

CAN-bus Interface **Steering wheel control**

Interface-box **CX-401**

Harnesses vehicle-specific **CX-0xx**

Harnesses device-specific (optional) **ARC-1xx**

Product features

- Conversion of digital CAN-bus signals into analogue signals
ACC, speed, lights, reverse gear, park distance control (optional cable CX-PI200 necessary)
- Adaptation of vehicle-specific radio ports to female ISO-connectors
(for some vehicles only a universal harness with open ends available)
- Support/Starting of factory sound systems
(not at all vehicles)
- Steering wheel control for after-market devices (optional)
Alpine, Blaupunkt, Clarion, Digitaldynamic, JVC, Kenwood, Pioneer, Zenec
- With USB update-port for software-updates by consumer

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Information

Changes/updates of the vehicle's software can cause malfunctions of the interface. We offer free software-updates for our interfaces for one year after purchase. To receive a free update, the interface must be sent in at own cost. Labor cost for and other expenses involved with the software-updates will not be refunded.

1. Prior to installation

Read the manual prior to installation. Technical knowledge is necessary for installation. The place of installation must be free of moisture and away from heat sources.

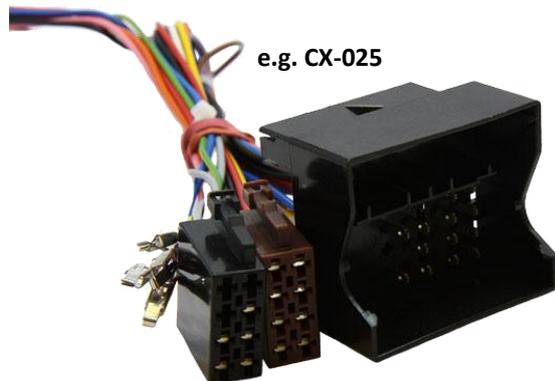
1.1. Delivery contents

Take down the SW-version and HW-version of the CAN-box, and store this manual for support purposes.

CAN-box
CX-401
 HW _____
 SW _____



There is always a universal or vehicle-specific cable set CX-0xx needed.



Harness for steering wheel control (optional)
ARC-1xx



1.2. Check compatibility of vehicle

The CX-401 provides depending on the vehicle ACC (A), speed signal (S), reverse gear (R), lights (L) and acoustic signal of park distance control (PDC, in combination with CX-PI200) as an analogue signal, it powers up an existing factory sound-system (SS) and supports the control of after-market devices by steering wheel (SWC).

The below table shows which harness CX-0xx can be used for which vehicles and which functions of the CX-401 will be supported for this vehicle.

Brand/ make	Compatible vehicles	functions	harness
Alfa Romeo	159, Brera	A,L,R,S,SWC	CX-034
	147, 156 (SWC only), GT	A,L,R,S	CX-034
Audi	A2 and A3 from year 07/01 till 12/06, A4 from year 01/00 till 10/06, A6 from year 07/01 till 01/05, TT from year 07/01 till 07/06	A,L,R,S,SWC	CX-023
	A1, A3 from year 01/07, A4 from year 11/06 till 11/07, TT from year 08/06	A,L,R,S,SWC	CX-025
	A4 (8K), A6 (4F), A8 (4E), Q7 (4L)	A,L,R,S,SWC	CX-010
	A6 (4G), A7 (4G)	A,L,R,S	CX-010
BMW	1series (E81/82/87/88), 3series (E90/91/92/92)	A,L,R,S,SWC, PDC	CX-028
	5series (E60/61), 5series(F07/F10), 6series(E63/64), 7series(E65/66), 7series(F01/02), X5(E70), X6(E71)	A,L,R,S	CX-010
Citroen	C3, C4, C5 from year 10/04, DS3 (no SWC), DS4 (no SWC) Jumper from year 09/06 (only S)	A,L,R,S,SWC, PDC	CX-030
Chevrolet	HHR	A,L,R,S	CX-010
Chrysler	300C	A,L,R,S,SWC, SS	CX-010
Fiat	Stilo, Grande Punto	A,L,R,S,SWC	CX-034
	Scudo	A,L,R,S,SWC	CX-030
	500	A,L,R,S,SWC	CX-037
Ford	Focus, C-Max, Mondeo, S-Max, Galaxy - with Quadlock	A,L,R,S,SWC	CX-035
Jeep	Grand Cherokee, Overland	A,L,R,S,SWC, SS	CX-010
Lancia	Ypsilon from year 11/03	A,L,R,S	CX-034
Land Rover	Range Rover Sport L320 model years 2005-2011, Range Rover Vogue L322 model years 2005-2012, Freelander2 L359 model years 2007-2012, Discovery3 L319 model years 2004-2009, Discovery4 L319 model years 2010-2011	A,L,R,S	CX-010
Lexus	GS	S	CX-010
Maserati	Quattroporte	A,L,R,S,SWC	CX-025
Mazda	3series	S	CX-010
Mercedes Benz	All with radiopreparation ,A-Class(W169),B-Class (W245) with Audio5	A,L,R,S,SWC	CX-026
	C-Class (W203) till year 03/04, E-Class (W210), CLK-Class (W208), CLK-Class (W209) till year 03/04, SL-Class (R230) till year 07/04, Viano (W639),Sprinter (W906) - with 10pin ISO	A,L,R,S,SWC	CX-027
	A-Class(W169),B-Class(W245) with Audio20,R-Class(W251),C-Class (W203) from year 04/05,CLK-Class(W209) from year 04/04,M-Class(W164),C-Class(W204),SLK (R171) from year 06/08,E-Class (W211) from year 06/08,E-Class (W212),E-Coupe (W207),CLS-Class (W219) from year 06/08,Viano (W639),Sprinter (W906) – with Quadlock	A,L,R,S,SWC	CX-028
	E-Class (W211) till 03/03	A,L,R,S,SWC	CX-010
	E-Class (W211) from year 04/03, CLS-Class (W219) till 06/08, SLK -Class (R171) till 06/08	A,L,R,S,SWC	CX-029
Mitsubishi	Outlander	Z,L,R,S	CX-010
Opel	Vectra C till year 07/04	A,L,R,S,SWC	CX-010
	Astra H,Corsa C/D,Vectra C from year08/04,Meriva,Tigra Twin Top,Vivaro,Antara	A,L,R,S,SWC	CX-021
Peugeot	207, 307, 407, 4007 (without LB) - with Quadlock	A,L,R,S,SWC, PDC	CX-030
Porsche	Cayenne until 05/2010, Boxster, Cayman, 911 - with Quadlock	A,L,R,S,SWC	CX-028
	Cayenne, Boxster, 911 (997) - with ISO	A,L,R,S,SWC	CX-024
	Cayenne from 06/2010, Panamera	A,L,R,S,SWC	CX-010
Renault	Megane III	A,L,R,S,SWC	CX-036
Smart	ForTwo	A,L,R,S	CX-010
	ForFour with ISO	A,L,R,S,SWC	CX-026
	ForFour with Quadlock	A,L,R,S,SWC	CX-028
Seat	Altea, Ibiza, Leon	A,L,R,S,SWC	CX-025

Brand/ make	Compatible vehicles	functions	harness
Skoda	Octavia I, Superb with indoor CAN-bus	A,L,R,S,SWC	CX-022
	Octavia II, Superb (3T), Fabia (5J)	A,L,R,S,SWC,SS	CX-025
VW	Caddy,Golf 4/5/6/Plus,Passat 3B/3C,Polo 6N/9N, Phaeton D1, Tiguan 5N, T5,Touran,Touareg - Quadlock	A,L,R,S,SWC,SS	CX-025
	Golf 7	A,L,R,S,SWC	CX-010
Volvo	S60, V70	A,L,R,S,SWC, PDC	CX-033
	XC60	A,L,R,S	CX-010
	XC90	A,L,R,S,SWC, PDC	CX-010

1.3. Setting the dip switches

To use the steering wheel control is dependent on the manufacturer of the after-market device a device-specific IR control cable ARC-1xx needed. The dip sitches of the CAN-box CX-401 have to be set on the manufacturer/ port.



The following table shows the IR control cable and the dip switch settings for the supported manufacturers.

Harness	Description	Dip1	Dip2	Dip3
ARC-103	Control cable set for Blaupunkt	on	off	off
ARC-104	Control cable set for Alpine	off	off	off
	Control cable set for Clarion	on	on	off
	Control cable set for JVC	on	off	on
ARC-105	Control cable set for Kenwood, with open ends	on	on	on
ARC-106	Control cable set for Kenwood, with DIN-connection	on	on	on
ARC-107	Control cable set for Pioneer and Sony	off	on	on
ARC-108	Control cable set for Zenec and Digitaldynamic	off	off	on

2. Installation

Switch off ignition and disconnect the vehicle's battery! If according to factory rules disconnecting the battery has to be avoided, it is usually sufficient to put the vehicle in sleep-mode. In case the sleep-mode does not show success, disconnect the battery with a resistor lead.

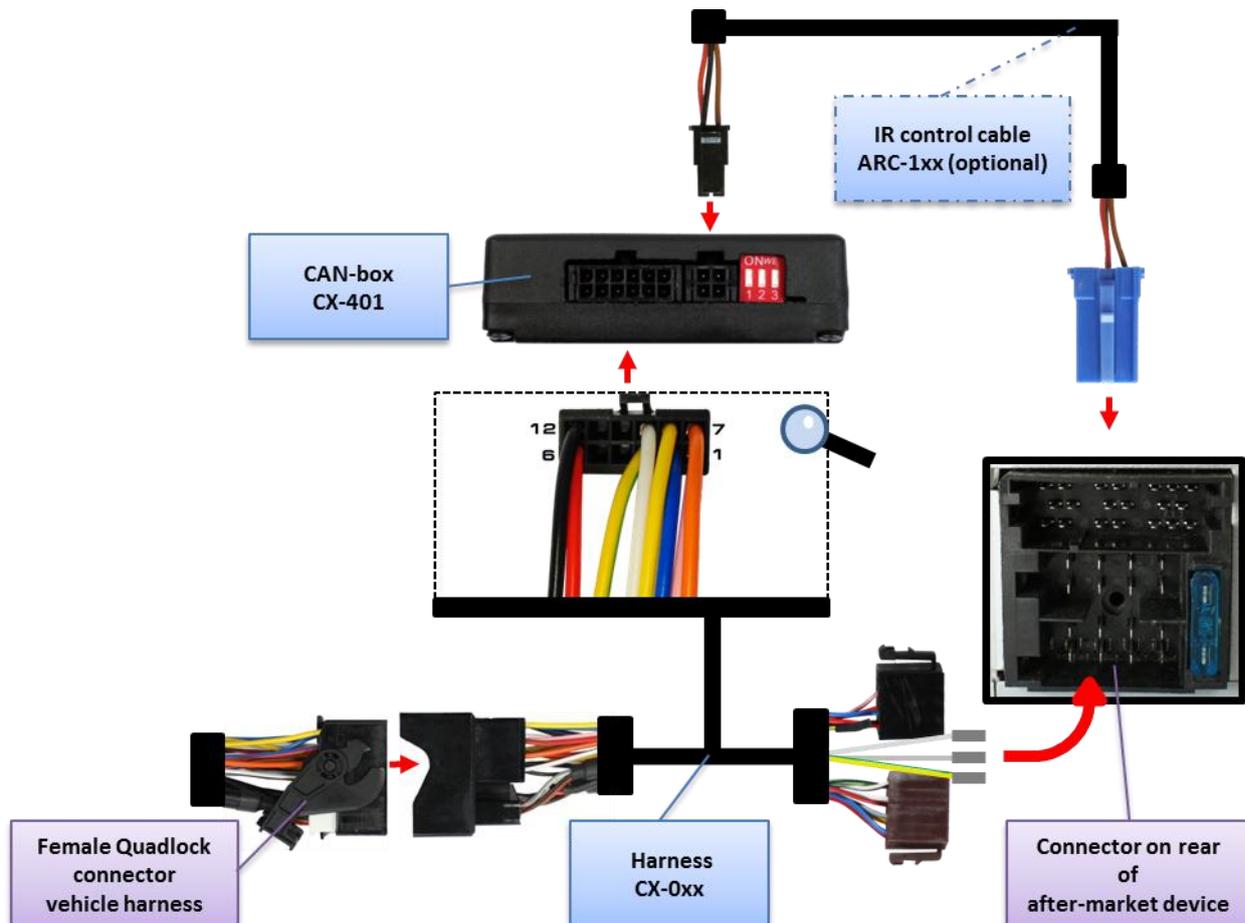
Place of installation of the CX-401 is usually in the radio slot on the vehicle's radio port.

2.1. Assignment of the 12-pin Molex on CX-401

Cable colour	Assignment
Pin 1 ● pink	+12V ACC (Output) max.1.5A
Pin 2 ● blue	CAN-LOW (Input)
Pin 3 ● yellow/green	Tachometer signal (Output)
Pin 5 ● red	+ signal PDC (harness CX-PI200)
Pin 6 ● red	+12V Permanent (Input)
Pin 7 ● orange	Lights (Output) max. 0.1A
Pin 8 ● yellow	CAN-HIGH (Input)
Pin 9 ● white	Reverse gear (Output) max. 1.5A
Pin 11 ● black	Ground signal PDC (harness CX-PI200)
Pin 12 ● black	Ground

2.2. Connection example

Example of vehicle-specific harness CX-025 and IR control cable ARC-102 to a Blaupunkt head-unit.



2.3. Installation with vehicle-specific harness CX-0xx

- a.) Persistent current, Ground, ACC signal (Z) and lights signal (L) are pinned in the female ISO-connector of the CX-0xx. If supported by the CX-401 connect speed signal (S) and reverse gear signal (R) to the corresponding pins of the after-market device.
- b.) Depending on equipment/vehicle the grey cable is occupied with the analogue phone mute signal. Connect to the corresponding pins of the after-market device.
- c.) Connect vehicle's female radio connector(s) to the corresponding male connector(s) of harness CX-0xx.
- d.) Connect harness CX-0xx to CAN-Box CX-401 via 12pin Molex.
- e.) Connect female ISO-connectors of harness CX-0xx to the ISO-connector of the after-market device.
- f.) Optional: Connect IR-control input of the after-market device to the 4pin Molex IR-control output of CAN-box CX-401 via the optional control cable ARC-1xx.

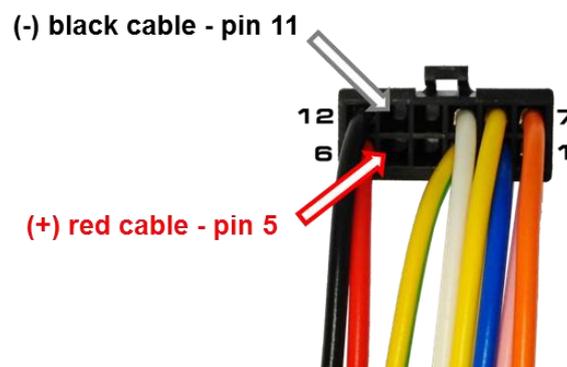
Note for CX-035 (Ford): ACC and illumination are not analogue but digital signals on some vehicles. In this case connect ACC (Quadlock, chamber A, pin 16; pink wire) and illumination (Quadlock, chamber A, pin 13; orange wire) between female 12pin MicroFit connector and female ISO connectors, using the plugs of the harness.

2.4. Installation with universal harness CX-010

- a.) Connect universal harness CX-010 according to **assignment of 12pin Molex on CX-401** to harness of the after-market device and to vehicle harness.
- b.) Optional: Connect IR-control input of the after-market device to the 4pin Molex IR-control output of CAN-box CX-401 via the optional control cable ARC-1xx.

2.5. Installation acoustic signal of park distance control with CX-PI200

- a.) Connect the black and red cable of the CX-PI200 (Piezo LSP to CX-028/CX-030/CX-033/CX-010) into the correlative pins of the female 12pin Molex connector of harness CX-0xx:



2.6. Onboard computer control Citroen and Peugeot

To control the onboard computer in Citroen and Peugeot vehicles the following functions can be selected by steering-wheel buttons:

Select Menu	long pressing "Source" (4s)
ESC	short pressing "Source"
OK	Vol+
Menu up	Wheel up
Menu down	Wheel down
Menu Right	Track+
Menu Left	Track-
Mode	long pressing "Tr+" (4s)
Dark	long pressing "Tr-" (4s)

Assignment of the steering-wheel buttons:

Tr+	pick up phone
Tr-	hang up phone
Wheel up	Tr+
Wheel down	Tr-

The assignments of the remaining steering-wheel buttons are identical to the label!

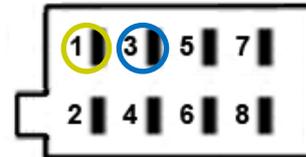
3. Vehicle-specific assignments - CAN-bus

As additional support the following pages give information about some vehicle-specific CAN-bus pin definitions. This **information** is **subject to change** and must be verified by the installer.

ALFA ROMEO

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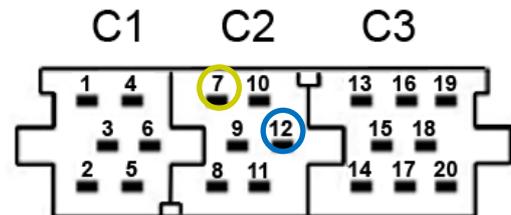
Female 8-Pin ISO connector in radio slot
 CAN High – Pin 1
 CAN Low – Pin 3



AUDI

A2, A3, A4, A6 till 01/05

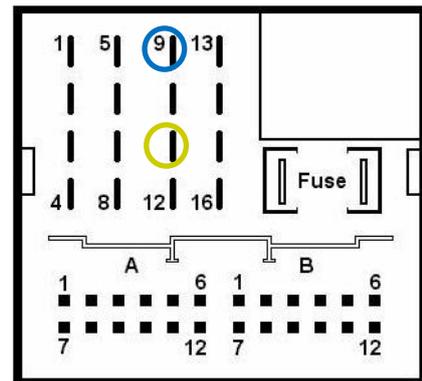
Female Mini-ISO connector in radio slot
 CAN High – Pin 7
 CAN Low – Pin 12



BMW

1series E81, 3series E90, 5series E60

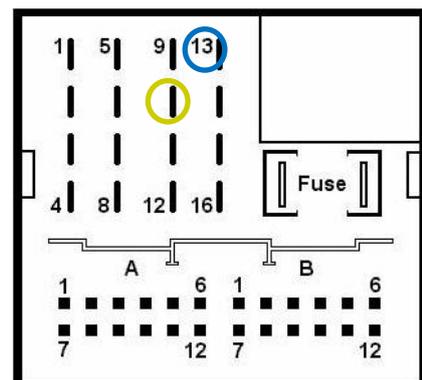
Female Quadlock-connector in radio slot
 CAN High – Pin 11
 CAN Low – Pin 9



CITROËN

C4, C5 from 10/04

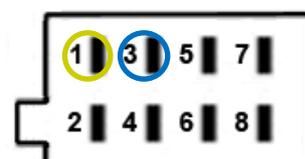
Female Quadlock-connector in radio slot
 CAN High – Pin 10
 CAN Low – Pin 13



FIAT

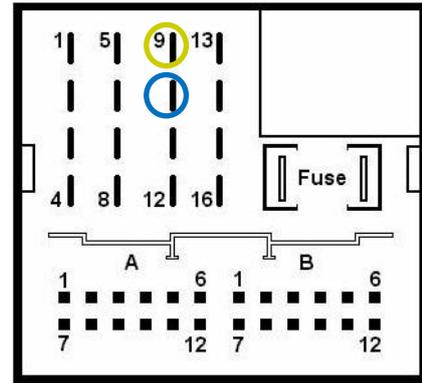
Stilo

Female 8pin ISO connector in radio slot
 CAN High – Pin 1
 CAN Low – Pin 3



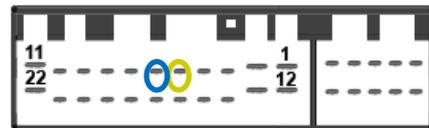
FORD

Focus, Focus C-MAX, S-MAX, Mondeo
 Female Quadlock connector in radio slot
 CAN High – Pin 9
 CAN Low – Pin 10



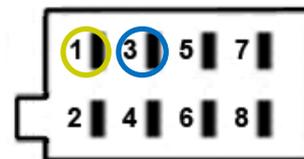
JEEP/CHRYSLER

Grand Cherokee, 300C
 Female 22-pin connector in radio slot
 CAN High – Pin 5 (white / red)
 CAN Low – Pin 6 (white)



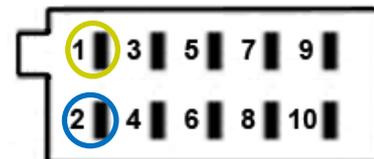
LANCIA

Ypsilon from 11/03
 Female 8-pin ISO connector in radio slot
 CAN High – Pin 1
 CAN Low – Pin 3

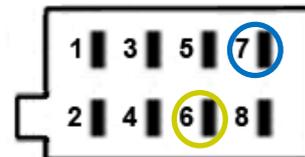


MERCEDES BENZ

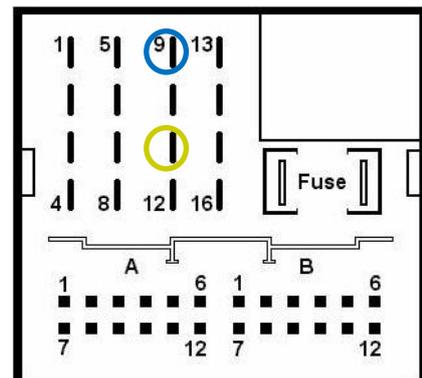
CLK W208 after facelift, **CLK W209** till 03/04,
E-Class W210 from 09/99, **Viano, SL W230** from 07/04
 Female 10pin ISO-connector in radio slot
 CAN High – Pin 1
 CAN Low – Pin 2



A-Class W169 and **B-Class W245** with Audio5,
 all MERCEDES with indoor CAN-bus
 Female 8pin ISO connector in radio slot
 CAN High – Pin 6
 CAN Low – Pin 7



A-Class W169 and **B-Class W245** with Audio20,
C-Class W203 and **CLK W209** from 04/04,
Viano W693
 Female Quadlock-connector in radio slot
 CAN High – Pin 11
 CAN Low – Pin 9



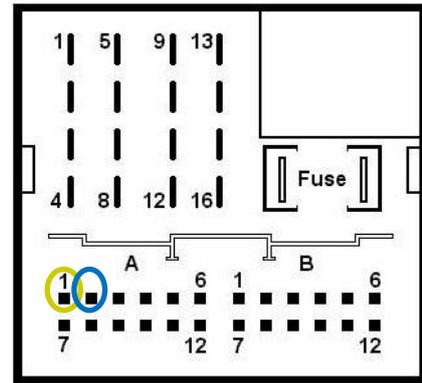
MERCEDES BENZ

E-Class W211 from 04/03, **CLS W219**, **SLK R171**

Female Quadlock-connector in radio slot

CAN High – Pin 1 (Kammer A)

CAN Low – Pin 2 (Kammer A)



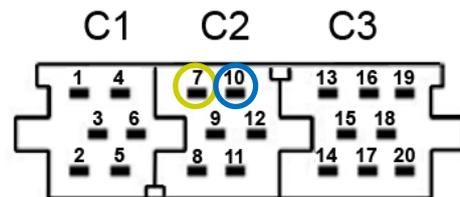
OPEL

Vectra C till 07/04

Female Mini-ISO connector in radio slot

CAN High – Pin 7

CAN Low – Pin 10



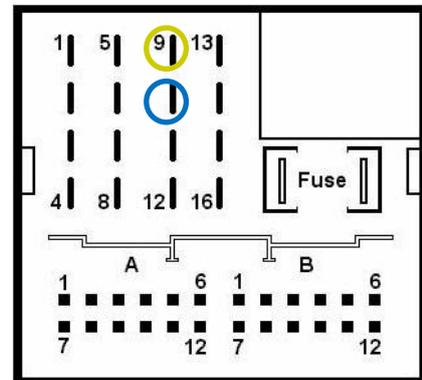
Astra H, **Corsa C**, **Meriva**, **Tigra Twin Top**,

Vectra C from 08/04

Female Quadlock-connector in radio slot

CAN High – Pin 9

CAN Low – Pin 10



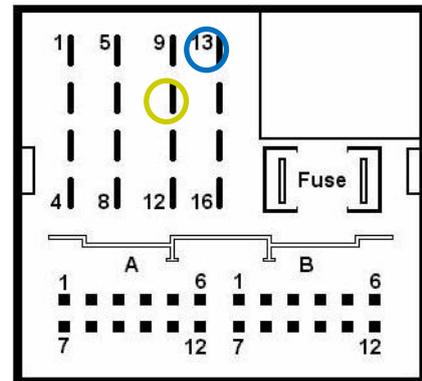
PEUGEOT

307, **407**

Female Quadlock-connector in radio slot

CAN High – Pin 10

CAN Low – Pin 13



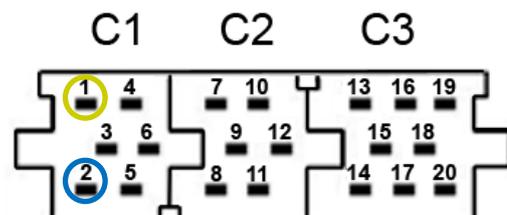
PORSCHE

Cayenne, **Boxster**, **997**

Female Mini-ISO connector in radio slot

CAN High – Pin 1

CAN Low – Pin 2



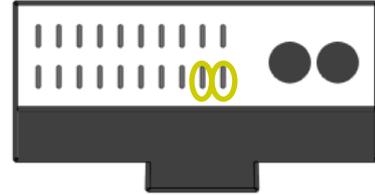
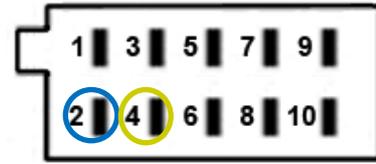
SAAB

9-3, 9-5

Female 10pin ISO-connector in radio slot

CAN High – Pin 4

CAN Low – Pin 2



9-3 after facelift

20pin control unit connector,

CAN High – Pin 1 or Pin 2

CAN Low – not connected

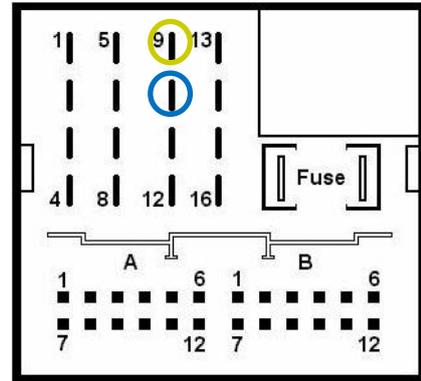
SEAT

Altea

Female Quadlock-connector in radio slot

CAN High – Pin 9

CAN Low – Pin 10



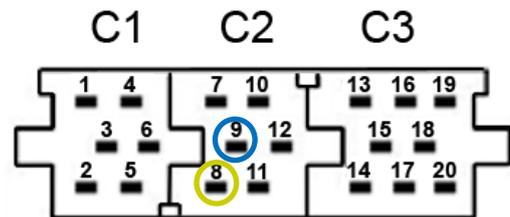
ŠKODA

Superb, Octavia I

Female Mini-ISO connector in radio slot

CAN High – Pin 8

CAN Low – Pin 9

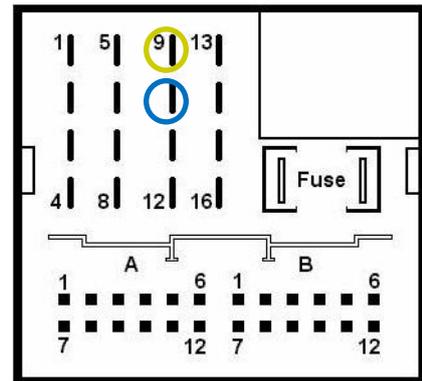


Octavia II

Female Quadlock-connector in radio slot

CAN High – Pin 9

CAN Low – Pin 10



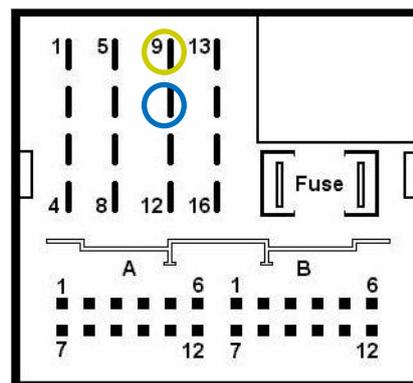
VOLKSWAGEN

Golf 4, Golf 5, Passat 3B, Caddy, Touran, Touareg, T5

Female Quadlock-connector in radio slot

CAN High – Pin 9

CAN Low – Pin 10



VOLVO

S60, V70

Female 12pin connector in radio slot

CAN High – Pin 7 (white)

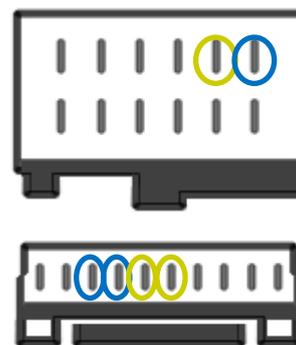
CAN Low – Pin 8 (green)

XC90

Female 10-Pin connector in radio slot

CAN High – white cable (double occupied)

CAN Low – green cable (double occupied)

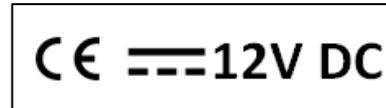


4. Steering wheel control (optional)

The control options by the steering wheel buttons vary depending on the available steering wheel buttons. In general, they include volume control and track jumps.

5. Specifications

Operation voltage	10.5 – 14.8V
Stand-by power drain	<1mA
Operation power drain	~50mA
Power consumption	0.07-40W
Temperature range	-30°C till +80°C
Weight	38g
Measurements (box only) W x H x D	71 x 22 x 50 mm



Capacitance

ACC	max. 1.5A
Reverse Gear	max. 1.5A
Lights	max. 0.1A

6. Technical Support

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