> ⚠️ **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

Index

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Vehicle Application Guide

The following table lists the vehicles and features which are compatible with this product. The number assigned to each year allows you to determine which installation type should be used for your vehicle.

Vehicles	2017	2016	2015	2014	2013	AV-Turn Signal ON/OFF Control	CC-Comfort Closure	CC-Power Windows Rolldown	DL-Arm Factory Security	DL-Disarm Factory Security	DL-Door Lock Control	DL-Door Unlock	DL-Trunk / Hatch Release	FOB-Control of aftermarket alarm with OEM remote	SS-Entry Monitoring ALL Door Pins	SS-Entry Monitoring Driver Door Pin	SS-Entry Monitoring Hood Pin	SS-Entry Monitoring Trunk/Hatch Pin	RS-Tach / RPM Output	ST-Brake Status (foot brake)	ST-Handbrake Status	ST-Ignition Status	ST-Keysense Status
BMW																							
1 Series (F20/F21)		•	•	•		D	•	D		•	•	•	•	D	D	D	D	D	•	•	•	•	
2 Series (F22)		•	•	•		D	•	D		•	•	•	•	D	D	D	D	D	•	•	•	•	
3 Series (F30/F31/F34)		•	•	•		D	•	D		•	•	•	•	D	D	D	D	D	•	•	•	•	
4 Series (F32/F33/F36)		•	•	•		D	•	D		•	•	•	•	D	D	D	D	D	•	•	•	•	
X1 Series (F48)		•	•			D	•	D		•	•	•	•	D	D	D	D	D	•	•	•	•	
X5 Series (F15)		•	•	•		D	•	D		•	•	•	•	D	D	D	D	D	•	•	•	•	
X6 Series (F16)		•	•			D	•	D		•	•	•	•	D	D	D	D	D	•	•	•	•	
MINI																							
Cooper (F56)		•	•			D	•	D		•	•	•	•	D	•	D	D	D	•	•	•	•	

Legend:

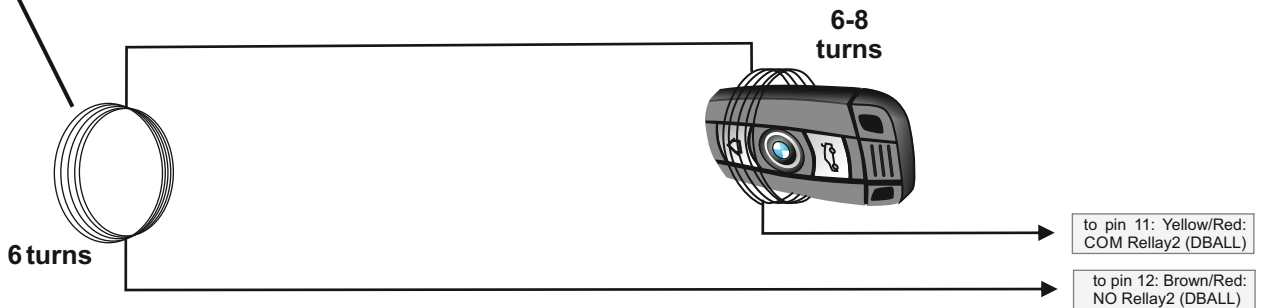|		
D: Data-to-Data (D2D) only	CC: Comfort & Convenience Controls	RS: Engine Start & Status
•: D2D and Wire-to-Wire (W2W)	DL: OE Door Lock & Alarm Controls	SS: Entry Point Status-Security
AV: Horn & Lights Control	FOB: Sync CAN Interface w/ FOB Remote	ST: Function/Feature Status

⚠️

Please take a note that if a spare key is not used, the unlock via aftermarket fob cannot be controlled

Immobilizer.

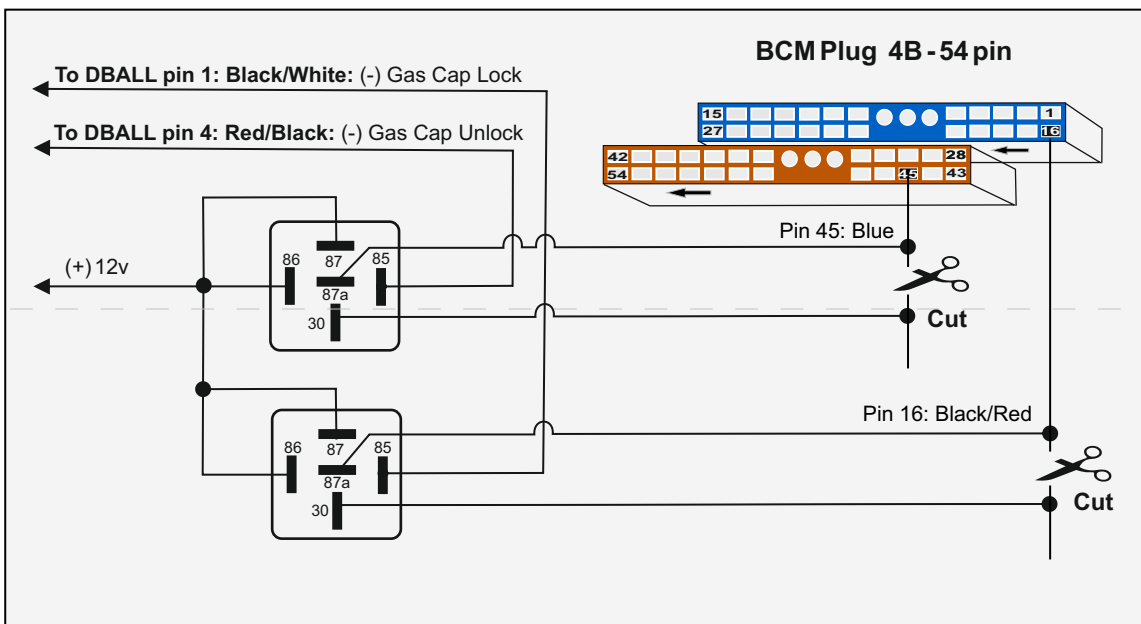⚠️ **You must remove battery from OEM Remote Control.**
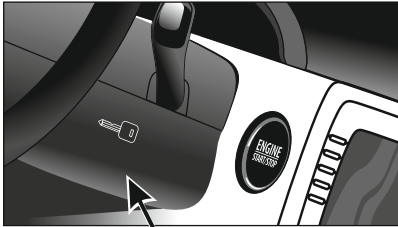
Move antenna loop as close to the front of factory receiver ring as possible. *Test before closing installation.*

6-8 turns

6 turns

to pin 11: Yellow/Red: COM Rellay2 (DBALL)

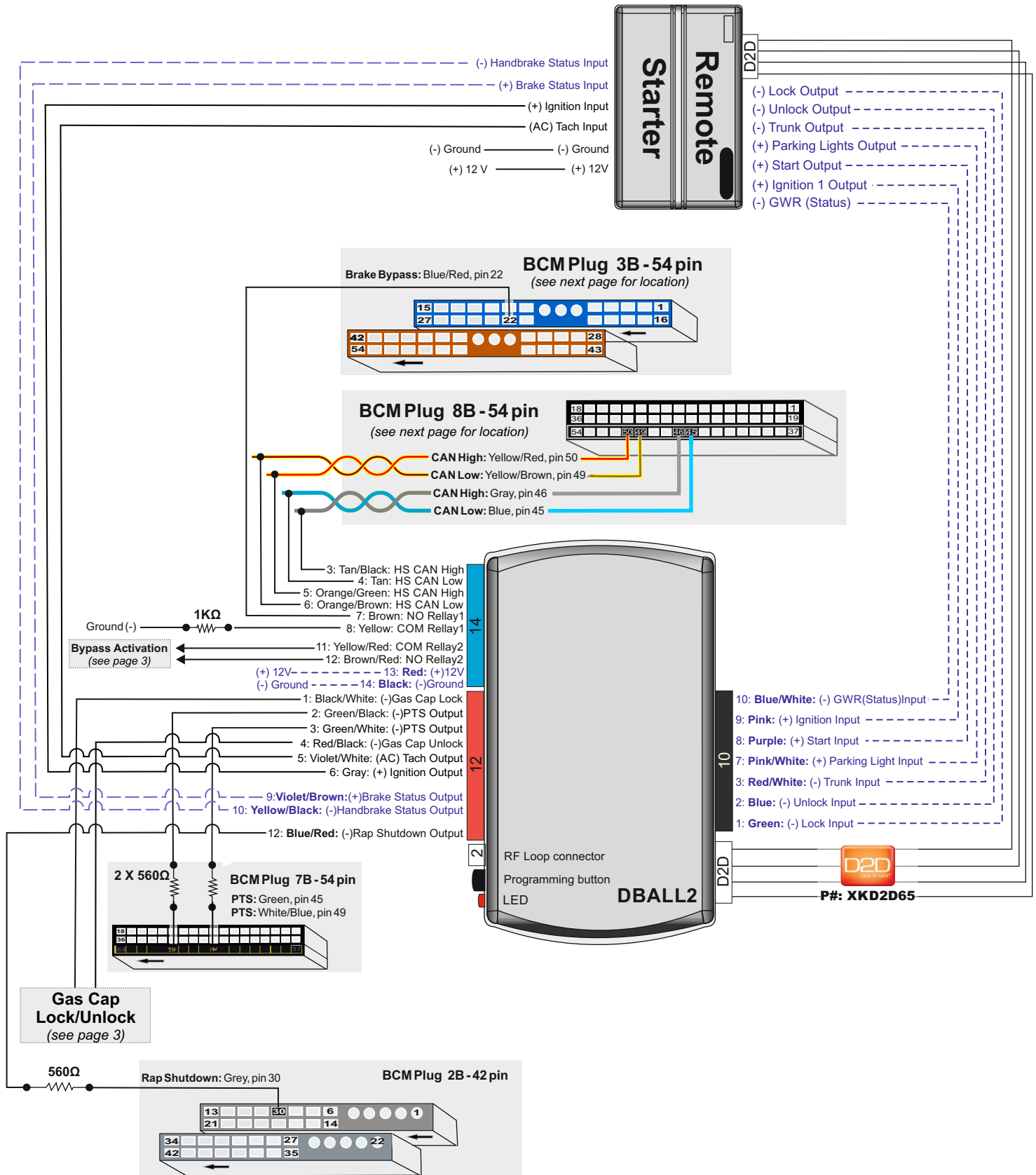to pin 12: Brown/Red: NO Rellay2 (DBALL)

- Make 6 loops and place them as close to the front of factory receiver ring as possible.
- Make 6-8 loops and place them around the front of the plastic body of the vehicle's coded key as shown above.
- Test and secure mounted loops before reassembling the vehicle.
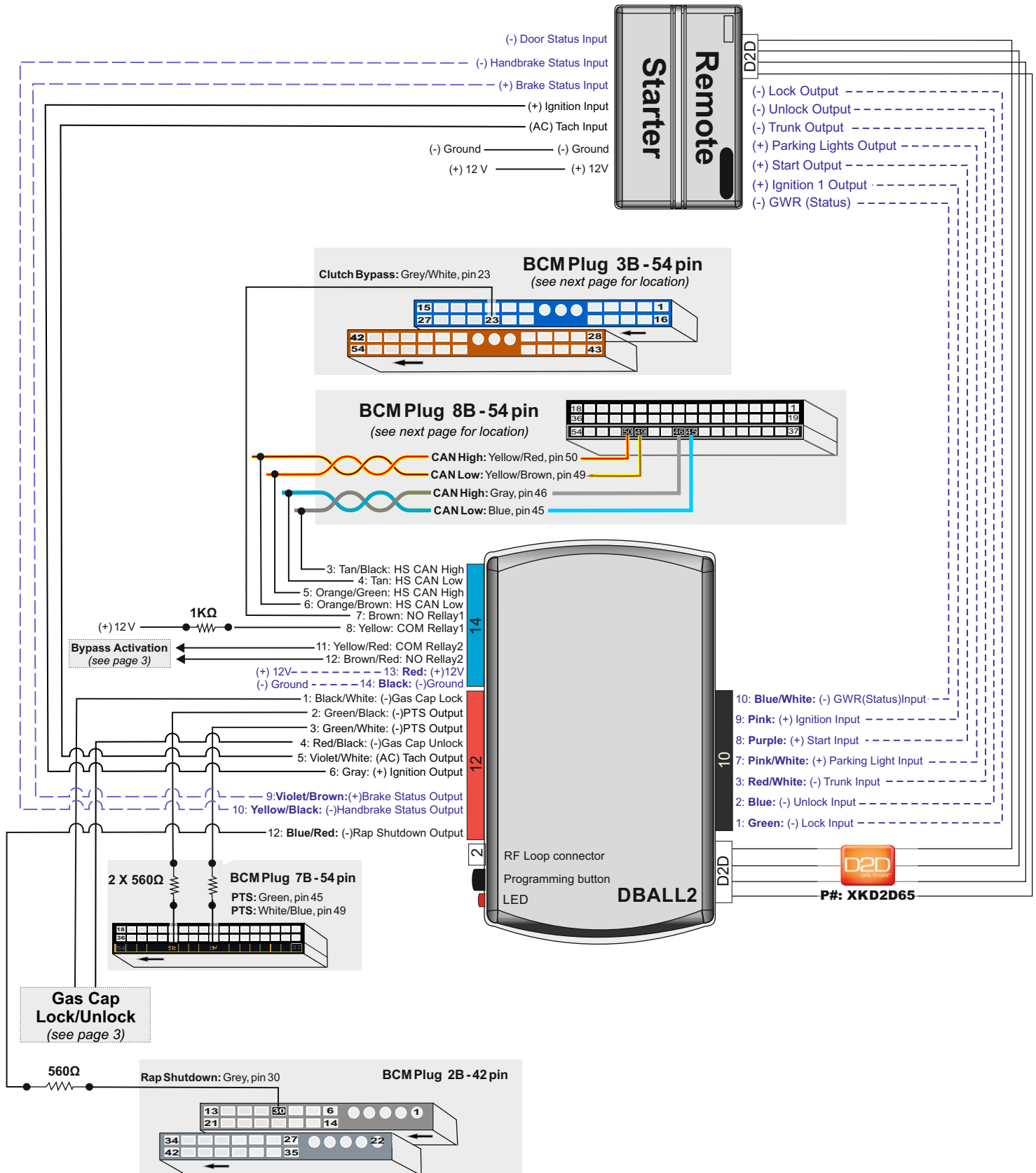
Gas Cap Lock / Unlock

BCM Plug 4B - 54 pin

To DBALL pin 1: Black/White: (-) Gas Cap Lock

To DBALL pin 4: Red/Black: (-) Gas Cap Unlock

15
27
1
16

42
54
28
45 43

Pin 45: Blue

(+) 12v

86 87 85
87a
30

Cut

Pin 16: Black/Red

86 87 85
87a
30

Cut

NOTE: Your OEM remote may differ from the model shown in the illustrations.

Wiring Diagram

Starter

Remote

D2D

(-) Handbrake Status Input
(+) Brake Status Input
(+) Ignition Input
(AC) Tach Input
(-) Ground ———— (-) Ground
(+) 12 V ———— (+) 12V

(-) Lock Output
(-) Unlock Output
(-) Trunk Output
(+) Parking Lights Output
(+) Start Output
(+) Ignition 1 Output
(-) GWR (Status)

BCM Plug 3B - 54 pin
(see next page for location)

Brake Bypass: Blue/Red, pin 22

15 | 22 | 1
27 | | 16
42 | | 28
54 | | 43

BCM Plug 8B - 54 pin
(see next page for location)

18 | 1
36 | 19
54 | 50 49 | 46 45 | 37

CAN High: Yellow/Red, pin 50
CAN Low: Yellow/Brown, pin 49
CAN High: Gray, pin 46
CAN Low: Blue, pin 45

3: Tan/Black: HS CAN High
4: Tan: HS CAN Low
5: Orange/Green: HS CAN High
6: Orange/Brown: HS CAN Low
7: Brown: NO Rellay1

1KΩ

Ground (-)

8: Yellow: COM Rellay1
11: Yellow/Red: COM Rellay2
12: Brown/Red: NO Rellay2

Bypass Activation
(see page 3)

(+) 12V– – – – – – – – 13: **Red:** (+)12V
(-) Ground – – – – 14: **Black:** (-)Ground

1: Black/White: (-)Gas Cap Lock
2: Green/Black: (-)PTS Output
3: Green/White: (-)PTS Output
4: Red/Black: (-)Gas Cap Unlock
5: Violet/White: (AC) Tach Output
6: Gray: (+) Ignition Output

9: **Violet/Brown:** (+)Brake Status Output
10: **Yellow/Black:** (-)Handbrake Status Output

12: **Blue/Red:** (-)Rap Shutdown Output

2 X 560Ω

BCM Plug 7B - 54 pin

PTS: Green, pin 45
PTS: White/Blue, pin 49

18 |
36 |

RF Loop connector
Programming button
LED

DBALL2

D2D

10: **Blue/White:** (-) GWR(Status)Input
9: **Pink:** (+) Ignition Input
8: **Purple:** (+) Start Input
7: **Pink/White:** (+) Parking Light Input
3: **Red/White:** (-) Trunk Input
2: **Blue:** (-) Unlock Input
1: **Green:** (-) Lock Input

D2D

P#: XKD2D65

**Gas Cap
Lock/Unlock**
(see page 3)

560Ω

Rap Shutdown: Grey, pin 30

BCM Plug 2B - 42 pin

13 | 30 | 6 | 1
21 | | 14
34 | | 27 | 22
42 | | 35

⚠ Wires are listed by pin numbers. This display is not representative of connector pin layouts, which are often stacked.
With the exception of the OBII Diagnotistic plug, all connectors are displayed from the wire side.

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Wiring Diagram

Starter
Remote
D2D

(-) Door Status Input
(-) Handbrake Status Input
(+) Brake Status Input
(+) Ignition Input
(AC) Tach Input
(-) Ground — (-) Ground
(+) 12 V — (+) 12 V

(-) Lock Output
(-) Unlock Output
(-) Trunk Output
(+) Parking Lights Output
(+) Start Output
(+) Ignition 1 Output
(-) GWR (Status)

BCM Plug 3B - 54 pin
(see next page for location)

Clutch Bypass: Grey/White, pin 23

15 23 1
27 23 16
42 28
54 43

BCM Plug 8B - 54 pin
(see next page for location)

18 1
36 19
54 50 49 46 45 37

CAN High: Yellow/Red, pin 50
CAN Low: Yellow/Brown, pin 49
CAN High: Gray, pin 46
CAN Low: Blue, pin 45

3: Tan/Black: HS CAN High
4: Tan: HS CAN Low
5: Orange/Green: HS CAN High
6: Orange/Brown: HS CAN Low
7: Brown: NO Rellay1
8: Yellow: COM Rellay1

1KΩ
(+) 12 V
11: Yellow/Red: COM Rellay2
12: Brown/Red: NO Rellay2

Bypass Activation
(see page 3)

(+) 12V – 13: **Red:** (+)12V
(-) Ground – 14: **Black:** (-)Ground

1: Black/White: (-)Gas Cap Lock
2: Green/Black: (-)PTS Output
3: Green/White: (-)PTS Output
4: Red/Black: (-)Gas Cap Unlock
5: Violet/White: (AC) Tach Output
6: Gray: (+) Ignition Output

9: **Violet/Brown:** (+)Brake Status Output
10: **Yellow/Black:** (-)Handbrake Status Output
12: **Blue/Red:** (-)Rap Shutdown Output

10: **Blue/White:** (-) GWR(Status)Input
9: **Pink:** (+) Ignition Input
8: **Purple:** (+) Start Input
7: **Pink/White:** (+) Parking Light Input
3: **Red/White:** (-) Trunk Input
2: **Blue:** (-) Unlock Input
1: **Green:** (-) Lock Input

14
12
10
2
D2D

RF Loop connector
Programming button
LED

DBALL2

D2D
P#: XKD2D65

2 X 560Ω

BCM Plug 7B - 54 pin
PTS: Green, pin 45
PTS: White/Blue, pin 49

18
36
54

**Gas Cap
Lock/Unlock**
(see page 3)

560Ω

Rap Shutdown: Grey, pin 30

BCM Plug 2B - 42 pin

13 30 6 1
21 14
34 27 22
42 35

⚠ Wires are listed by pin numbers. This display is not representative of connector pin layouts, which are often stacked.
With the exception of the OBII Diagnotistic plug, all connectors are displayed from the wire side.

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Locating components in the vehicle

Plug B8 - 54 pin
CAN High: Yellow/Red or Red, pin 50
CAN Low: Yellow/Brown or Yellow, pin 49
CAN High: Gray, pin 46
CAN Low: Blue, pin 45

Plug B7 - 54 pin
PTS: Green, pin 45
PTS: White/Blue, pin 49

Plug B4 - 54 pin
Gas Cap Lock: Blue, pin 16
Gas Cap Unlock: Black/Red, pin 45

Plug B3 - 54 pin
Brake Bypass: Blue/Red, pin 22

Plug B2 - 42 pin
Rap Shutdown: Grey, pin 30

NOTE: Pictures above are representative for BMW X5.
For other models it is possible to differ the wires color (except CAN wires)

Module Programming

Refer to the LED Diagnostics section on page 15 for more information and for troubleshooting purposes.

⚠️ Important

Make all the required connections to the vehicle, as described in the wiring diagram(s) found in this guide, and double check to ensure everything is correct prior to moving onto the next step.

⚠️ **Warning!** To take advantage of advanced features, you must use XpressVIP 4.5 or higher. Using version 2.9 or 3.1 will limit available functions and features.

1. Connect the interface module to your computer using the **XKLoader2**.
2. Open an Internet Explorer browser (version 6 or higher), and go to www.xpresskit.com. The detail of the platform and firmware that is currently saved on the interface module will be indicated in the top left corner of the page.
3. Select the **year**, **make** and **model** of the vehicle; the page will refresh to display the compatible firmware.
4. In the search result page, select one of the available install options (config for RSR, RXT or Standard install), and follow the instructions provided on the screen.
5. Once you have configured your options, click on the **FLASH** button to upload the firmware onto the interface module.
6. The following message will be displayed when the upload is completed:
   "The flashing is successfully completed. You may now unplug the kit."
   You can now proceed with the programming instructions below.

D2D Installation

If required for your installation, connect the 10-pin, 12-pin and 14-pin harnesses to the module, then connect the 4-pin D2D harness.

OR
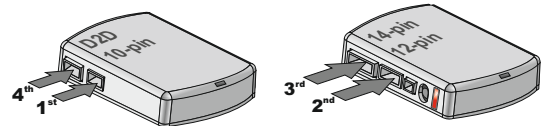
W2W Installation

If required for your installation, connect the 10-pin and 12-pin harnesses to the module, then connect the 14-pin harness to the module.
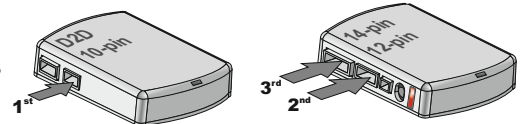
1	Wait until the LED turns ON solid red.	Solid

2	Make sure the key is inside the vehicle.	Key Inside the Vehicle

3	**Important:** Do NOT press the brake pedal. Press the Push-to-Start (PTS) button twice to turn the ignition ON.	Do NOT press the brake pedal & 2X PUSH START STOP

4	The LED turns ON solid green for 3 seconds, then turns OFF once the module has been successfully programmed. Press Once Push-to-Start (PTS) to turn the Ignition OFF	Solid x3 secs & OFF & 1X PUSH START STOP ENGINE

You have successfully completed the module programming sequence.

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Module Reset

A module reset will erase the module programming **only** (bypass, convenience and vehicle detection). All the settings configured on the module using the web config tool will remain untouched.

1

D2D Installation

If required for your installation, connect the 10-pin, 12-pin & 14-pin harnesses to the module. Press and hold the programming button, then connect the 4-pin D2D harness.

OR

W2W Installation

If required for your installation, connect the 10-pin & 12-pin harnesses to the module. Press and hold the programming button, then connect the 14-pin harness to the module.

2
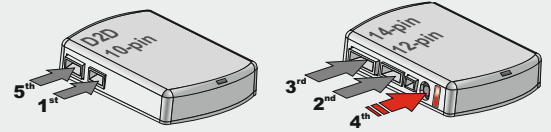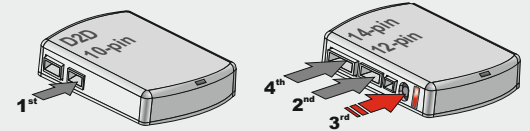
Wait 3 seconds until the LED turns ON solid orange then release the programming button. The LED then turns ON solid red.

Solid & Release & Solid

Hard Reset

Warning Against Executing a Hard Reset!

A hard reset will erase all the data stored in the DBALL and will change all the settings configured on the module to its default values. After a hard reset, you may have to reconfigure your DBALL if your installation requires specific options, not part of the default configuration. See the **Feature & Option List** section of this guide.

1

D2D Installation

If required for your installation, connect the 10-pin, 12-pin & 14-pin harnesses to the module. Press and hold the programming button, then connect the 4-pin D2D harness.

OR

W2W Installation

If required for your installation, connect the 10-pin & 12-pin harnesses to the module. Press and hold the programming button, then connect the 14-pin harness to the module.

2
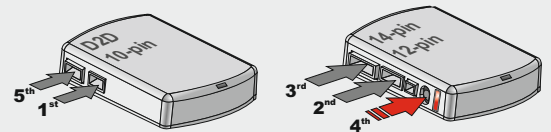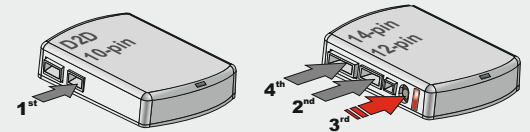
Wait 3 seconds until the LED turns ON solid orange, and wait 10 more seconds until the LED starts to flash orange and red.

Solid & Flashes
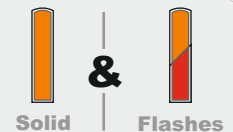
3

Release the programming button. The LED turns ON solid red.

Release & Solid

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Feature & Option List

It is recommended to configure all the features and options listed below using the configuration tool found on the module flashing page on www.xpresskit.com. The web offers more options; however, a manual configuration of the features is possible using the information on this page.

FUTURE ID	NAME	OPTIONS
1	RFTD Output Type	**No RF Output***
		Smart Start
		RFTD
2	Confort Closure	**Disabled***
		Enabled
3	Enable Viper after OEM lock	Disabled
		Enabled*
4	Controlled Door Lock	**Disabled***
		Ignition
		Brake
		Speed
5	Takeover	**Disabled (Engine shutdown when door open)***
		Enabled by OEM remote(for 45 seconds afer unlocking)
		Enabled by OEM or Aftermarket remote(for 45 seconds afer unlocking)
		Takeover controlled only by remote starter
6	Aux1	**Off***
		Windows Roll Up
		Fron Windows Roll Down
		Rear Windows Roll Down
		Gas Cap

* Default Option

Feature Programming

Programming
Button
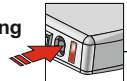
To enter feature programming routine
 Turn the ignition ON, then OFF.
 Within 5 seconds, press and HOLD the programming button until the LED turns ON orange (after 3 seconds). Release the Programming button.
 The LED will flash green once slowly to indicate the feature number is 1. After a short delay, the LED flashes red rapidly to indicate the current option of feature 1 (i.e. 1x green followed by 1x red indicates feature 1 is set to option 1). The flashing sequence will repeat until a new command is entered.

Changing feature options
 Press the lock/arm or unlock/disarm button on aftermarket transmitter to change the option of the selected feature.
 The LED flashes red rapidly the number of times equal to the current option number. After a short delay, the LED flashes green slowly the number of times to indicate the current feature. The flashing sequence will repeat until a new command is entered.

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 LED flashes green slowly the number of times equal to the feature number. After a short delay, the LED flashes red rapidly to indicate the current option of the current feature. The flashing sequence will repeat until a new command is entered.

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

Once a feature is programmed
 Other features can be programmed.
 The feature programming can be exited.

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

LED Diagnostics & Troubleshooting

LED	Status	Description	Troubleshooting
Module Programming			
Off	Off	Module has no power.	Check the power connections.
Solid	Solid red	Module is powered. Waiting for programming to begin.	Check if the ignition input is properly connected.
Flashes green	Flashing green continuously	Module has detected IGN ON. Detection in progess.	The CAN wires may be incorrectly connected. Refer to the wiring diagram to make the right connections.
Solid green x3 sec	Solid green for 3 seconds	Module was successfully programmed with transponder.	Normal operation.
Module Programming - Error codes			
Flashes red x 1	Flashes red x 1	FT CAN not detected	The CAN wires may be incorrectly connected. Refer to the wiring diagram to make the right connections.
Flashes red x 2	Flashes red x 2	HS CAN not detected	The CAN wires may be incorrectly connected. Refer to the wiring diagram to make the right connections.
Flashes red x 9	Flashes red x 9	Invalid CAN network	The CAN was detected but the ignition message on CAN is not detected. Check if the firmare is correct.
Flashes red x 11	Flashes red x 11	Internal error	Report issue to technical support
External Module Synchronisation			
Flashes red, red, orange	Flashes red, red, then orange x 10	OBDII feature not supported.	Diagnostic data bus not detected. Some features are not supported by SmartStart. This can be caused by missing wire connections or module hardware limitation. Refer to the wiring installation section to check the connections.
Active Ground While Running			
Flashes green	Flashes green	GROUND OUT ON (GWR) command received.	Otherwise, the Ground While Running (status) signal was lost or was never received by the module. Commands can come from RF, D2D or W2W.
Flashes red & orange	Flashes red & orange	IGNITION ON command received.	Otherwise, the ignition signal was not received by the module. In a W2W install, it will show only if the ignition input wire is used.
Flashes green	Flashes green quickly	START ON command received.	Otherwise, the start signal was not received by the module. In a W2W install, it will show only if the ignition input wire is used.
D2D and W2W Commands			
Flashes orange x1	Flashes orange x 1	LOCK command received.	
Flashes orange x2	Flashes orange x 2	UNLOCK command received.	
Flashes orange x3	Flashes orange x 3	TRUNK command received.	Normal operation.
Flashes orange x4	Flashes orange x 4	AUX1 command received.	
Flashes orange x5	Flashes orange x 5	AUX2 command received.	

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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920-0007 2009-09

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. DISCLAIMER: 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