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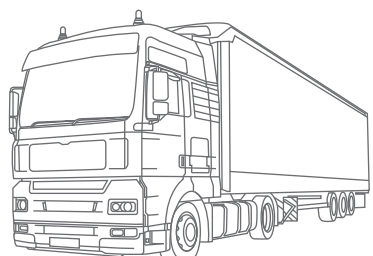
w w w . m a c r o m . i t

PARKING
Assistance

User Manual

BSD423TR (Blind Spot Detection)



MACROM

Warranty

Thank you for purchasing this Macrom product.
Please read this instruction manual carefully so that you understand how to operate the product correctly. After reading the instructions, keep the manual in a safe place for future reference.
If the product requires servicing, please refer to the shop where you purchased it or your local distributor in your country. The warranty does not cover accidental damage due to improper use or installation, incorrect power connections or damage caused to the vehicle.

Safety information

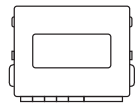
Before beginning installation, disconnect the cable from the negative battery terminal to prevent short circuits during installation.
This electronic device must be installed correctly by an authorised Macrom installer.
Improper installation may damage the unit and/or the vehicle.
Check the electrical connections and the drivability of the vehicle before installation.

Contents

Disclaimer

1. This system is designed as a driver assistance device and should not be used as a substitute for safe driving practices.
2. This system must be installed by a professional installer.
3. Install cables away from heat sources and electrical components.
4. It is strongly recommended that you check the position of the sensors before drilling into any parts of the vehicle.
5. Perform a functional test after installation.
6. Macrom does not guarantee nor accept any responsibility for any accidents.

Package contents


Control unit x 1


Internal buzzer x 1

Rubber cover (for 4° sensor) x 4


Angle adapter (for 13° sensor) x 4


Wiring x 1


Display x 1


Sensor x 4


Bracket x 4


5° spacer x 4


10° spacer x 4


Sensor cable x 4

Manual x 1

- Control unit / Display / Buzzer:
  - Operating voltage : 10V ~ 32V
  - Operating current : < 300mA (without external accessories)
  - Operating temperature : -40°C ~ 80°C

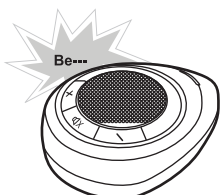
- External buzzer:
  - Operating voltage : 12V ~ 32V
  - Operating current : <1A
  - Output power : 15W
  - Operating temperature: -40°C ~ 80°C

Self-test function

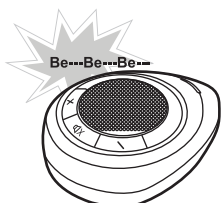
- When the ignition (ACC) is on, the system performs a self-test on all 4 sensors.

1. If all sensors are functioning correctly, the blue LED light flashes once and the buzzer emits an acoustic signal to indicate that the system is functioning correctly.

2. If a damaged or faulty sensor is detected, the red LED light flashes 3 times and the buzzer emits 3 warning acoustic signals.



All sensors are functioning correctly

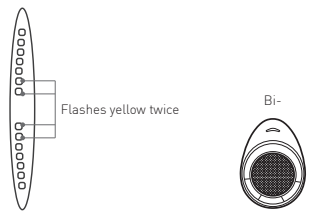


A damaged or faulty sensor is detected

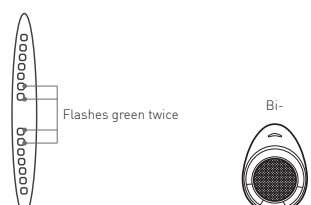
Note: The damaged or faulty sensor will be deactivated while the remaining sensors continue to function correctly.

Learning function

- The learning function can be used to exclude additional components of the vehicle's collision assistance system and avoid false alarms when such obstacles are detected.



- **Enter the learning function:**
  To activate the learning function, pull the handbrake 10 times continuously (within 15 seconds).
  After the tenth pull, the fault indicators for sensors A, B, C and D will flash yellow twice in synchronisation.

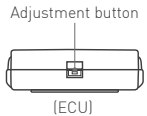


- **Cancels the learning function:**
  To activate the compensation function, pull the handbrake 12 times continuously (within 18 seconds).
  After the twelfth pull, the fault indicators for sensors A, B, C and D will flash green twice in synchronisation.

Sensitivity adjustment

- **Operation**

  Briefly press the button on the ECU to scroll through the available system settings:
  HIGH → MEDIUM → LOW → High ...

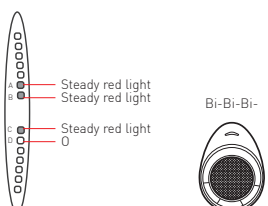


Note: The factory default setting is: HIGH.

Information

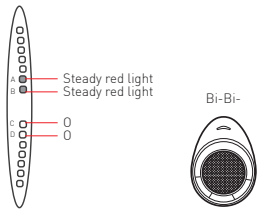
- Sensitivity is the evaluation of an obstacle for detection purposes.
  Note: A PVC pipe with a diameter of 75 mm is the standard adjustment obstacle.

  HIGH sensitivity: the obstacle can be detected at a greater distance, between 1.2 and 1.3 metres.
  MEDIUM sensitivity: the obstacle can be detected at a distance between 1.0 and 1.2 metres.
  LOW sensitivity: the obstacle can be detected at a distance between 0.8 and 1.0 metres.



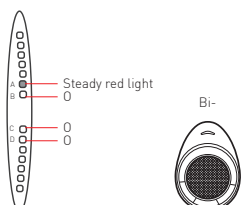
- **Sensitivity is HIGH**

  The LED indicators for sensors A, B and C are always on, while the sensor D indicator is off.
  At the same time, the internal buzzer will emit three beeps, Bi-Bi-Bi.



- **Sensitivity is MEDIUM**

  The LED indicators for sensors A and B are always on, while the LED indicators for sensors C and D are off.
  At the same time, the internal buzzer will emit two acoustic signals, Bi-Bi.



- **Sensitivity is LOW**

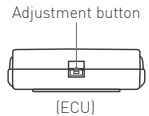
  The LED indicator for sensor A is always on, while the LED indicators for sensors B, C and D are off.
  At the same time, the internal buzzer will emit an acoustic signal, Bi.

Detection distance configuration

• **Operation:**

Press and hold the button on the ECU for 3 seconds, then press it briefly to scroll through ① → ②→ ③ → ①..

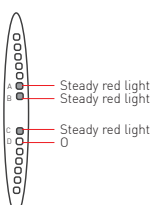
Note: The factory default setting is: ①.



• **Information:**

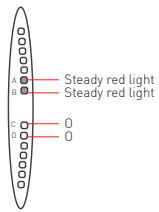
The obstacle detection activation distance corresponding to each value of the following parameters:

① : 1.99 metres (In mode ①, you can change the alarm configuration A or B).
Refer to the section 'Alarm mode configuration' on page 11.
② : 0.99 metres
③ : 0.80 metres



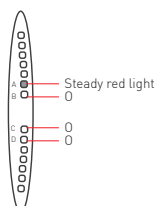
• **Detection ①**

The LED indicators for sensors A, B and C are always on, while the indicator for sensor D is off.
At the same time, the internal buzzer will emit three beeps, Bi-Bi-Bi.



• **Detection ②**

The LED indicators for sensors A, B and C are always on, while the LED indicators for sensors D and E are off.
At the same time, the internal buzzer will emit two beeps, Bi-Bi.



• **Detection ③**

The LED indicator for sensor A is always on, while the LED indicators for sensors B, C and D are off.
At the same time, the internal buzzer will emit one acoustic signal, Beep.

Volume adjustment

- You can select from 3 volume levels: high, medium and low.
- Press the buzzer's '+/-' button to adjust the volume. The system will save and exit automatically after 2 seconds.
  (Default setting: minimum volume)

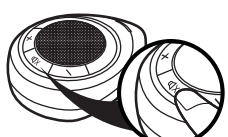
Alarm mode configuration

Note: The following alarm configuration is only active with the detection distance configuration in opposition ① (1.99 metres)

- Press and hold the " 🔇 " button until the red and blue lights come on simultaneously. Press the '+/-' button to scroll through the modes.

1. The buzzer will sound once for Mode A.
2. The buzzer will sound twice for Mode B.

* If no operation is performed within 2 seconds, the system will automatically save and exit.



Alarm Mode

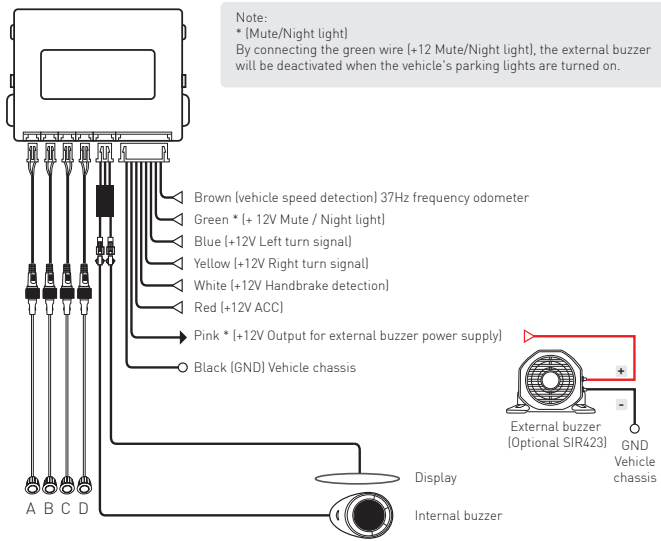
Distance	Signal	Mode A	Mode B
≥ 2m	-	-	-
1.00~1.99 m	LED Light (Steady)	Green Light	
	Buzzer	Bi---Bi---	-
0.6~ 0.99 m	LED Light (Steady)	Yellow light	
	Buzzer	Bi--Bi--Bi--	
<0.59 m	LED Light (Steady)	Red light	
	Buzzer	Bi——	

- External audible alarm:
  1. If no obstacle is detected and the turn signal is on, the system will not issue any warning;
  2. If no obstacle is detected and the turn signal is off, the system will not issue a warning;
  3. If an obstacle is detected and the turn signal is off, the system will not issue a warning;
  4. If an obstacle is detected and the turn signal is on, the system will issue a warning.

System operating logic

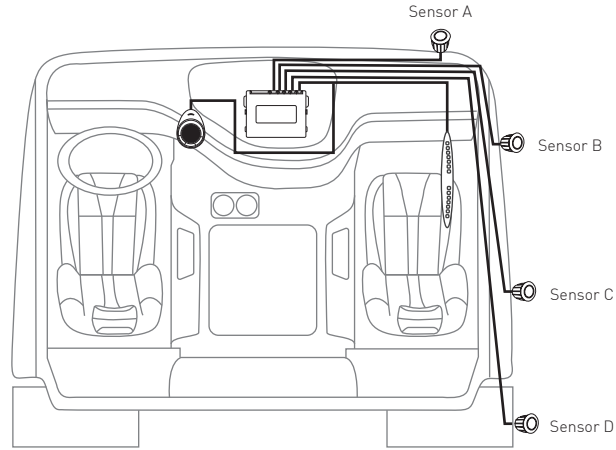
ACC	Speed	Handbrake	Left indicator	Right indicator	System	Vehicle status
OFF	In all conditions	In all conditions	In all conditions	In all conditions	OFF	After switching off the vehicle, the system does not operate under any conditions.
ON	⩾30Km/h	No signal	No signal	No signal	OFF	Quando la velocità del veicolo è ≥30 km/h. • Scenario 1: il veicolo viaggia in linea retta ad alta velocità.
ON	⩾30Km/h	No signal	No signal	Trigger	**ON**	When the vehicle speed is ≥30 km/h. • Scenario 1: The vehicle is travelling in a straight line at high speed.
ON	⩾30Km/h	No signal	Trigger	No signal	**ON**	
ON	⩾30Km/h	No signal	Trigger	Trigger	**ON**	When the vehicle speed is ≥30 km/h, activate the turn signal. • Scenario 1: The vehicle is travelling at high speed and is preparing to turn left or right.
ON	⩾30Km/h	Trigger	No signal	No signal	OFF	When the vehicle speed is ≥30 km/h, activate the hazard warning lights. • Scenario 1: The vehicle encounters an abnormality while driving at high speed.
ON	⩾30Km/h	Trigger	No signal	Trigger	OFF	
ON	⩾30Km/h	Trigger	Trigger	No signal	OFF	
ON	⩾30Km/h	Trigger	Trigger	Trigger	OFF	
ON	⩽30Km/h	No signal	No signal	No signal	**ON**	When the vehicle speed is ≤30 km/h and the handbrake signal is not active.
ON	⩽30Km/h	No signal	No signal	Trigger	**ON**	
ON	⩽30Km/h	No signal	Trigger	No signal	**ON**	
ON	⩽30Km/h	No signal	Trigger	Trigger	**ON**	
ON	⩽30Km/h	Trigger	No signal	No signal	OFF	When the vehicle speed is ≤30 km/h and the handbrake signal is active.

Wiring diagram



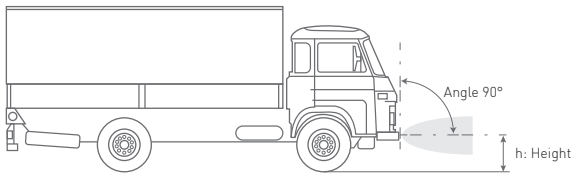
Installation

1



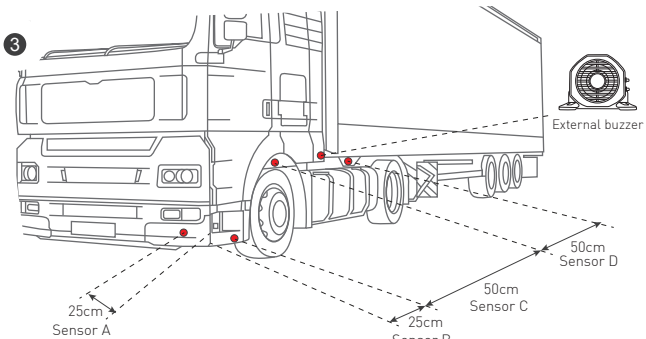
Installation

2



CAUTION: We recommend installing the sensors at a height (h) between 40 and 70 cm.

3



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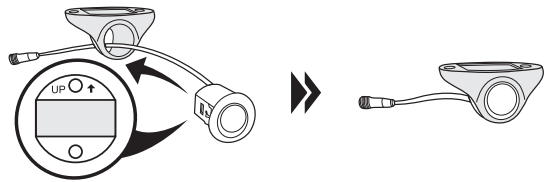

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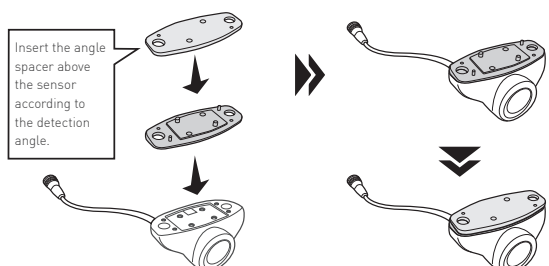

⚠ For optimal performance, we recommend installing sensor A using a 10° spacer, with the sensor facing upwards.

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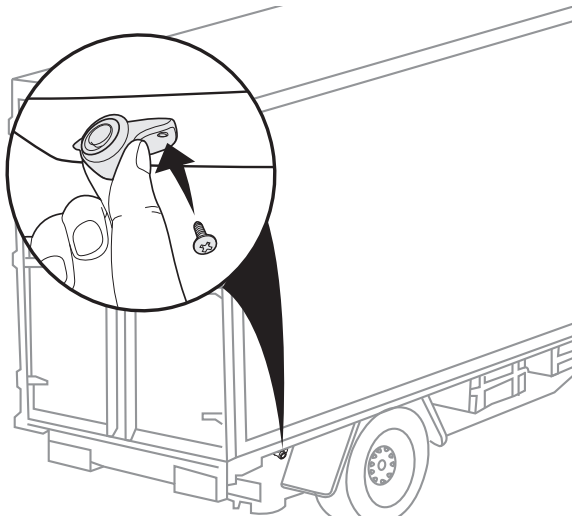

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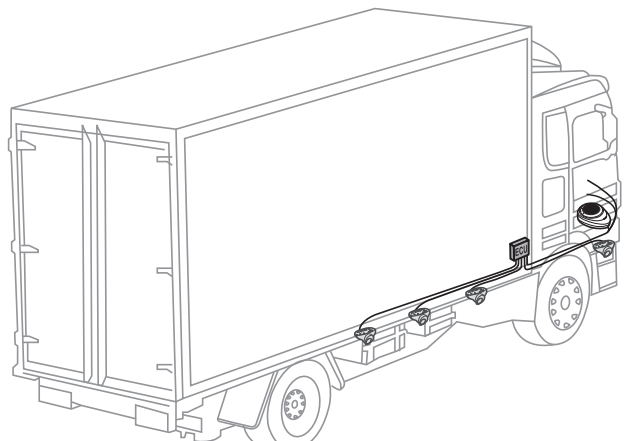

Troubleshooting

❶ After installation, the buzzer/display does not work.

- Ensure that the cables are connected correctly.
- Ensure that the vehicle's ACC is switched on.
- Ensure that reverse gear is engaged (the reverse light must be on).

❷ Damaged sensor detected.

- Ensure that ALL sensors are correctly and securely connected to the control unit.
- Ensure that the sensor is not covered by snow or dirt.
- Check whether the sensor is damaged.

❸ False alarm.

- Ensure that ALL sensors are connected to the control unit in the correct position and securely.
- Check whether one of the sensors has detected the ground.
- Check whether the rubber ring on the sensor has come off (if the sensor is equipped with a rubber ring).

❹ The alarm sound displayed is too low or too high.

- Press the volume button to adjust the volume to a suitable level.

❺ If the problem persists, proceed as follows.

- For consumers: contact your nearest dealer or customer service centre.
- For installers/retailers.
- Replace another control unit and test the sensors again.
- Connect the certified sensors to the control unit and perform a function test again.
- Send us an email at: info@macrom.it to report any problems with details.

Declaration of conformity

The complete Declaration of Conformity is available from:
GMA ITALIA s.r.l, V. Di Vittorio, 7/33 - 20017 - Rho (MI) Italy
and available on the website www.macrom.it

Manufactured in China by
GMA ITALIA s.r.l, via G. Di Vittorio, 7/33 - 20017 - Rho (MI) Italy

Informazioni per apparecchiature domestiche

Ai sensi del Decreto Legislativo N° 49 del 14 Marzo 2014 "Attuazione della Direttiva 2012/19/UE sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE)". Il simbolo del cassonetto barrato riportato sull'apparecchiatura indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti.

L'utente dovrà, pertanto, conferire l'apparecchiatura integra dei componenti essenziali giunta a fine vita agli idonei centri di raccolta differenziata dei rifiuti elettronici ed elettrotecnici, oppure riconsegnarla al rivenditore al momento dell'acquisto di nuova apparecchiatura di tipo equivalente, in ragione di uno a uno, oppure 1 a zero per le apparecchiature aventi lato maggiore inferiore a 25 CM. L'adeguata raccolta differenziata per l'avvio successivo dell'apparecchiatura dimessa al riciclaggio, al trattamento e allo smaltimento ambientale compatibile contribuisce ad evitare possibili effetti negativi sull'ambiente e sulla salute e favorisce il riciclo dei materiali di cui è composta l'apparecchiatura.
Lo smaltimento abusivo del prodotto da parte dell'utente comporta l'applicazione delle sanzioni amministrative di cui al D.Lgs n. Decreto Legislativo N° 49 del 14 Marzo 2014.