



Connector Usage & Canbus Guide



X-431 Scanner, Infinite and Cube
Call 877-launch9

Connector Usage

Important information when selecting the proper Connector

- Automobile manufacturers often will *PHASE-IN* different connectors or communication protocols over a period of several years. This *PHASE-IN* can happen during production runs as well as between model years.
- Because of the complexity of models and years this practice has caused, this is a **guide** only.
- You should refer to the manufacturer's service information for complete connector usage information.

A few rules of thumb

If the car has an OEM-style connector (which is included in the X431) and an OBD-II connector, the OEM-style will usually provide the most capabilities for accessing OEM data.

Current examples are:

- Mercedes 38
located within or next to the fuse panels in the cowl area
- BMW 20
located in the engine compartment, has a screw on cover
- Subaru 9
located under left side instrument panel
- Kia 20
located by fuse panel under left side of instrument panel
- Mazda 17
located under hood usually close to the cowl
- Nissan 14+16
located in fuse panel left side of instrument panel
- Mitsubishi/Hyundai 12+16
located under left side instrument panel
- Toyota/Lexus 17
located next to fuse panel under left side instrument panel

2.If the car has **only** an OBD-II connector, that connector will usually provide both OEM and generic (OBD-II) capabilities.

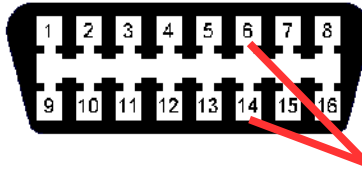
3.In many cases the Canbus II connector can be used when the selection calls for an OBD II-16c or a Canbus connector (see Canbus guidelines)

Vehicle Software Updates

1. Launch is releasing new software every week, please update frequently
2. Please visit <http://www.x431.com> to make sure you have the latest software releases
3. Download access is for one year after purchase of an X431 or update
4. Updates may be purchased from an Authorized Distributor
5. All X431's sold through Authorized Distributors comes with a download manual, if you do not have one, call 877-launch9 to request a download manual. You will need your serial number.
6. Most foreign Languages are available for a small fee, please contact your Authorized Distributor

Canbus Guidelines

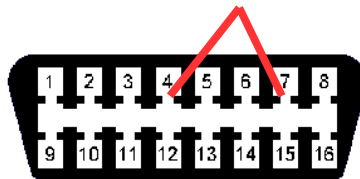
1. If the vehicle side of the 16 pin DCL has a female pin in the #6 and #14 pin positions, the vehicle is a Canbus vehicle



2. Canbus usage has been *PHASED-IN* since 1998.
3. Year model overlap indicated in the connector guide might require trying both connectors listed
4. All light duty vehicles sold in the US in 2008 are Canbus compatible
5. A Canbus II connector can communicate with a non-Canbus system in many cases, only Canbus connectors can communicate with Canbus systems.
6. The Canbus II replaces the Canbus and Volvo Canbus connectors
7. The Canbus II can be flash upgraded, the current version as of 9/2008 is 2.2. The download is available online. The tutorial is available online and on our CD distributed by our Authorized Distributors.

VW/Audi with Aftermarket Radios **!WARNING!**

- Many VW/Audi factory installed radios are able to communicate with the X431 and factory scanner.
- If an aftermarket radio has been installed, the installer might have incorrectly wired the communication wire to 12V, this is VERY common
- If any scanner is connected to the 16pin diagnostic connector shown below it can damage the scanner, the radio does not need to be on or communication with the radio attempted for the damage to occur.
- If the radio has been incorrectly installed, communication with any module on the vehicle will not be possible.



- Verify the radio is installed correctly by checking voltage from pin 4 to pin 7, **IT SHOULD BE 9V OR LESS**
- If it is not **DO NOT CONNECT A SCANNER OR ANY OTHER DEVICE TO THE CONNECTOR.**
- The radio will need to be disconnected or the wiring repaired.
- This fault will not effect the operation of the vehicle but it will prevent any communication and damage scanners connected to the diagnostic connector.

2000 – 2001 Golf, Jetta and Beetle Airbag Module fault **!WARNING!**

- Do not scan Airbag Module P/N 6Q0-909-605-A used in these vehicles.
- Scanning this module will cause the Airbag light to illuminate and it cannot be turned off.
- The Airbag module will need to be replaced and recoded if this happens

See the bulletins for these issues and other helpful information on our CD available through our Authorized Distributors.

Connector Guide

(#6 and #14 pin indicates Canbus system)

Manufacturer	Year	Info type	Launch connector
Audi	Up to 1995	OEM	Audi/VW 4
	1996 to 2003	OEM	OBD II-16c
	2002 up	OEM only Specified systems, does not always apply	Audi-16 KL converter with OBD II-16 A6: 02 Transmission Electronics, 08 AC/Heating electronics, 15 Airbags, 35 Central Locking, 55 Headlight range control, 56 Radio A4: 03 Brake Electronics, 08 AC/Heating electronics, 46 Central Control Module
	2006 up	OEM	Canbus II
	1996 up	OBD II	OBD II-16c
BMW	Up to 2002	OEM	BMW 20
	Up to 2004	OEM	BMW 16
	2002 up	OEM	Canbus II phased in
	1996 up	OBD II	OBD II-16c
Chrysler	Up to 1996	OEM	Chrysler-6
	1996 to 2007	OEM	Smart OBD II-16
	1996 to 2002	OEM	Chrysler 16 needed for some ABS SRS systems
	1999 up	OEM	Canbus II
	1996 on	OBD II	OBD II-16c
Daewoo	1999 on	OEM	OBD II-16c
	1999 on	OBD II	OBD II-16c
Ford	Up to 1995	OEM	Ford 6+1
	1996 to 2003	OEM	OBD II-16c (Note: Starting in 2003 the Ford Focus and F-250 and above use CanbusII on the powertrain and Hybrid instrument cluster)
	2004, 2005, 2006 up	OEM	Canbus II, phased in
	1996 on	OBD II	OBD II-16c (Starting in 2004 you must use the CanbusII connector for OBD/EOB diagnostics.
GM	Up to 1996	OEM	GM/Daewoo-12
	1996 to 2007	OEM	OBD II-16c
	2004 up	OEM	Canbus II phased in
	1996 on	OBD II	OBD II-16c
Honda/Acura	Up to 1995	OEM	Honda-3
	1996 to 2006	OEM	Smart ODB II-16
	2006 up	OEM	Canbus II
	1996 up	OBD II	Smart OBD II-16

Connector Guide

(#6 and #14 pin indicates Canbus system)

Manufacturer	Year	Info type	Launch connector
Hyundai	Up to 1996	OEM	Mitsu/Hyun 12+16 (Use 12)
	1996 to 2006	OEM	Mitsu/Hyun 12+16 (try both) Some models require you to hookup both connectors at the same time
	1996 to 2006	OEM	OBD II-16c (alternative)
	2005 up	OEM	Canbus II
	1996 up	OBD II	OBD II-16c
Jaguar	X-Type	OEM	Canbus II
	S-Type	OEM	OBD II-16c use Lincoln LS
	XJ-Type to 2003	OEM	OBD II-16c use 4.2L
	XJ-Type 2004+	OEM	Canbus II
	Up to 2007	OBD II	OBD II-16c
KIA	Up to 2003	OEM	Kia 20 The 2003 (Sedonia uses the Smart16)
	2003 to 2006	OEM	Smart OBD II-16
	2007 up	OEM	Canbus II
	1996 up	OBD II	OBD II-16c
Land Rover	1995 to 2000	OEM	Smart OBD II-16 Some modules require the OBD II-16C
	2000 up	OEM	OBD II-16c
	2006 up	OEM	Canbus II
	1995 up	OBD II	OBD II-16c
Mazda	Up to 2004	OEM	Mazda 17
	2004 up	OEM	OBD II-16c
	2003 up	OEM	Canbus II
	1996 up	OBD II	OBD II-16c
Mitsubishi	Up to 2004	OEM	Mitsu/Hyun 12+16
	Up to 2007	OEM	OBD II-16c (alternate)
	2007 up	OEM	Canbus II
	1996 up	OBD II	OBD II-16c
Mercedes Benz	Up to 1993	OEM	Univ -3 (pages 8 & 9 for instructions)
	1992 to 2002	OEM	Mercedes-38
	1998 to present	OEM	Canbus II (if MB 38 pin is not present)
	1996 up	OBD II	OBD II-16c

Connector Guide

(#6 and #14 pin indicates Canbus system)

Manufacturer	Year	Info type	Launch connector
Nissan/Infinity	Up to 1999	OEM	Nissan 14+16 (use 14)
	1996 to 2004	OEM	Nissan 14+16 (try either)
	1999 to 2004	OEM	OBD II-16c (usually best)
	2005 up	OEM	Canbus II
Porsche	1996 up	OBD II	OBD II-16c
	996	OEM	OBD II-16c
	Cayenne	OEM	OBD II-16c
Saab	1996 up	OBD II	OBD II-16c
	1996 up	OEM	Smart OBD II-16
	2007 up	OEM	Canbus II
	1997 up Convertibles	OEM	Smart OBD II-16 select previous year model if no communication
Sprinter	1996 up	OBD II	OBD II-16c
	2004 up	OEM	Benz 14
	2004 up	OEM	Canbus II
Subaru	2004 up	OBD II	OBD II-16c
	2004 up	OEM	Subaru 9 for some body systems
	2007 up	OEM	Canbus II
	1996 up	OBD II	OBD II-16c
Suzuki	1996 up	OEM	OBD II-16c
	2007 up	OEM	Canbus II
	1996 up	OBD II	OBD II-16c
Toyota/Lexus	1996 up	OEM	OBD II-16c
	Up to 1999	OEM	Toyota 22 (under hood)
	1996 up	OEM	Toyota 17 some systems/ blink codes
	1996 up	OEM	Toyota 16 For 2002- LX470 and Land Cruiser some systems/engine
	2000 up	OEM	Canbus II w/2.2 update works well on non-Canbus. Many HVAC communicate only through the display panel
	2007 up	OEM	Canbus II
	1996 up	OBD II	Toyota-16

Connector Guide

(#6 and #14 pin indicates Canbus system)

Volkswagen	Up to 1995	OEM	Audi/VW 4
	1996 up	OEM	OBD II-16c
	2006 up	OEM	Canbus II
	1996 up	OBD II	OBD II-16c
Volvo	1996 to 1998	OEM	Smart OBD II-16
	1999 onwards	OEM	Volvo Canbus or Canbus II
	1996 up to 1998	OBD II	OBD Smart 16

Mercedes Benz 16 PIN Underhood Diagnostic Socket

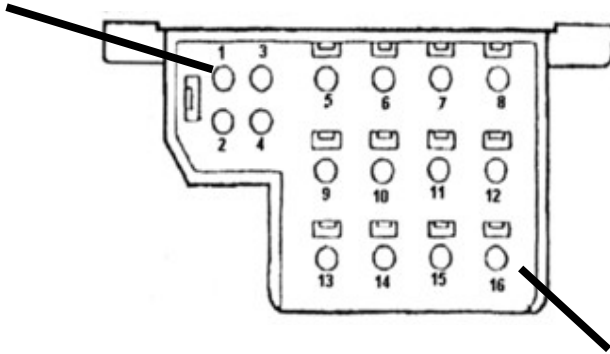
3-PIN UNIVERSAL CONNECTOR

Mercedes-Benz models up to 1993 may have an 8 or 16 pin diagnostic connector located under the hood, usually in the cowl area on the right or left sides.. See the below graphics below to help with the 16 pin connections and the next page for help with the 8 pin connections.

These systems will only output codes.

Select “FLASH FAULT CODE” from the SELECT MENU, it is located on the last menu page

Connect Black lead of Univ-3 if pin is present, if not connect lead to ground



Connect Red lead of Univ-3 if Pin is present, if not connect lead to positive

Connect the yellow Univ-3 pin to the following pins

Pin number	Connect Yellow lead of the Univ-3
1	Ground pin may not be present, connect black univ-3 to battery negative
2	On-Board diagnostic switch
3	CIS-E/DM (powertrain)
4	EDS/LED (Diesel)
5	ASD (Differential)
6	AB (Airbag)
7	AC(124) / RB(129) (Air conditioning/Roll bar)
8	DI/HFM, SFI, MFI/DMS (engine)
9	ADS/RB(124) (suspension)
10	RST/Speed signal (conv/speedo)
11	ATA (Alarm)
12	IRCL (Remote Locking)
13	EATC (Transmission)
14	EA(124)/ISC(124)/ESCM(129)/CC (throttle/Idle/engine/cruise)
15	N/A
16	Battery pin may not be present, connect red univ-3 to battery positive

Codes only

Mercedes Benz 8 PIN Underhood Diagnostic Socket

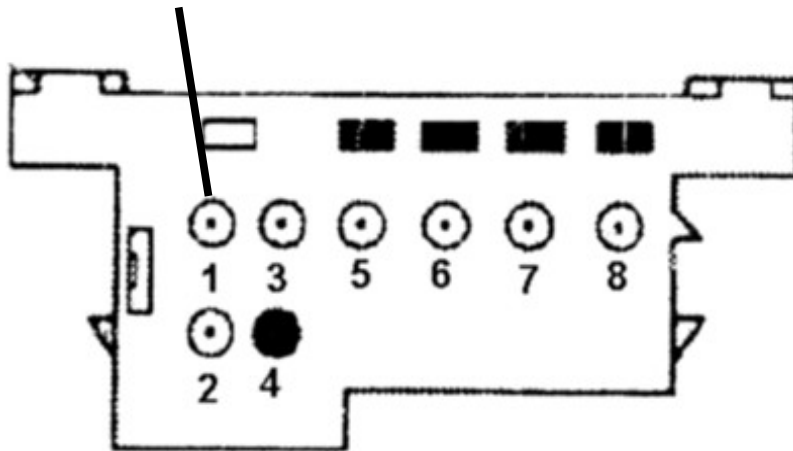
3-PIN UNIVERSAL CONNECTOR

Mercedes-Benz models up to 1993 may have an 8 or 16 pin diagnostic connector located under the hood, usually in the cowl area on the right or left sides.. See the below graphics below to help with the 16 pin connections and the next page for help with the 8 pin connections.

These systems will only output codes.

Select "FLASH FAULT CODE" from the SELECT MENU, it is located on the last menu page

Black lead from Univ-3 connector, if not present connect to battery negative



Connect the Red Univ-3 connector to the battery positive

Connect the Yellow Univ-3 connector to the following pins

Pin	Connect Yellow lead of the Univ-3
1	Ground pin may not be present, connect black lead of Univ-3 to battery negative
2	Ignition signal/press button
3	Diagnostic percentage
4	Engine trouble code/LED
5	ASD
6	SUS trouble code
7	A/C trouble code
8	Ignition control system

Codes only

Mercedes Benz Chassis Guide

Model	88	89	90	91	92	93	94	95	96	97	98	99	2000	2001	2002	2003	2004	2005	
190D	201	201																	
190E	201	201	201	201	201	201													
260E	124	124																	
300CE	124	124	124	124	124														
300CE cabriolet						124													
300D			124																
300D turbo				124	124	124													
300E	124	124	124	124	124	124													
300E 4matic			124	124	124	124													
300SD turbo					140	140													
300SE	126	126	126	126	140	140													
300SEL	126	126	126	126															
300SL			129	129	129	129													
300TE	124	124	124	124	124	124													
300TE 4matic			124	124	124	124													
350SD turbo				126															
350SDL			126																
350SDL turbo				126															
400E					124	124													
400SE					140														
400SEL						140													
420SEL	126	126	126	126															
500E					124	124													
500SEC						140													
500SEL					140	140													
500SL			129	129	129	129													
560SEC	126	126	126	126															
560SEL	126	126	126	126															
560SL	107	107																	
600SEC						140													
600SEL					140	140													
600SL						129													
C220							202	202	202										
C230										202	202						203.040	203.040	203.040
C230CL																	203.740	203.740	203.740
C230K												202	202	202	203.7				
C240 4matic																	203.281	203.281	203.281
C240 Sedan														203.061	203.061	203.061	203.061	203.061	
C240 Wagon																	203.261	203.261	203.261
C280							202	202	202	202	202	202	202.029						
C320 4matic																	203.284	203.284	203.284
C320														203.064	203.064	203.064	203.064	203.064	
C320CL																		203.764	203.764
C32AMG															203.065	203.065	203.065		
Model	88	89	90	91	92	93	94	95	96	97	98	99	2000	2001	2002	2003	2004	2005	

Mercedes Benz Chassis Guide

Model	88	89	90	91	92	93	94	95	96	97	98	99	2000	2001	2002	2003	2004	2005
C36									202	202								
C43											202	202						
C43AMG													202.033					
C55AMG																		203.076
C86								202										
CL55AMG														215.373	215.373	215.373	215.374	215.374
CL500													215.375	215.375	215.375	215.375	215.375	215.375
CL500 coupe											140	140						
CL600														215.378	215.378	215.376	215.376	215.376
CL65 AMG																		215.379
CL600 coupe											140	140						
CLK320											208.365	208.365	208.365	208.365	208.365	209.365	209.365	209.365
CLK320 cabriolet												208.465	208.465	208.465	208.465	209.465	209.465	209.465
CLK430												208.37	208.370	208.370	208.370			
CLK 430 cabriolet													208.470	208.470	208.470	208.470		
CLK500																	209.375	209.375
CLK500 cabriolet																	209.475	209.475
CLK55 AMG														208.374	208.374	209.376	209.376	209.376
CLK55 AMG cabriolet															208.474		209.476	209.476
E300D									210	210		210						
E300DT											210							
E320									210	210								
E320 4matic											210.282	210.282	210.282	210.282	210.282	211.282	211.282	211.282
E320 cabriolet							124	124										
E320 coupe							124	124										
E320 sedan							124	124			210.265	210.265	210.265	210.265	210.265	211.265	211.265	211.265
E320 wagon							124	124			210.265	210.265	210.265	210.265	210.265	211.265	211.265	211.265
E320 CDI																		211.026
E420							124	124		210								
E430											210.070	210.070	210.070	210.070	210.070			
E430 4matic													210.083	210.083	210.083			
E500							124									211.070	211.070	211.070
E500 4matic sedan																	211.083	211.083
E500 4matic wagon																	211.283	211.283
E55 AMG												210.074	210.074	210.074	210.074	211.076	211.076	211.076
G500															463.249	463.249	463.249	463.249
G55 AMG																463.246	463.246	463.246
ML320											163.154	163.154	163.154	163.154	163.154			
ML350																163.157	163.157	163.157
ML430												163.172	163.172					
Model	88	89	90	91	92	93	94	95	96	97	98	99	2000	2001	2002	2003	2004	2005

Mercedes Benz Chassis Guide

ML500																163.175	163.175	163.175	163.175
ML55 AMG													163.174	163.174	163.174	163.174			
S320							140	140	140	140		140							
S320 LWB												140							
S320 sedan												140							
S320 sedan LWB												140							
S350							140	140											
S420							140	140	140	140	140	140							
S430													220.170	220.170	220.170	220.170	220.170	220.170	220.170
S430 4matic																	220.183	221.183	221.183
S500												140	220.175	220.175	220.175	220.175	220.175	220.175	220.175
S500 4matic																	220.184	220.184	220.184
S55 AMG													220.173	220.173	220.174	220.174	220.174	220.174	220.174
S600												140	220.178	220.178	220.176	220.176	220.176	220.176	220.176
S500 coupe							140	140	140	140									
S500 sedan							140	140	140	140	140								
S600 coupe							140	140	140	140									
S600 sedan							140	140	140	140	140								
SL320							129	129	129	129									
SL500							129	129	129	129	129	129	129.068	129.068	129.068	230.475	230.475	230.475	230.475
SL55 AMG																	230.474	230.474	230.474
SL600							129	129	129	129	129	129	129.076	129.076	129.076		230.476	230.476	230.476
SL65 AMG																			230.479
SLK230												170.447	170.447	170.447	170.449	170.449	170.449	170.449	170.449
SLK32 AMG																170.466	170.466	170.466	170.466
SLK320															170.465	170.465	170.465	170.465	170.465
SLK350																			171.456
SLK55 AMG																			171.473
Model	88	89	90	91	92	93	94	95	96	97	98	99	2000	2001	2002	2003	2004	2005	2005

Model	88	89	90	91	92	93	94	95	96	97	98	99	2000	2001	2002	2003	2004	2005
318i				E30	E36	E36	E36	E36	E36	E36								
318i conv				E30	E30			E36	E36	E36								
318is				E36		E36	E36	E36	E36	E36	E36							
318ti								E36/5	E36/5	E36/5	E36/5	E36/5						
323ci													E46	E46				
323i												E46	E46					
323i conv											E46	E46						
323is											E46	E46						
325	E30	E30															E46	E46
325ci															E46	E46		
325i	E30		E30	E30	E36	E36	E36	E36						E46	E46	E46		
325i conv	E30	E30	E30	E30	E30	E30	E36	E36										
325i sport wagon														E46	E46	E46		
325is	E30	E30	E30	E30	E36	E36	E36	E36										
325ix	E30	E30	E30	E30														
325xi														E46	E46	E46		
328ci													E46					
328i									E36	E36	E36	E46	E46					
328i conv									E36	E36	E36	E36						
328is									E36	E36	E36	E36						
330																	E46	E46
330ci conv														E46	E46	E46		
330ci coupe														E46	E46	E46		
330i														E46	E46	E46		
330xi AWD sedan														E46	E46	E46		
525																	E60	E60
525i		E34	E34	E34	E34	E34	E34	E34										
525i sedan															E39	E39	E39	
525i Sport Wagon															E39	E39	E39	
525i Touring Wagon						E34/2	E34/2	E34/2										
528e	E28																	
528i										E39	E39	E39	E39					
530																	E60	E60
530i							E34	E34										
530i SEDAN														E39	E39	E39		
530i Touring Wagon							E34/3	E34/3										
535i	E28	E34	E34	E34	E34	E34												
535is	E28																	
Model	88	89	90	91	92	93	94	95	96	97	98	99	2000	2001	2002	2003	2004	2005

Model	88	89	90	91	92	93	94	95	96	97	98	99	2000	2001	2002	2003	2004	2005
540i							E34	E34				E39	E39	E39	E39	E39		
540iL										E39	E39	E39	E39					
545																	E60	E60
635csi	E24	E24																
645																	E63/64	E63/64
735i	E32	E32	E32	E32	E32													
735iL			E32/2	E32/2	E32/2													
740i						E32	E32	E38		E38	E38	E38	E38	E38				
740iL						E32/2	E32/2	E38	E38	E38	E38	E38	E38	E38				
745i															E65	E65	E65	E65
745Li															E66	E66	E66	
750iL	E32/2	E32/2	E32/2	E32/2	E32/2	E32/2	E32/2	E38	E38	E38	E38	E38	E38	E38				
760i																		E65
760Li																E66	E66	E66
840ci							E31	E31	E31	E31								
850i				E31	E31													
850ci						E31	E31	E31	E31	E31								
850csi							E31											
L6	E24	E24																
M coupe											E36/7	E36/7	E36/7	E36/7	E36/7			
M roadster											E36/7	E36/7	E36/7	E36/7	E36/7			
M3	E30	E30	E30	E30					E36	E36	E36	E36		E46	E46	E46	E46	E46
M5	E28			E34	E34	E34							E39					
M5 sedan														E39	E39	E39		
M6	E24																	
X3																	E83	E83
X5													E53				E53	E53
X5 3.0i														E53	E53	E53		
X5 4.4i														E53	E53	E53		
X5 4.6iS															E53	E53		
Z3									E36/7	E36/7	E36/7	E36/7	E36/7	E36/7	E36/7			
Z4															E85	E85	E85	E85
Z8														E52	E52			
Model	88	89	90	91	92	93	94	95	96	97	98	99	2000	2001	2002	2003	2004	2005

	2006	2007	2008
1 Series	E81/E82/E87/E88	E81/E82/E87/E88	E81/E82/E87/E88
3 Series	E90/E91/E92/E93	E90/E91/E92/E93	E90/E91/E92/E93
5 Series	E60/61	E60/61	E60/61
6 Series	E63/64	E63/64	E63/64
7 Series	E65/E66/E67/E68	E65/E66/E67/E68	E65/E66/E67/E68
Z4	E85	E85	E85
X3	E83	E83	E83
X5	E70	E70	E70
Mini	R51/R52/R53	R51/R52/R53	R51/R52/R53