



ECCO®

Installation and Operation Instructions 5500 Series LED Microbars

5545/5550 Series - Reflex™ LED Microbars provide a compact yet powerful warning solution that offers the flexibility of either permanent, high-bond tape (HBT), or vacuum-magnet mounting. All models feature 12-24 VDC operation and use LED technology to maximize light output. Multiple flash patterns are available including double, quad quint, rotate and random.



WARNING!

Failure to install or use this product according to manufacturer's recommendations may result in property damage, serious injury, and/or death to those you are seeking to protect!



Do not install and/or operate this safety product unless you have read and understand the safety information contained

1. Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of you and those you are seeking to protect.
2. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation are vital to the performance of this warning device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. Do not install this product or route any wires in the deployment area of an air bag. Equipment mounted or located in an air bag deployment area may reduce the effectiveness of the air bag or become a projectile that could cause serious personal injury or death. Refer to the vehicle owner's manual for the air bag deployment area. It is the responsibility of the user/operator to determine a suitable mounting location ensuring the safety of all passengers inside the vehicle particularly avoiding areas of potential head impact.
6. It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles or other obstructions.
7. The use of this or any other warning device does not ensure all drivers can or will observe or react to a warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, right-of-way at a high rate of speed, or walking on or around traffic lanes.
8. This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

Specifications:

Size: 5545X, 5545XX 10" x 7" x 2"
5550X, 5550XX
5550XXX

5545X-HBT, 5545XX-HBT 10" x 7" x 2.5"
5550X-HBT, 5550XX-HBT
5550XXX-HBT

5545X-VM, 5545XX-VM 10" x 7" x 3"
5550X-VM, 5550XX-VM
5550XXX-VM

Input Voltage: 12 to 24 VDC systems

Weight:

Mount	5545	5550
Permanent Mount	approx. 1.8 lbs	approx. 2.0 lbs
HBT Mount	approx 2.5 lbs	approx. 4.0 lbs
Vacuum-Magnet Mount	approx. 3.0 lbs	approx. 4.3 lbs

Current Draw:

5545: 1.48 Amps Maximum
Maximum power consumption: 18.9 watts

5550: 3.8 Amps Maximum
Maximum power consumption: 48.6 watts

Flash Rate:

See Flash Pattern Chart

Temp. Range:

-30°C to +50°C

Important! Disable power before wiring up the Microbar.

Caution: When drilling into any vehicle surface, make sure the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged

Installation & Mounting:

Important! This unit is a safety device, and it must be connected to its own separate, fused power point to assure its continued operation should any other electrical accessory fail.

Carefully remove the Microbar and place it on a flat surface. Examine the unit for transit damage, and locate all parts. If damage is found, or parts are missing, contact the transit company or ECCO. Do not use damaged or broken parts.

Permanent Mounting:

1. Select the desired location on a flat surface for the Microbar to be mounted. The visibility of the flash and ease of wiring access should be taken into consideration in the selection of the mounting location.
2. Remove lens screws, then remove lens. Use the four holes in the corners of the base to mark the mounting hole locations.
3. Drill the holes using a 7/32" drill size.
4. A fifth hole may be drilled for wire access.
5. Connect the power wires as shown in the wiring section (see Figure 6).
6. Mount the microbar with M5 hardware provided.

Vacuum-Magnet Mount:

The Vacuum-Magnet Mount feature includes a suction cup on the bottom of the microbar, with a magnet inside of the suction cup, for a secure, temporary mount. The microbar should be placed in the center of the roof where the least amount of curvature occurs. Before installing, make sure the mounting surface is clean and there is no debris on the bottom of the microbar or on the roof of the vehicle, which could reduce the holding power of the suction cup and magnet. Place and remove the microbar without sliding to avoid scratching the paint on the vehicle. After placement, the microbar should adhere firmly to the surface. If the unit slides or moves easily, a proper installation has not been obtained. To release the vacuum, lift the tab to release the airtlock (see Figure 1). To protect the Vacuum-Magnet Mount assembly, return microbar to the box when not in use. **Do not attempt to attach the microbar to an ice-covered surface.**

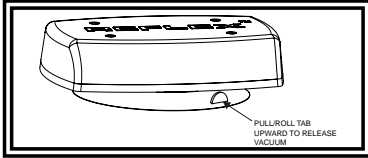


FIGURE 1

Vacuum Mount Installation for 5500 Series:

1. Remove round black stickers for vacuum placement.
2. Remove lens screws, then remove lens.
3. Unclip and remove wire harness.
4. Insert the pinned end of the cigarette adapter cable through the wire harness hole from the bottom of the base.
5. Turn pins crimp side up, and insert pins into connector as shown in Figure 3.
6. Place zip-tie 1.0" from base of the connector shown in Figure 4. Zip-tie must not be able to slide on cord.
7. Clip the connector to the PCA board and pull slack until zip-tie touches base.
8. When looking at the top of the microbar with the cable to the left hand side, remove the screws securing the upper right module and set to the side.
9. Position the vacuum magnet, and secure in place with included hardware.
10. Re-install module and lens, reverse of removal. Slide o-ring onto screw until it reaches head, before securing into lens.

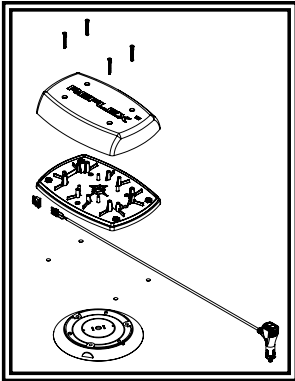


FIGURE 2

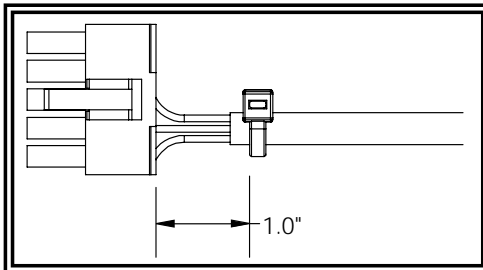


FIGURE 4



WARNING!

Maximum recommended vehicle speed for safe operation using the Vacuum Mount model is 65 mph (104 km/h), when fitted to the center of a vehicle roof of steel construction. Higher speeds could cause the mount to fail, resulting in the minibar flying off of the vehicle, which could cause damage to other vehicles, and injury or death to the passengers. The vacuum-magnet mount is not intended as a permanent mounting for the minibar. The vacuum-magnet mount unit must be mounted on a flat smooth magnetic surface (i.e. no fiberglass, ribbed style roofs, etc.). Ensure that the magnet is kept clean.



WARNING!

Failure to follow these instructions can result in fire or injury from excessive heat build up.

Operator is responsible for ensuring auxiliary plug fits correctly into auxiliary power plug outlet used.

For proper operation, verify auxiliary power outlet circuit is rated to supply a minimum of 10 amps. (See specifications section for rated current in amperes). Do not exceed the current rating for the auxiliary power outlet recommended by vehicle manufacturer.

Keep auxiliary plug and outlet clean and free of debris.

Do not use the auxiliary plug when wet.

Insert auxiliary plug fully into the outlet for proper connection.

Grasp auxiliary plug, NOT cord, to remove from outlet.

Remove auxiliary plug completely from outlet when light is not in use.

Note: Operating the Microbar without the lens installed on this product will result in damage that will not be covered under warranty.

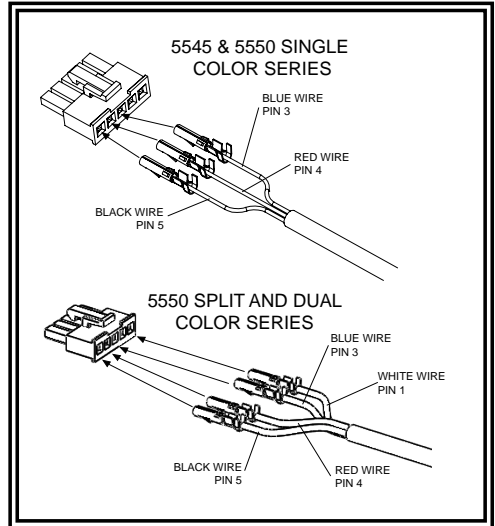


FIGURE 3

Wiring:

The wiring for the permanent mount Microbar is as shown in Figure 5. All wiring should be a minimum of 18AWG. The positive line must have a 5 amp fuse, as shown. A switch may be used to control the on/off function.

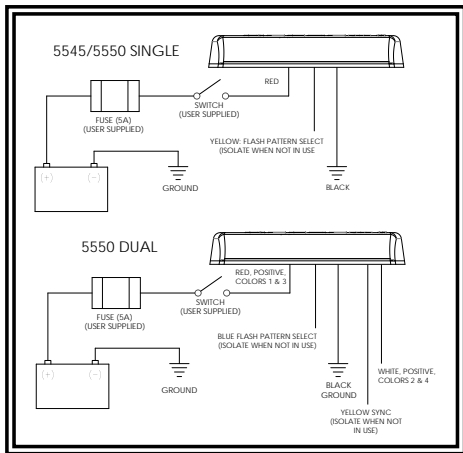


FIGURE 5

Flash Mode Selection:

Flash patterns can be selected on a permanent mount microbar by touching the blue wire to the black ground wire for less than a second. Contacting the blue and back wires for longer than a second toggles to the preceding flash pattern. The VM models have flash pattern select via a momentary switch on the cigarette plug

SYNCHRONIZATION:

The permanent mount microbars sync with compatible ECCO products via the yellow wire:

1. Determine the desired style of flash pattern for each unit and set each unit individually (without the yellow wires connected together) to avoid confusion. It is also strongly recommended that the same style of flash pattern be used on all units to produce the most effective warning pattern. (NOTE: Phases A and B for each style of flash pattern in the table denote the relative timing between units connected in a synchronizing installation. To operate simultaneously, each unit must be set to the same phase (A + A or B + B); to operate alternately, units must be set to have the opposite phase (A + B or B + A)).
2. Connect the yellow sync wires together and check that the units are flashing in a synchronized manner as expected. If a pattern on one unit appears incorrect, the blue pattern select wire can be used to cycle forward or backward on that individual unit until the correct pattern is selected. Note: This will only change the pattern in the one unit and will not affect the other units connected to the yellow sync wire.
3. If the yellow wire is unused, leave unconnected and insulated.

Flash Pattern Chart, Tabla de Patrones de Intermitencia, Flash Graphique de Motif

Sequence	Description	FPM	Phase	SAE J845			CA Title 13		ECE R65	
				5545A 5545CA	5550A 5550CA	5550CAC	5550A 5550CA	5550CAC	5550A 5550CA	5550CAC
1	Quad (Default)	75	A	Class 2	Class I	Class I	Class E	Class E	N/A	N/A
2	Quad	75	B		Class I	Class I	Class E	Class E	N/A	N/A
3	Double	75	A	Class 2	Class I	Class I	Class E	Class E	N/A	N/A
4	Double	75	B		Class I	Class I	Class E	Class E	N/A	N/A
5	Fast Double	120	A	N/A	N/A	N/A	N/A	N/A	Class I	Class I
6	Fast Double	120	B	N/A	N/A	N/A	N/A	N/A	Class I	Class I
7	Slow Quad	65	A	Class 2	Class I	Class I	Class E	Class E	N/A	N/A
8	Slow Quad	65	B		Class I	Class I	Class E	Class E	N/A	N/A
9	Slow Double	65	A	Class 2	Class I	Class I	Class E	Class E	N/A	N/A
10	Slow Double	65	B		Class I	Class I	Class E	Class E	N/A	N/A
11	Quint-hold	75	A	Class 2	Class I	Class I	Class E	Class E	N/A	N/A
12	Quint-hold	75	B		Class I	Class I	Class E	Class E	N/A	N/A
13	Burst	75	A	Class 2	Class I	Class I	N/A	N/A	N/A	N/A
14	Burst	75	B		Class I	Class I	N/A	N/A	N/A	N/A
15	Quad, Alternate Side-to side	150								
16	Quad, Diagonal Alternate	150								
17	Double, Alternate Side-to Side	150								
18	Double, Diagonal Side-to Side	150								
19	Quint-hold, Alternate Side-to Side	150								
20	Quint-hold, Diagonal Side-to Side	150								
21	Fast Rotate	120								
22	Rotate/Quad	150/75								
23	Wave Rotate	75								
24	Random									
25	Single	120								
26	Quad	120								
27	Steady									

Manufacturer Limited Warranty and Limitation of Liability:

Manufacturer warrants that on the date of purchase, this product will conform to Manufacturer's specifications for this product (which are available from the Manufacturer upon request). This Limited Warranty extends for thirty-six (36) months from the date of purchase.

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