

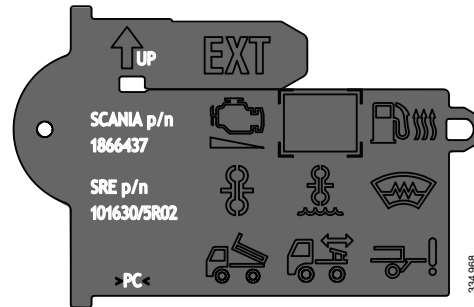
Symbol lenses and symbol sheets can be purchased from Scania dealers.

More information on how to replace the symbol lens is found under the heading Work descriptions.

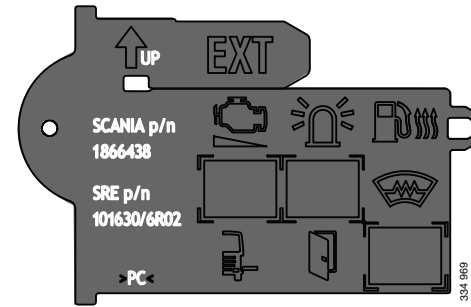
Depending on the vehicle specification, the following symbol lenses can be fitted at the factory:



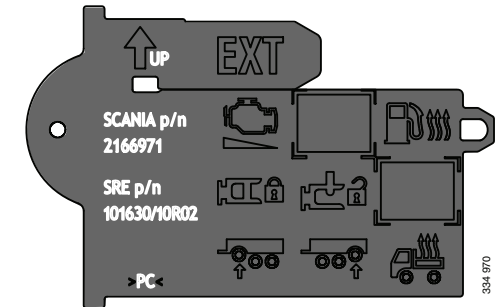
Trucks and tractors.



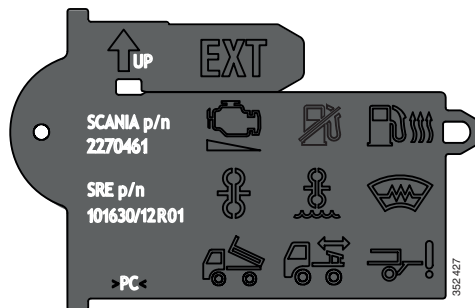
Tractors with pneumatic sliding fifth wheel.



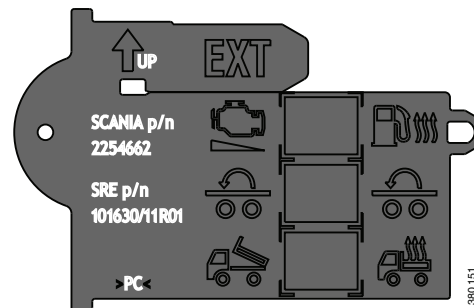
Crew cab.



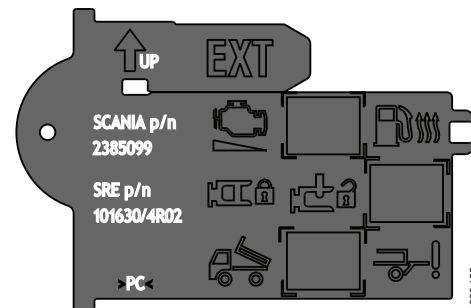
Tipper truck complete 12 m³.



Natural gas vehicles.

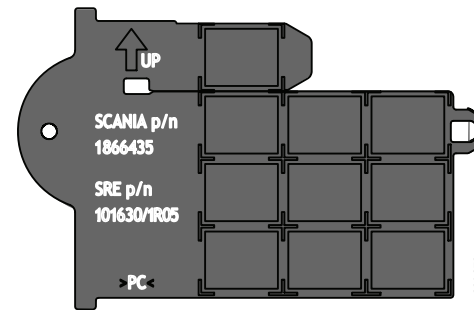
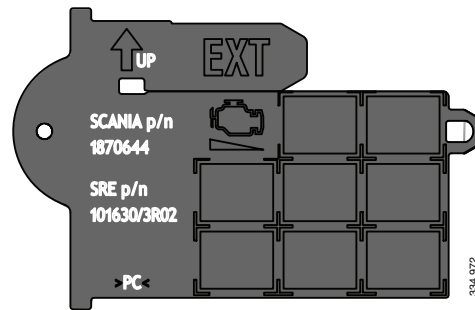
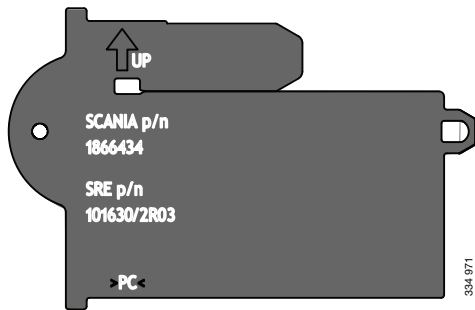


Trucks with load transfer.



Trucks with indicator for trailer coupling.

The following symbol lenses can only be ordered for retrofitting:

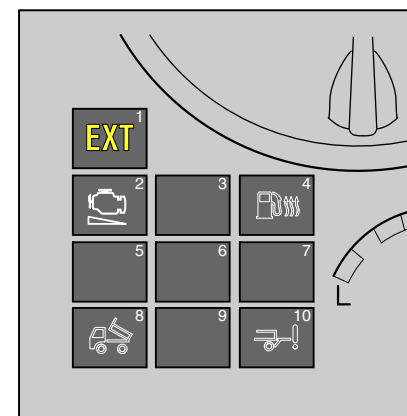


Symbols that are available from the factory

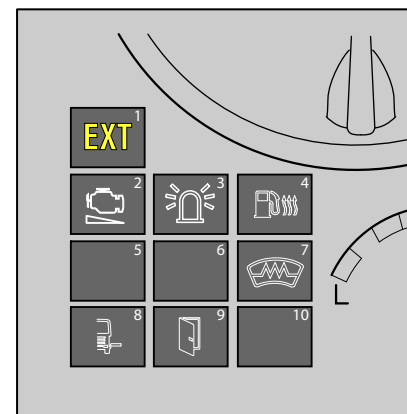
The most common variants are shown below. Other variants can also be used.

Pos.	Symbol	Status	Colour
1	EXT	Warning	Yellow
2	Engine power limitation	Warning	Yellow
3			
4	Fuel heater	Information	Green
5			
6			
7			
8	Tipper	Alarm	Yellow
9			
10	Tail lift	Warning	Yellow

Pos.	Symbol	Status	Colour
1	EXT	Warning	Yellow
2	Engine power limitation	Warning	Yellow
3	Rotating beacon	Status	Blue
4	Fuel heater	Information	Green
5			
6			
7	Electrically heated window	Warning	Yellow
8	Folding footstep	Warning	Yellow
9	Door open	Warning	Yellow
10			



Applies to trucks and tractors.



Applies to vehicles with crew cab.

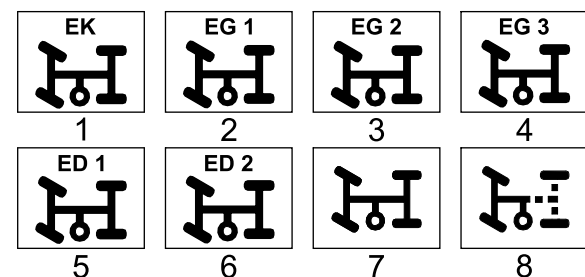
Available symbols

There are 9 different symbol sheets with 48 symbols on each sheet. The symbols can be stuck to a vacant position on the symbol lens.

More information on ordering of symbol sheets is found under the heading Ordering options.

Power take-off symbols

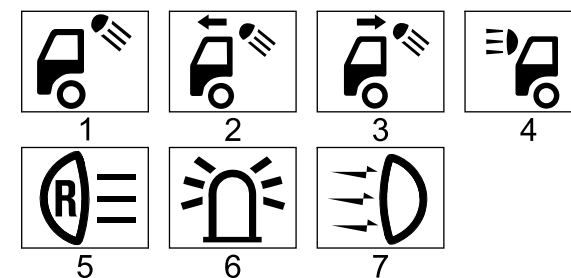
1. EK power take-off
2. EG Power take-off 1
3. EG Power take-off 2
4. EG Power take-off 3
5. ED Power take-off 1
6. ED Power take-off 2
7. Power take-off
8. Split shaft power take-off



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Lighting symbols

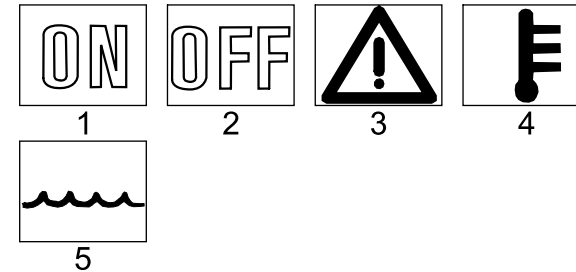
1. Work light
2. Work light, left-hand side
3. Work light, right-hand side
4. Spotlight
5. Reversing light
6. Rotating beacon
7. Flashing light



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General symbols

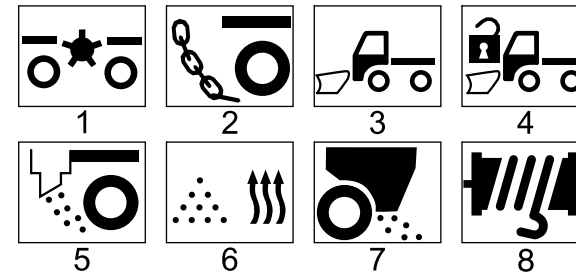
1. On
2. Off
3. Warning
4. Temperature warning
5. Level warning



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Nordic special symbols

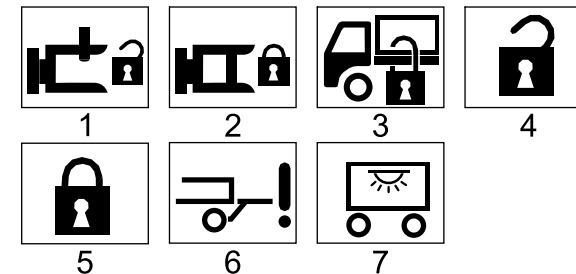
1. Bogie drive roller
2. Snow chains
3. Plough fixed
4. Plough floating
5. Sand spreader active (1)
6. Sand heating
7. Sand spreader active (2)
8. Winch active



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Lock symbols

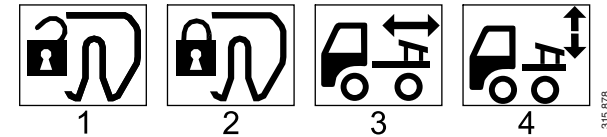
1. Towing unit unlocked
2. Towing unit locked
3. Platform locked
4. Unlocked
5. Locked
6. Tail lift lowered
7. Load compartment lighting



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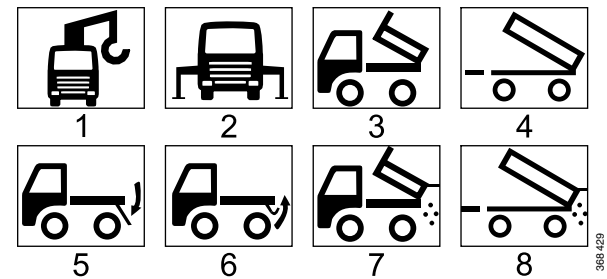
Tractor symbols

1. Fifth wheel unlocked
2. Fifth wheel locked
3. Horizontal fifth wheel adjustment
4. Vertical fifth wheel adjustment



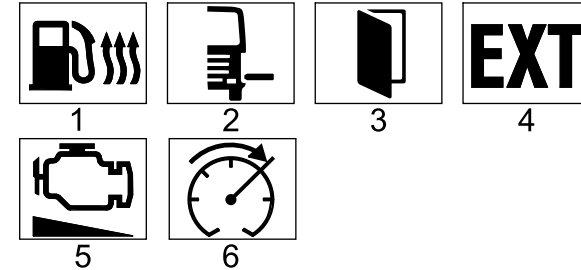
Crane symbols

1. Crane extended
2. Supporting legs unlocked
3. Tipper truck
4. Tipper semi-trailer
5. Underrun protection lowered
6. Underrun protection raised
7. Truck tailboard spreader open
8. Semi-trailer tailboard spreader open



Scania standard symbols

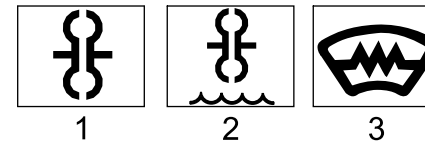
1. Fuel heater
2. Footstep unfolded
3. Door open
4. EXT
5. Engine power limitation
6. Speed limit



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Scania special order symbols

1. ZF gearbox torque converter
2. ZF gearbox oil level
3. Electrically heated window

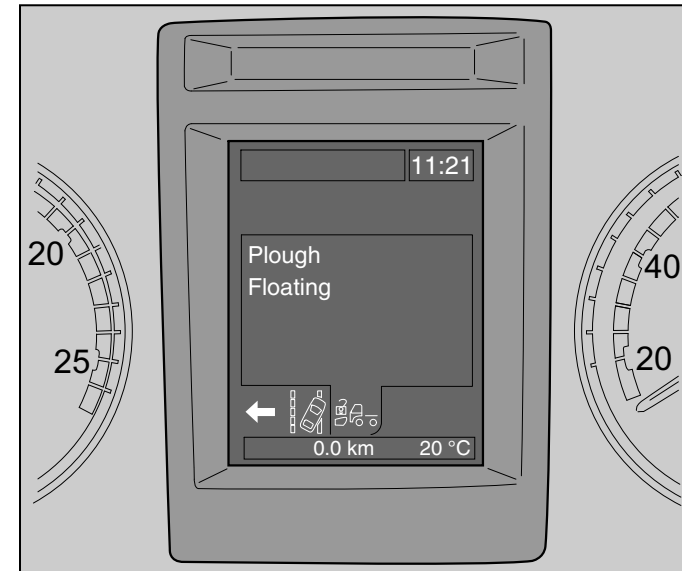


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Display message

It is possible to show a symbol together with an explanatory text in the display.

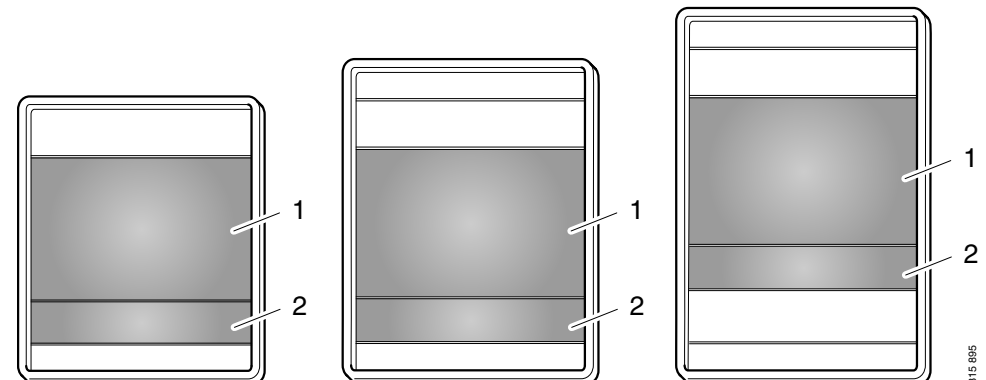
The driver can acknowledge the display message and retrieve it again until the action to reset the situation has been completed. Set the choice of display message with SDP3.



Display types

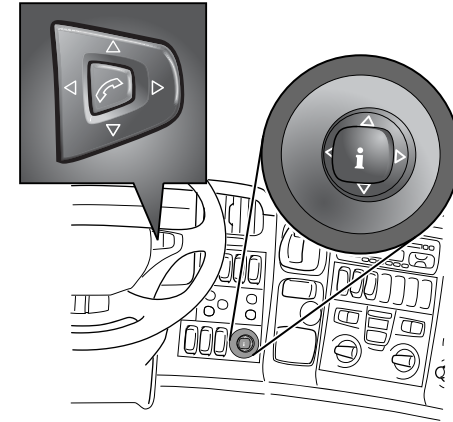
The display is divided into various information fields. Text is shown in field 1 and a symbol linked to text in field 2.

There are 3 different display types depending on how the vehicle is equipped.



To navigate the display

To navigate the display and acknowledge messages, use the switch for phone and menu navigation on the steering wheel or the INFO button in the instrument panel.

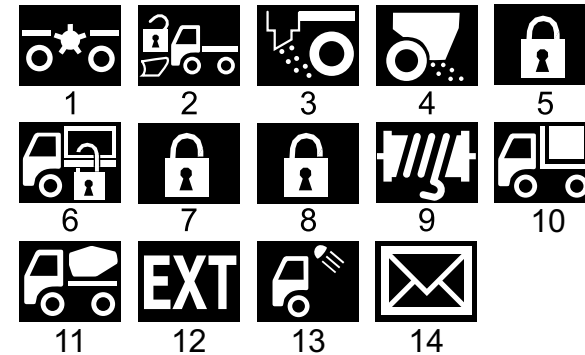


Available display messages

The following messages may be shown in the display:

Information messages

1. Bogie drive roller active
2. Plough floating
3. Sand spreader active (1)
4. Sand spreader active (2)
5. Towing unit locked
6. Platform locked
7. Bodywork locked
8. Fifth wheel locked
9. Winch active
10. Bodywork filled
11. Mixer unit active
12. External equipment enabled
13. Working lamp active
14. Message received
- 15-30. Not used

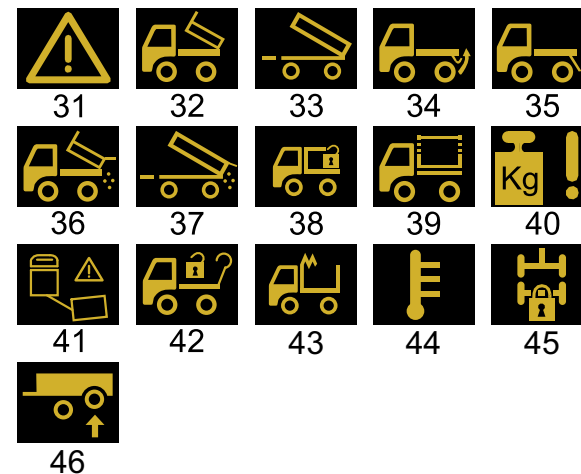


The background colour for information messages is white.

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Warning messages

- 31. Bodywork warning
- 32. Truck tipper body raised
- 33. Trailer tipper body raised
- 34. Underrun protection raised
- 35. Underrun protection lowered
- 36. Truck tailboard spreader open
- 37. Trailer tailboard spreader open
- 38. Box body open/unlocked
- 39. Box body raised
- 40. Overload
- 41. Maximum trailer angle
- 42. Demountable body unlocked
- 43. Cover for platform open
- 44. Bodywork temperature outside threshold values
- 45. Rear steer axle trailer locked
- 46. Tag axle trailer raised
- 47-60. Not used

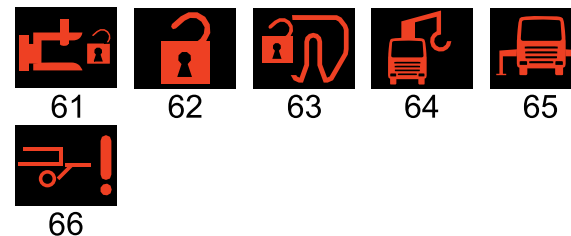


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The background colour for warning messages is yellow.

Alarm messages

- 61. Towing unit unlocked
- 62. Bodywork unlocked
- 63. Fifth wheel unlocked
- 64. Crane extended
- 65. Supporting legs unlocked
- 66. Tail lift lowered
- 67-90. Not used



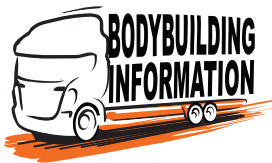
The background colour for alarm messages is red.

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Order of priority of the display messages

Display messages have different priorities. The indication with the highest priority always takes precedence in the display.

Priority	Status	Colour
1	Alarm	Red
2	Warning	Yellow
3	Information	White

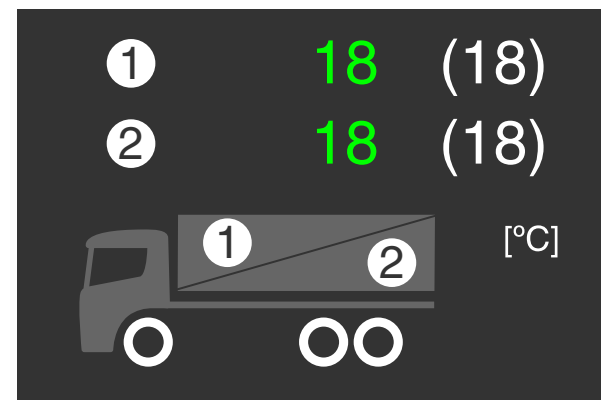


Variable bodywork information in the display

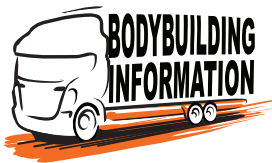
If the vehicle is equipped with BCI functionality it is possible to present variable bodywork information in the display.

For example, it is possible to display the box temperature for refrigerated vehicles (see illustration).

Contact a Scania dealer for more information about variable bodywork information in the display.



The temperature can be shown for two different areas in the box body and trailer respectively. The current temperature and the reference temperature are given.



Bodywork information in the instrument cluster



Function

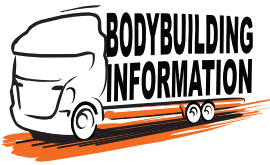
Send the following CAN message to the BCI control unit via External CAN to be able to display variable bodywork information in the instrument cluster.

Identifier: 18FF9Bxx

Transmission interval: 100 ms

Byte	Bit	Length	Explanation	Resolution	Limits	Note
1	1	16	Auxiliary Page n Sensor Value 1	1	0-64 255	Data from sensor 1
3	1	16	Auxiliary Page n Sensor Value 2	1	0-64 255	Data from sensor 2
5	1	16	Auxiliary Page n Sensor Value 1 or 2	1	0-64 255	Reference value 1 or 2, depending on how the Reference Value State is configured
7	1	8	Auxiliary Page n	1	0-250	The selected value determines which page in the bodybuilder view the message will display
8	1	2	Reference Value State	1	0-3	Determine reference value 1 or 2 in Auxiliary Page n Sensor Value 1 or 2

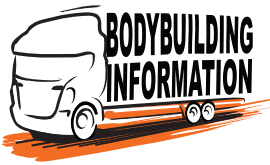
The signals are based on the SAE J1931 standard.



Ordering options

Symbol sheet

Designation	Part number
Power take-off symbols	1 889 049
Lighting symbols	1 889 050
General symbols	1 889 051
Nordic special symbols	1 889 052
Lock symbols	1 889 053
Tractor symbols	1 889 054
Crane symbols	1 889 055
Scania standard symbols	1 889 056
Scania special order symbols	1 889 057



Activation

The function indications are activated via C234 with +24 V or ground, BIC or External CAN. BIC and External CAN are part of the BCI functionality option.

- The setting for activation between +24 V and ground in C234 is done using parameters in SDP3.
- Activation from BIC or External CAN is done using Driver Information Request.

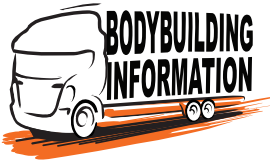
More information on activation of function indications is found under the heading Signal type and activation of function.

Double activation

Since all function indications can be activated at the same time via different sources, it is important to check that they do not clash with each other or with factory settings.

Activation with starter key in the locked position

It is possible to activate and use the function indications in the instrument cluster even if the starter key is in the locked position. By connecting +24 V to pin 12 in connector C234, a wake-up signal is sent to the instrument cluster which can then present function indications despite the starter key being in the locked position.



Chassis conditions

Vehicle production period

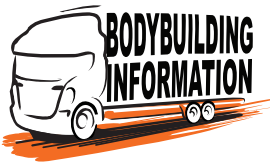
Production site	Chassis serial number
	2014-11-17 -
Södertälje	2105883 -
Zwolle	5371386 -
Angers	9192404 -
	2015-02-02 -
São Bernardo do Campo	3872427 -

Preparations from the factory

Option	Alternative	Variant code
BCI functionality	With	5837A
Preparations for indicator lamps and display messages in ICL	With	3888A

If required

Bodywork cable harness from cab to frame	7+7+7-pin	2411F
Bodywork cable harness in frame	2 m	3023A
	8 m	3023D
	12 m	3023C



Parameters that can be adjusted using SDP3

If there is no access to SDP3, contact a Scania dealer.

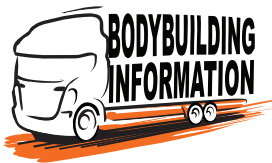
The parameters are adjusted under functions in SDP3.

Parameters for activation via C234

The table shows how pins 1-10 in connector C234 can be parameter set for connection with +24 V or ground via C234.

Parameter group	Parameter	Possible value	From factory	Group
C234 pins 1-10	Signal type	Active low ^a Active high ^b	C234 pin 1, Active low C234 pins 2-10, Active high	Driver's information
	Light indication	See the table Light indication under the heading Possible values.	C234 pin 1 = 10–Warning	
			C234 pin 2 = 3–Status	
			C234 pin 3 = 4–Information	
			C234 pin 4 = 5–Alarm	
			C234 pin 5 = 5–Information	
			C234 pin 6 = 6–Alarm	
			C234 pin 7 = 7–Warning	
			C234 pin 8 = 8–Warning	
			C234 pin 9 = 9–Alarm	
C234 pin 10 = 9–Warning				
Acoustic indication	See the table Acoustic indication under the heading Possible values.	Without		
Display message	See the table Display message under the heading Possible values.	Without		

a. Activation via ground

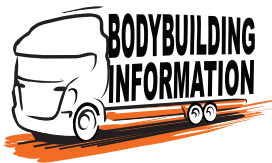


b. Activation via +24 V

Parameters for activation via BIC and External CAN.

The table shows how Driver Information Request 1-10 can be parameter set for connecting with BIC and External CAN.

Parameter group	Parameter	Possible value	From factory	Group
Driver Information Request 1-10	Light indication	See the table Light indication under the heading Possible values.	Driver Information Request 1 = 10–Warning	Driver's information
			Driver Information Request 2 = 3–Status	
			Driver Information Request 3 = 4–Information	
			Driver Information Request 4 = 5–Alarm	
			Driver Information Request 5 = 5–Information	
			Driver Information Request 6 = 6–Alarm	
			Driver Information Request 7 = 7–Warning	
			Driver Information Request 8 = 8–Warning	
			Driver Information Request 9 = 8–Alarm	
			Driver Information Request 10 = 9–Warning	
	Acoustic indication	See the table Acoustic indication under the heading Possible values.	Without	
	Display message	See the table Display message under the heading Possible values.	Without	

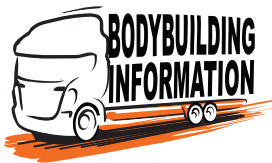


Possible values

Light indication	
	Without
1	Warning/information
2	Warning/information
3	Warning/status
4	Alarm/information
5	Alarm/information
6	Alarm
7	Alarm/warning
8	Alarm/warning
9	Alarm/warning
10	Alarm/warning

Acoustic indication	
	Without
	Continuous alarm
	Warning 1
	Warning 1 continuous
	Warning 2
	Warning 2 continuous
	Warning 2
	Warning 2 continuous

Display message			
	Without	35	Underrun protection lowered
1	Bogie drive roller active	36	Truck tailboard spreader open
2	Plough floating	37	Trailer tailboard spreader open
3	Sand spreader active	38	Box body open/unlocked
4	Sand spreader active	39	Box body raised
5	Towing unit locked	40	Overload
6	Platform locked	41	Maximum trailer angle
7	Bodywork locked	42	Demountable body unlocked
8	Fifth wheel locked	43	Cover for platform open
9	Winch active	44	Bodywork temperature outside threshold values
10	Bodywork filled	45	Rear steer axle trailer locked
11	Mixer unit active	46	Tag axle trailer raised
12	External equipment enabled	61	Towing unit unlocked
13	Working lamp active	62	Bodywork unlocked
14	Message received	63	Fifth wheel unlocked
31	Bodywork warning	64	Crane extended
32	Truck tipper body raised	65	Supporting legs unlocked
33	Trailer tipper body raised	66	Tail lift lowered
34	Underrun protection raised		



Signal type and activation of function

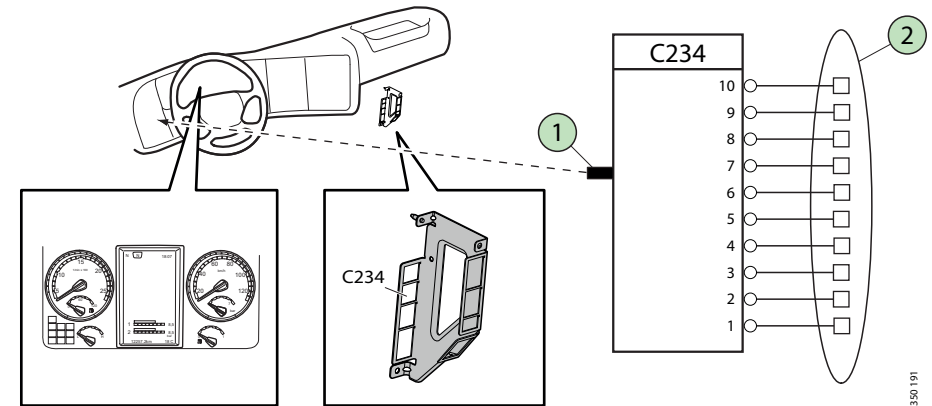
Examples of activation of the function

Type of activation	Activation method
Via connector C234	+24 V or ground
BIC(Bodywork Interface Configuration)	Via pin in C259 or another signal in BIC.
External CAN	BodyworkDriverInformation2:DriverInformationRequest1–10

Example of connection with +24 V or ground connection via C234

Connector C234 has 10 pins which receive signals to activate the function indications. Each pin can activate all function indicators.

1	Cable harness	Fitted at the factory
2	Bodywork functions	Connected by bodybuilder



Signal type and activation of function

Example of connection by +24 V or ground connection via BIC

This description shows a connection inside the cab. Information on how to make the connection with an extension harness on the chassis is found in the document Cable harness for cab and frame (22:10-080).

Proceed as follows:

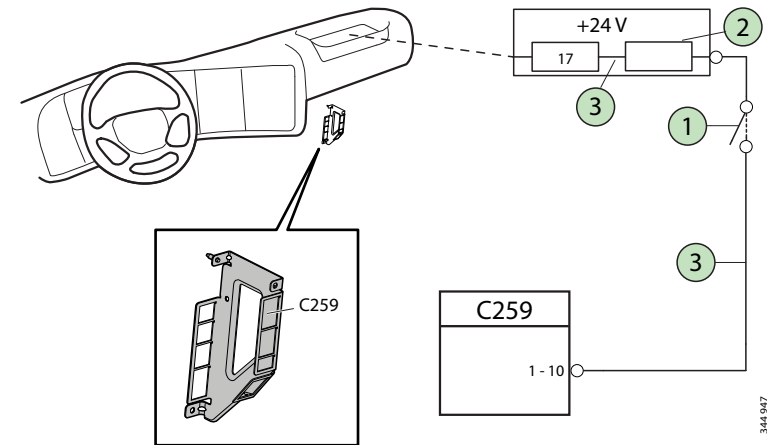
- Connect the activation cable to any input pin in connector C259.
- By using BICT (Bodywork Interface Configuration Tool) the function is allocated to CAN signal, Driver information request 1–10.

The function is ready for activation.

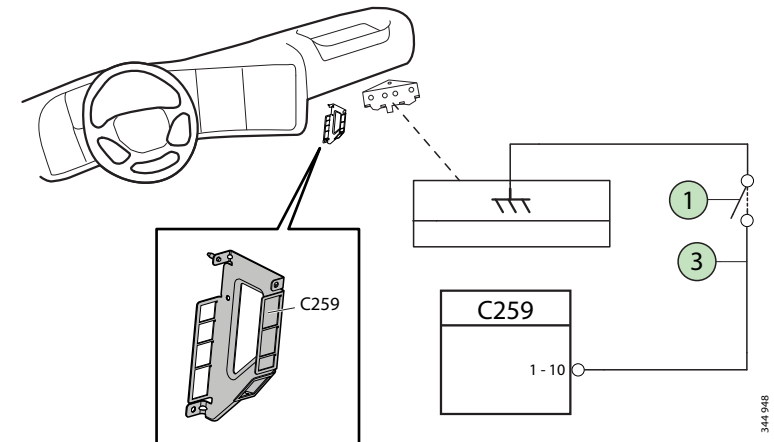
Part information and connection positions

1	For example, a switch	Connected with +24 V or ground to any pin on C259
2	Fuse	5 A Fitted by the bodybuilder
3	Cable	The cable cross-section must be at least 0.75 mm ² Fitted by the bodybuilder

The parts can be purchased from a Scania dealer.



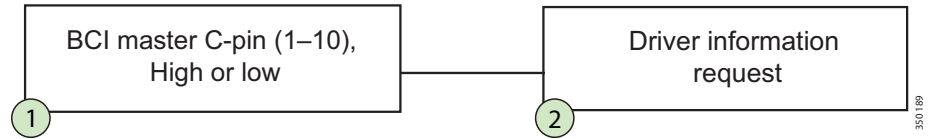
Activation by +24 V via BIC.



Activation by grounding via BIC.

Signal type and activation of function

Signal type	Activation method
Pin (BWE)	+24 V to selected pin on C259 <i>or</i> Grounding of selected pin on C259



In BICT:

1. *The pin selected to activate the function*
2. *Function: Driver information request 1-10*

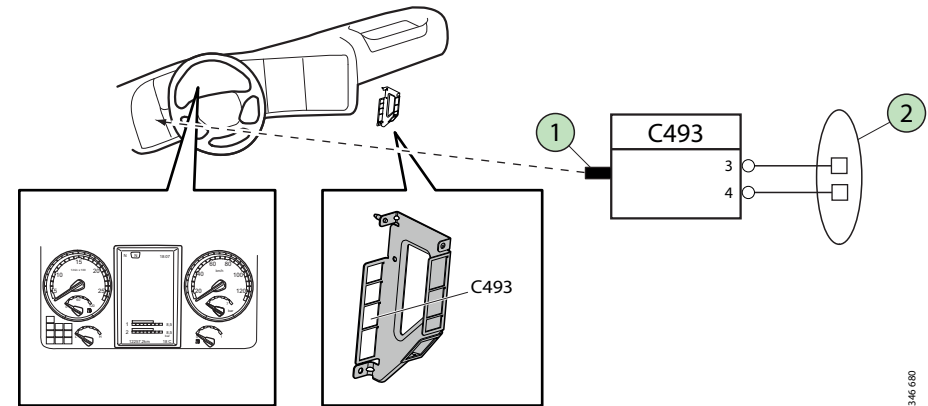
Example of connection via External CAN

This description shows a connection inside the cab. Information on how to make the connection with an extension harness on the chassis is found in the document Cable harness for cab and frame (22:10-080).

To be able to make a connection via External CAN, the following is required:

- The vehicle is equipped with BCI functionality variant code 5837A
- The parameter for External CAN is activated

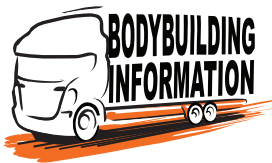
The connection is made directly to connector C493 (External CAN-low to pin 3 and External CAN-high to pin 4).



346 600

More information on CAN is found in the CAN documents under Electrical systems.

Signal type	Message
CAN	BodyworkDriverInformation2:DriverInformationRequest1-10



Example of factory setting

Example of factory settings:

Lamp position	Activated via	Function	Symbol in symbol lens	Notes
1	Vehicle internal CAN activation	Warning	EXT	Indication for external equipment permitted (EXT)
2	Indicator lamp for power take-off 4	Warning		
3	C234-2 AH and CAN 2	Status	Flashing light ^a	
4	C234-3 AH and CAN 3	Information	Fuel heater ^a	
5	C234-4 AH and CAN 4	Alarm	Torque converter ^b	
	C234-5 AH and CAN 5	Information		
6	C234-6 AH and CAN 6	Alarm	Oil level ^b	
7	C234-7 AH and CAN 7	Warning	Electrically heated window ^a	
8	Indicator lamp for power take-off 1	Warning		
9	Indicator lamp for power take-off 2	Warning		
10	Indicator lamp for power take-off 3	Warning		

a. Applies to crew cab

b. Applies to special orders

Explanation of concepts:

CAN (1–10) Driver Information Request 1 to 10

C234- (1–10) Connector C234 pin 1 to pin 10

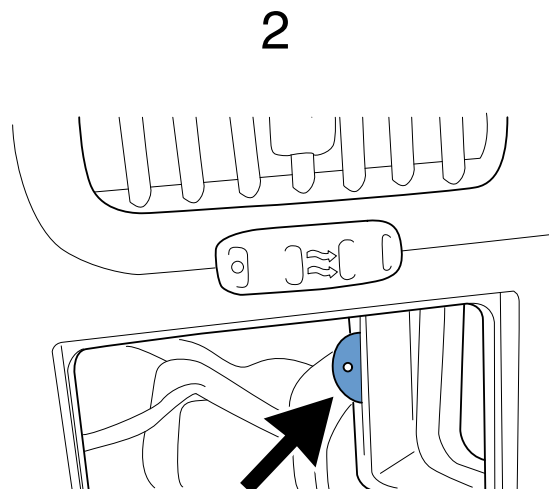
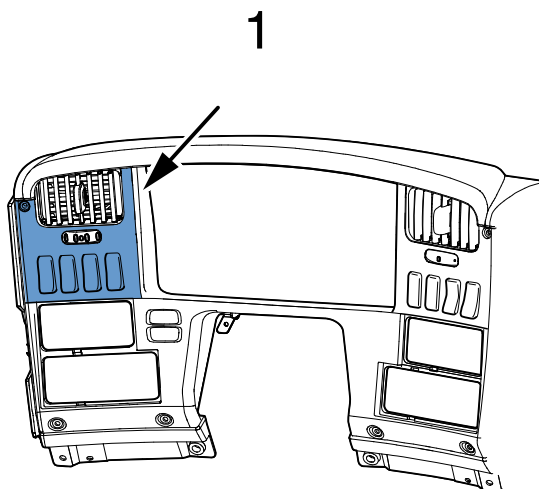
AH Active high, +24 V

AL Active low, ground connection

Work description for accessing the symbol lens

Removing the symbol lens on left-hand drive vehicles

1. Remove the panel from around the air vent by carefully pulling at the spot indicated with an arrow in the illustration. Let the panel hang from the switches' electrical cables.
2. Remove the symbol lens.



315 881

Removing the symbol lens, right-hand drive vehicles

1. Remove the panel from around the air vent by carefully pulling at the spot indicated with an arrow in the illustration. Let the panel hang from the switches' electrical cables.
2. Remove the symbol lens.

