> ⚠️ **Update Alert**: Firmware updates are posted to the web on a regular basis. We recommend that you check for firmware and/or install guide updates prior to installing this product.

Installation Guide

The DBALL2-MRC01 is a door lock and key Interface compatible with the Mercedes Benz cars. Features include door locks, turn signals, windows and sunroof, door trigger sensing, hood pin, trunk/hatch, ignition and tach output.

Mercedes-Benz

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Vehicle Application Guide

Vehicle Years & Installation Type

Vehicle	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	AV- Turn Signal Control ON/OFF*	CC- Power Windows Rollup	CC- Power Windows Rolldown	CC- Sunroof closure	CC- Comfort Closure	DL- Arm Factory Security	DL- Disarm Factory Security	DL- Door Lock Control	DL- Door Unlock ALL doors	DL- Door Unlock Driver Priority	DL- Trunk / Hatch Release	FOB-Control of aftermarket alarm with OEM remote	SS- Entry Status ALL Door Pins	SS- Entry Status Hood Pin	SS- Entry Status Trunk/Hatch Pin	SS- Entry Status Drivers Door Pin	MC - Keysense Status
MERCEDES																													
A-Class (W169)				A	A	A	A	A	A	A	A		•					•	•	•	•	•	•	D	•	•	•	D	D
A-Class (W176)	B	B	B										•					•	•	•	•	•	•	D	•	•	•	D	D
B-Class (W245)					A	A	A	A	A	A	A		•	•	•			•	•	•	•	•	•	D	•	•	•	D	D
B-Class (W246)	B	B	B	B									•					•	•	•	•	•	•	D	•	•	•	D	D
C-Class (W203)										A	A		•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
C-Class (W204)			B	B	B	B	B	B	B				•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
CL-Class (C216)			B	B	B	B	B	B	B	B			•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
CLA-Class (C117)	B	B	B										•					•	•	•	•	•	•	D	•	•	•	D	D
CLC-Class (CL203)					A	A	A	A					•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
CLK-Class (W209)							A	A	A	A	A		•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
CLK-Class (C207)			B	B	B	B							•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
CLS-Class (W219)					A	A	A	A	A	A	A		•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
CLS-Class (W218)	B	B	B	B									•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
E-Class (W211)								A	A	A	A	A	•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
E-Class (W212)	B	B	B	B	B	B	B						•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
G-Class (W643)	B	B	B										•					•	•	•	•	•	•	D	•	•	•	D	D
GL-Class (X164)				A	A	A	A	A	A	A			•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
GLK-Class (X204)			B	B	B	B	B	B					•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
ML-Class (W164)					A	A	A	A	A	A			•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
ML-Class (W166)		B	B	B									•					•	•	•	•	•	•	D	•	•	•	D	D
R-Class (V251)	A	A	A	A	A	A	A	A	A	A			•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
S-Class (W221)			B	B	B	B	B	B	B	B			•	•	•	•	•	•	•	•	•	•	•	D	•	•	•	D	D
Vito		A	A	A	A	A	A	A	A	A			•					•	•	•	•	•	•	D	•	•	•	D	D
Viano		A	A	A	A	A	A	A	A	A			•					•	•	•	•	•	•	D	•	•	•	D	D

* - available only in trigger or warning mode

D: Data-to-Data (D2D) only   AV: Horn & Lights Control   DL: OE Door Lock & Alarm Controls   SS: Entry Point Status-Security
•: D2D and Wire-to-Wire (W2W)   CC: Comfort & Convenience Controls   RS: Engine Start & Status   ST: Function/Feature Status
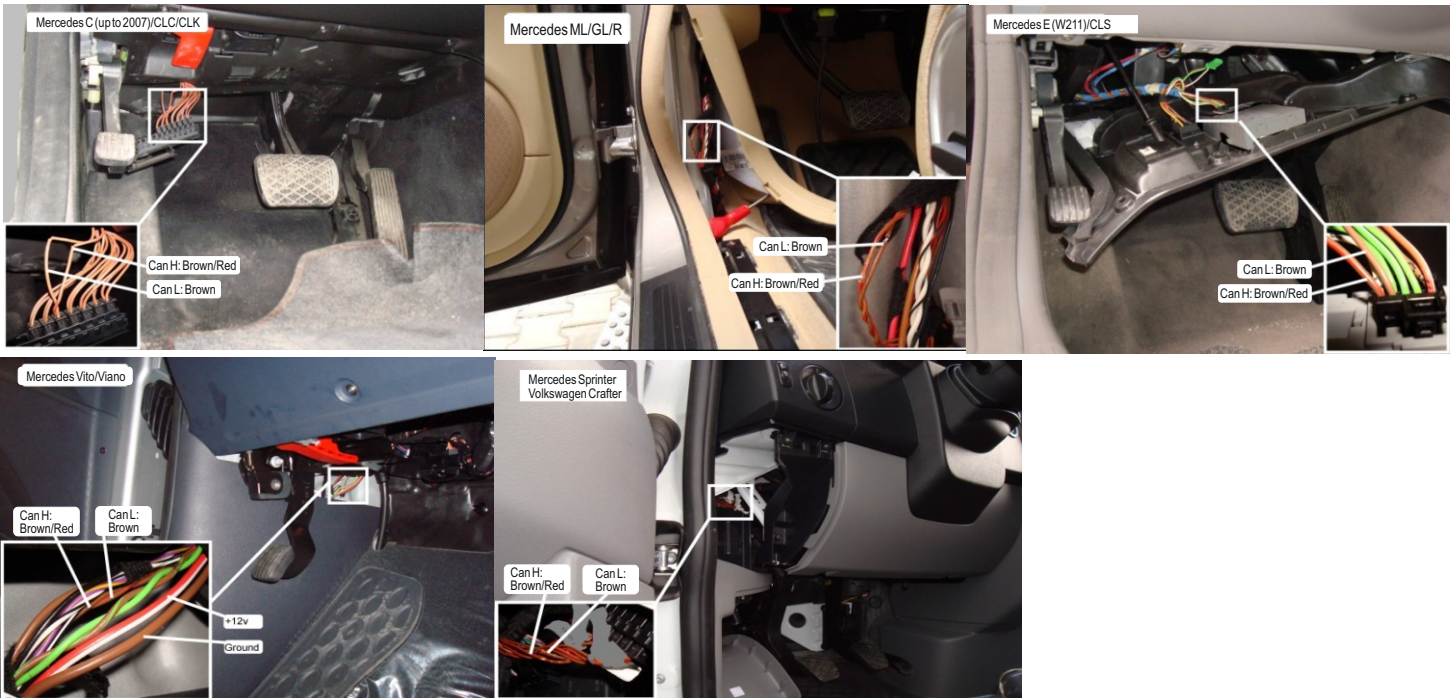
Installation Wiring Diagram

Security System
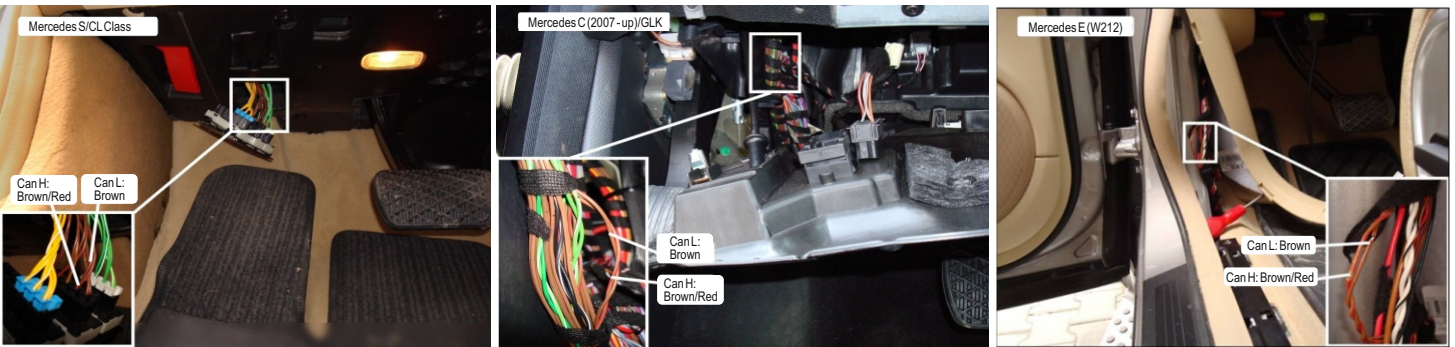
(+) 12 V
(-) Ground
(-) Lock Output
(-) Unlock Output
(-) Trunk Release Output
Aux 1 Output
Aux 2 Output
(+) Parking Lights Output

(-) Hood Status Input
(+) Ignition Input
(-) Trunk Status Input
(-) Door Status Input

Twisted pair in driver kick panel or driver side under dashboard (see page 4 for CAN location)

CAN High: Brown/Red
CAN Low: Brown

⚠ **See VAG on page 2**

Type B
3: Tan/Black: HS CAN High
4: Tan: HS CAN Low

OR

Type A
5: Orange/Green: FT CAN High
6: Orange/Brown: FT CAN Low

(+) 12v ———————13: Red: (+) 12v
(-) Ground ———— 14: Black: (-) Ground

14

3: Green/White: (-) Door Status Output
4: Red/Black: (-) Trunk Status Output

7: Gray/Black: (+) Ignition Output
12: Blue/Red: (-) Hood Status Output

12

7: Pink/White: (+) Parking Lights Input
5: Violet/Black: (-) AUX2 Input*
4: White/Violet: (-) AUX1 Input*
3: Red/White: (-) Trunk Release Input
2: Blue: (-) Unlock Input
1: Green: (-) Lock Input

10

RF Loop connector
Programming button
LED

2

DBALL

(+)12v
RX
(-) Ground
TX

4

D2D
P#: **XKD2D65**

– – – – Not required in D2D mode.

* See Feature and Option list to know Auxiliary Channel programming options

⚠ Wires are listed by pin numbers. This display is not representative of connector pin layouts, which are often stacked.

Can Location for TYPE A

Mercedes C (up to 2007)/CLC/CLK
Can H: Brown/Red
Can L: Brown

Mercedes ML/GL/R
Can L: Brown
Can H: Brown/Red

Mercedes E (W211)/CLS
Can L: Brown
Can H: Brown/Red

Mercedes Vito/Viano
Can H: Brown/Red
Can L: Brown
+12v
Ground

Mercedes Sprinter
Volkswagen Crafter
Can H: Brown/Red
Can L: Brown

Can Location for TYPE B

Mercedes S/CL Class
Can H: Brown/Red
Can L: Brown

Mercedes C (2007 - up)/GLK
Can L: Brown
Can H: Brown/Red

Mercedes E (W212)
Can L: Brown
Can H: Brown/Red

Module Programming

1 Please ensure that the vehicle is in a safe location and cannot move forward during programming. For vehicles equipped with a manual transmission, ensure the gearshift lever is in the neutral position.

2a **If using in D2D**: Connect the 10-pin, 12-pin & 14-pin harnesses to the module. Press & hold the Programming button, then connect the 4-pin D2D harness.
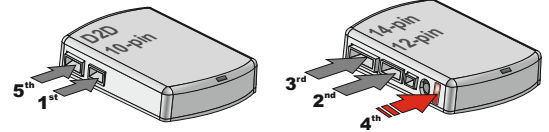
2b **If using in W2W**: Connect the 10-pin & 12-pin harnesses to the module. Press & hold the Programming button, then connect the 14-pin harness to the module.
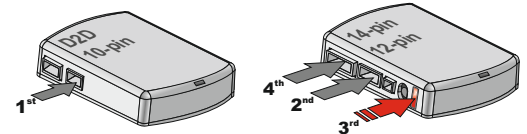
3 Wait until the LED turns ON orange then release the Programming button. The LED turns ON red.

Solid Orange & Release & Solid Red
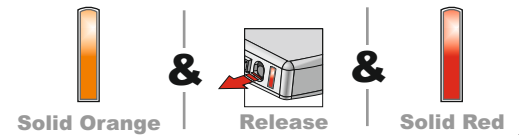
4 Turn ON Ignition using Key or Push-to-Start (PTS) button.

Key or x2 START STOP ENGINE & Flashes
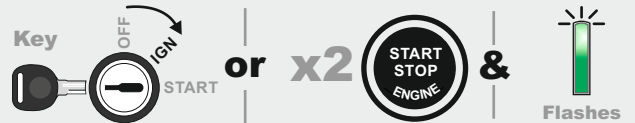
5 The LED turns ON solid green for 3 seconds, then turns OFF once the module has been successfully programmed.

Solid Green x3 secs & OFF

6 Turn the Ignition OFF.

Key OUT or x1 START STOP ENGINE

Module reset will be done automatically upon programming.

⚠ Refer to the LED Diagnostics section on page 8 for more information and for troubleshooting purposes.

Feature and Option List

Feat.	Operation	Flashes/Options	Description
1	RFTD Output Type	**1. No RF Output***	Module is connected to a remote starter using a standard installation.
		2. SmartStart	Module is connected to SmartStart using an RSR or RXT installation (when available).
		3. RFTD Output	Module is connected to an XL202 using an RSR or RXT installation (when available).
2	Unlock Driver Priority	1. Driver Priority	
		2. Unlock All*	
3	Comfort Closure	**1. Disabled***	
		2. Enabled	
4	AUX 1	**1. OFF***	
		2. Windows Roll Up	
		3. Windows Roll Down	
		4. Gas Cap Open	
5	AUX 2	**1. OFF***	
		2. Windows Roll Up	
		3. Windows Roll Down	
		4. Gas Cap Open	
6	AUX 3	**1. OFF***	
		2. Windows Roll Up	
		3. Windows Roll Down	
		4. Gas Cap Open	

* Default Option

Feature Programming

Programming
Button

To enter feature programming routine
Use the key to turn the ignition ON, then OFF.
Within 5 sec, press and HOLD the Programming button. The orange LED turns ON after 3 seconds. Release the Programming button.
The green LED starts flashing slowly one time to indicate the feature number is 1. After a short delay, the red LED flashes rapidly to indicate the current option of feature 1. It repeats until next action happens.

Changing feature options
Press the lock/arm or unlock/disarm button on aftermarket transmitter to change the option of the selected feature.
The red LED flashes rapidly the number of times equal to the current option number. After a short delay, the green LED flashes slowly the number of times to indicate the current feature. It repeats until next action happens.

Accessing another feature
Press and release the Programming button a number of times to advance from the current feature to the next desired feature.
The green LED flashes slowly the number of times equal to the feature number. After a short delay, the red LED flashes rapidly to indicate the current option of the current feature. It repeats until next action happens.

When the maximum number of feature or option is reached, the LED will starts flashing again from the first feature or option.

Once a feature is programmed
Another feature(s) can be programmed.
The feature programming can be exited.

Exiting feature programming
No activity for 30 seconds; after 30 seconds, the orange LED will turn ON for 2 seconds to confirm exiting.
OR
Press and HOLD the Programming button for 3 seconds. After 3 seconds, the orange LED will turn ON for 2 seconds to confirm exiting.

DIRECTED.

LED Diagnostics and Troubleshooting

LED	Status	Description	Troubleshooting
Module Programming			
Solid	Solid red.	Waiting for the vehicle to be started.	Make sure that all the connections are correct (see install sheet) and turn the ignition ON to begin the programming sequence.
Solid x30 secs Flashes x1	Solid red for 30 seconds, then flashes once.	FT CAN not detected.	The CAN wires may be incorrectly connected. Refer to the wiring diagram to make the right connections.
Solid x30 secs Flashes x2	Solid red for 30 seconds, then flashes twice.	HS CAN not detected.	The CAN wires may be incorrectly connected. Refer to the wiring diagram to make the right connections.
Solid x30 secs Flashes x3	Solid red for 30 seconds, then flashes 3 times.	Invalid CAN network.	The CAN bus was detected but the ignition on CAN message is not detected. Check if the firmware from unit is correct.
Solid x30 secs Flashes x4	Solid red for 30 seconds, then flashes 4 times.	Invalid VIN.	The VIN number is invalid. Report the issue to technical support.
Solid x30 secs Flashes x5	Solid red for 30 seconds, then flashes 5 times.	Internal error.	Report the issue to technical support.
Flashes	Flashes green continuously.	Vehicle has been successfully detected.	N/A.
Solid x3 secs	Solid green for 3 seconds.	Module has been successfully programmed.	N/A.
Active Ground While Running			
Flashes	Flashes green continuously.	Ground out (GWR) is active.	N/A.
Off	Off.	N/A.	The Ground While Running (status) wire is incorrectly connected. Refer to the wiring diagram to make the right connections.
Inactive Ground While Running			
Flashes x1	Flashes green once.	Lock command has been received.	If it does not flash, the bypass module did not receive the signal. Verify the connections between the bypass and the remote starter module.
Flashes x2	Flashes green twice.	Unlock command has been received.	If it does not flash, the bypass module did not receive the signal. Verify the connections between the bypass and the remote starter module.
Flashes x3	Flashes green 3 times.	Trunk release command has been received.	If it does not flash, the bypass module did not receive the signal. Verify the connections between the bypass and the remote starter module.
Flashes x4	Flashes green 4 times.	Aux 1 command has been received.	If it does not flash, the bypass module did not receive the signal. Verify the connections between the bypass and the remote starter module.
Flashes x5	Flashes green 5 times.	Aux 2 command has been received.	If it does not flash, the bypass module did not receive the signal. Verify the connections between the bypass and the remote starter module.

Limited One-Year Consumer Warranty

For a period of ONE YEAR from the date of purchase of a Directed Electronics remote start or security product, Directed Electronics. ("DIRECTED") promises to the original purchaser, to repair or replace with a comparable reconditioned piece, the security or remote start accessory piece (hereinafter the "Part"), which proves to be defective in workmanship or material under normal use, provided the following conditions are met: the Part was purchased from an authorized DIRECTED dealer; and the Part is returned to DIRECTED, postage prepaid, along with a clear, legible copy of the receipt or bill of sale bearing the following information: consumer's name, address, telephone number, the authorized licensed dealer's name and complete product and Part description.

This warranty is nontransferable and is automatically void if the Part has been modified or used in a manner contrary to its intended purpose or the Part has been damaged by accident, unreasonable use, neglect, improper service, installation or other causes not arising out of defect in materials or construction.

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This Interface kit / Data Bus Interface part has been tested on the listed vehicles. Other vehicles will be added to the select vehicle list upon completion of compatibility testing. Visit website for latest vehicle application guide. <u>DISCLAIMER</u>: Under no circumstances shall the manufacturer or the distributors of the bypass kit / data bus interface part(s) be held   liable for any consequential damages sustained in connection with the part(s) installation. The manufacturer and it's distributors will not, nor will they authorize any representative or any other individual to assume obligation or liability in relation to the interface kit / data bus interface part(s) other than its replacement. N.B.:Under no circumstances shall the manufacturer and distributors of this product be liable for consequential damages sustained in connection with this product and   neither assumes nor authorizes any representative or other person to assume for it any obligation or liability other than the replacement of this product only.

PROTECTED BY U.S. PATENTS: 5,719,551; 6,011,460 B1 *;6,243,004 B1; 6,249,216 B1; 6,275,147 B1; 6,297,731 B1; 6,346,876 B1; 6,392,534 B1; 6,529,124 B2; 6,696,927 B2; 6,756,885 B1; 6,756,886 B2; 6,771,167 B1; 6,812,829 B1; 6,924,750 B1; 7,010,402 B1; 7,015,830 B1; 7,031,826 B1; 7,046,126   B1; 7,061,137 B1; 7,068,153 B1; 7,205,679 B1; CDN. PATENT: 2,320,248; 2,414,991; 2,415,011; 2,415,023; 2,415,027; 2,415,038; 2,415,041; 2,420,947; 2,426,670; 2,454,089 EUROPEAN PATENT:1,053,128 PAT. PENDING: 2,291,306; MADE IN CANADA