

Installing Electric Trailer Brake Controller

Topic number	LI31.19-P-047216
Version	2
Design group	31.19 Trailer coupling - electrical system
Date	05-19-2016
Validity	Model 164.122/175/177/186/822/871 Model 463 Model 166 Model 253 Model 292
Reason for change	Models added
Reason for block	

Complaint:

Installing Electric Trailer Brake Controller

Cause:

N/A

Remedy:

If you receive customer inquiries regarding the need for an electric trailer brake controller in the above model vehicles, the following guide is provided.

Note: There are various makes and models of brake controllers on the market and none have been tested or approved for use by Mercedes-Benz. If you choose to install an unapproved aftermarket brake controller, we strongly suggest that all work of this type be performed in strict accordance to the installation instructions and set up procedures as supplied by the brake controller manufacturer. The following instructions are only provided as additional information. Installation of electric trailer brake controllers or any damage to the vehicle caused by their use is not covered by the Mercedes-Benz warranty.

1. Locate plug X58/28 utilizing appropriate wiring diagrams. This contains the four wires needed for the electric trailer brake controller.
2. Refer to the attachment for X58/28 wire description.

[i] Note: Many electric trailer brake controllers specify that the power supply must be wired using a self resetting circuit breaker. Follow the instructions supplied with the electric trailer brake controller.

Adapter Harness for X58/28

In order to assist in the installation of an electronic brake controller, an adapter harness which plugs into the vehicle's X58/28 connector may be built. This adapter harness can then be run to the installed location of the electronic brake controller. The parts required for this adapter harness are specified in the attachment and consist of a green female connector housing, 0.75 mm2 pin, 2.5 mm2 pin, 0.35-0.5mm2 pin, and four lengths of wire (Figure 1).

All four wires need to run from the X58/28 connector to the installed location of the electronic brake controller, which can vary depending on customer preference.

[i] Note: If connector X58/28 is not present in the appropriate wiring diagram or is not present in the vehicle, the installation of an electronic brake controller is not supported

XENTRY TIPS

[i] Note: For 164 chassis only: Check the installed rear SAM. If a rear SAM with part number A164 540 78 45 or A164 540 88 45 is currently installed, a new rear SAM must be installed and version coded. The current part number is listed in the parts information section below. The cost of this update is not covered by warranty. Some vehicles without a factory trailer hitch are equipped with a rear SAM that requires replacement with a different rear SAM if trailer brakes are to be retrofitted.

Warning! The electric trailer brake controller must be adjusted according to the instructions supplied with the electric trailer brake controller, which requires the trailer be connected to the tow vehicle.

Attachments	
File	Description
Figure 1.jpg	Adapter harness
Wire Description.jpg	Wire sizes, colors, and adaptor pin part numbers

Symptoms
Overall vehicle / Complete vehicle / Modified to

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 164 540 11 01			Rear SAM	1		X
A 039 545 35 28			Connector Housing	1		X
A 046 545 40 28			Pin for wire size 0.75 mm2	1		X
A 035 545 74 28			Pin for wire size 2.5 mm2	3		X
A 037 545 96 28			Pin for wire size 0.35mm2	1		X
A 046 545 40 28			Pin for wire size 0.5mm2	2		X
LOCALLY-SOURCED			Wire size 0.35 - 2.5mm2	As Required		

Attachments

Figure 1.jpg:



Wire Description.jpg:

X253 Wire Description - X58/28

Color	Size	Pin	Adapter harness pin part number	Description
Red/Blue	2.5mm	4	A0355457428	Fuse F1/3f308, 30 amp. This is the power supply for the electric trailer brake controller
Brown	2.5mm	1	A0355457428	W15/5 Ground. This is the ground wire for the electric trailer brake controller
Green	.35mm	3	A0375459628	Brake light circuit. This is the brake signal (input) for the electric trailer brake controller
Black/Red	2.5mm	2	A0355457428	X58/11 pin 7. This is the variable voltage signal to actuate the trailer brakes (output from electric trailer brake controller)

W/X164 Wire Description - X58/28

Color	Size	Pin	Adapter harness pin part number	Description
Red or Red/Blue	2.5mm	2	A0355457428	Fuse F4f71, 30 amp. This is the power supply for the electric trailer brake controller
Brown	2.5mm	1	A0355457428	W7 Ground. This is the ground wire for the electric trailer brake controller
Grey or Black/Red	.75mm	3	A0465454028	Brake light circuit. This is the brake signal (input) for the electric trailer brake controller
Yellow/Red or Yellow/White	2.5mm	4	A0355457428	X58/11 pin 7. This is the variable voltage signal to actuate the trailer brakes (output from electric trailer brake controller)

463 (as of MY13) Wire Description - X58/28

Color	Size	Pin	Adapter harness pin part number	Description
Red/Blue	2.5mm	4	A0355457428	Fuse F4f124, 30 amp. This is the power supply for the electric trailer brake controller
Brown	2.5mm	1	A0355457428	W8 Ground. This is the ground wire for the electric trailer brake controller
Black/Red	.75mm	3	A0465454028	Brake light circuit. This is the brake signal (input) for the electric trailer brake controller
Yellow/Red	2.5mm	2	A0355457428	X58/11 pin 7. This is the variable voltage signal to actuate the trailer brakes (output from electric trailer brake controller)

W/X166 (up to MY15) Wire Description - X58/28

Color	Size	Pin	Adapter harness pin part number	Description
Red/Blue	2.5mm	4	A0355457428	Fuse F4f124, 30 amp. This is the power supply for the electric trailer brake controller
Brown	2.5mm	1	A0355457428	W15/2 Ground. This is the ground wire for the electric trailer brake controller
Black/Red	.75mm	3	A0465454028	Brake light circuit. This is the brake signal (input) for the electric trailer brake controller
Yellow/Red	2.5mm	2	A0355457428	X58/11 pin 7. This is the variable voltage signal to actuate the trailer brakes (output from electric trailer brake controller)

W/X166, 292 (as of MY16) Wire Description - X58/28

Color	Size	Pin	Adapter harness pin part number	Description
Red/Blue	2.5mm	4	A0355457428	Fuse F4f124, 30 amp. This is the power supply for the electric trailer brake controller
Brown	.5mm	1	A0465454028	W15/2 Ground. This is the ground wire for the electric trailer brake controller
Black/Red	.5mm	3	A0465454028	Brake light circuit. This is the brake signal (input) for the electric trailer brake controller
Yellow/Red	2.5mm	2	A0355457428	X58/11 pin 7. This is the variable voltage signal to actuate the trailer brakes (output from electric trailer brake controller)