Manuals+ — User Manuals Simplified.

incarsolutions
CX-401 Steering Wheel Control Interface

Incar Solution CX-401 Steering Wheel Control Interface Instruction Manual

Contents

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Incar Solution CX-401 Steering Wheel Control Interface

Specifications

- **Product:** CAN-bus Interface Steering wheel control
- **Model:** CX-401
- **Compatibility:** Check the provided link for vehicle compatibility
- **Features:** Supports steering wheel control, speed signal, reverse gear, lighting, park distance control, factory sound-system integration, on-board computer system control, aftermarket device control

Product Usage Instructions

Prior to Installation

- **Delivery Contents**
  Take note of the SW-version and HW-version of the CAN-box. Ensure you have the necessary cable set CX-0xx.
- **Check the Compatibility of the Vehicle**
  Verify compatibility with your vehicle using the provided link. Ensure necessary functions are supported by the CX-401.

Installation

- **Assignment of the 12pin Molex on CX-401**
  Follow the provided instructions to correctly assign the 12pin Molex connector on the CX-401.
- **CX-401 LED Functions**
  Understand the indications of the LED lights on the CX-401 for proper installation and troubleshooting.
- **Connection Example**
  Refer to the connection example provided in the manual for a visual guide on how to connect the interface.
- **Vehicle-specific Assignments CAN-bus**

Consult the vehicle-specific assignments section to ensure proper configuration based on your vehicle make and model.

Product Features

- Conversion of digital CAN-bus signals into analogue signals ACC, speed, lights, reverse gear, park distance control (optional cable CX-LS 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

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.

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.

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

Check compatibility of vehicle

- The CX-401 provides depending on the vehicle ignition (I), speed signal (S), reverse gear (R), lighting (L), acoustic signal of park distance control (PDC) as an analogue signal, it powers up an existing factory sound-system (SS), allows the using of on-board computer system control (OCS) and supports the control of after market devices by steering wheel (SWC).

- The link to the 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. **https://downloads.casgermany.com/can_bus_compatibility.pdf**

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 (Mini-ISO connection)	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 (Mini-Jack connection)	on	off	on
ARC-105	Control cable set for Kenwood (open wire)	on	on	on
	Control cable set for JVC (open wire)	on	off	on
ARC-106	Control cable set for Kenwood (DIN-connection)	on	on	on
ARC-107	Control cable set for Pioneer	off	on	on
	Blaupunkt (Mini-Jack connection)	off	on	off
ARC-108	Control cable set for Zenec and Digitaldynamic	off	off	on

Setting of internal switch for Pioneer devices (as of HW-VER V3.0)
When the steering wheel control with a Pioneer will not work (DIP1 OFF | DIP2 ON | DIP3 ON), then open the housing of the interface and change the switch position from 5V to 3.3V.
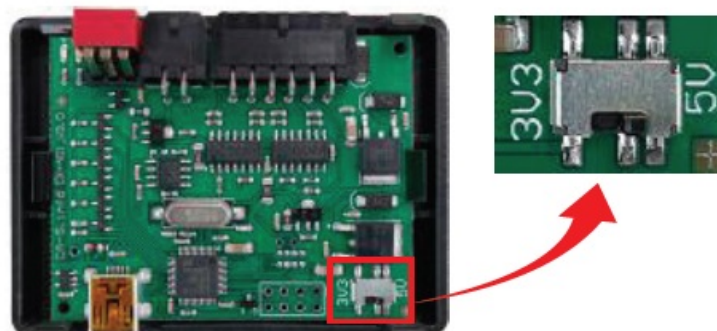
Installation

- 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.

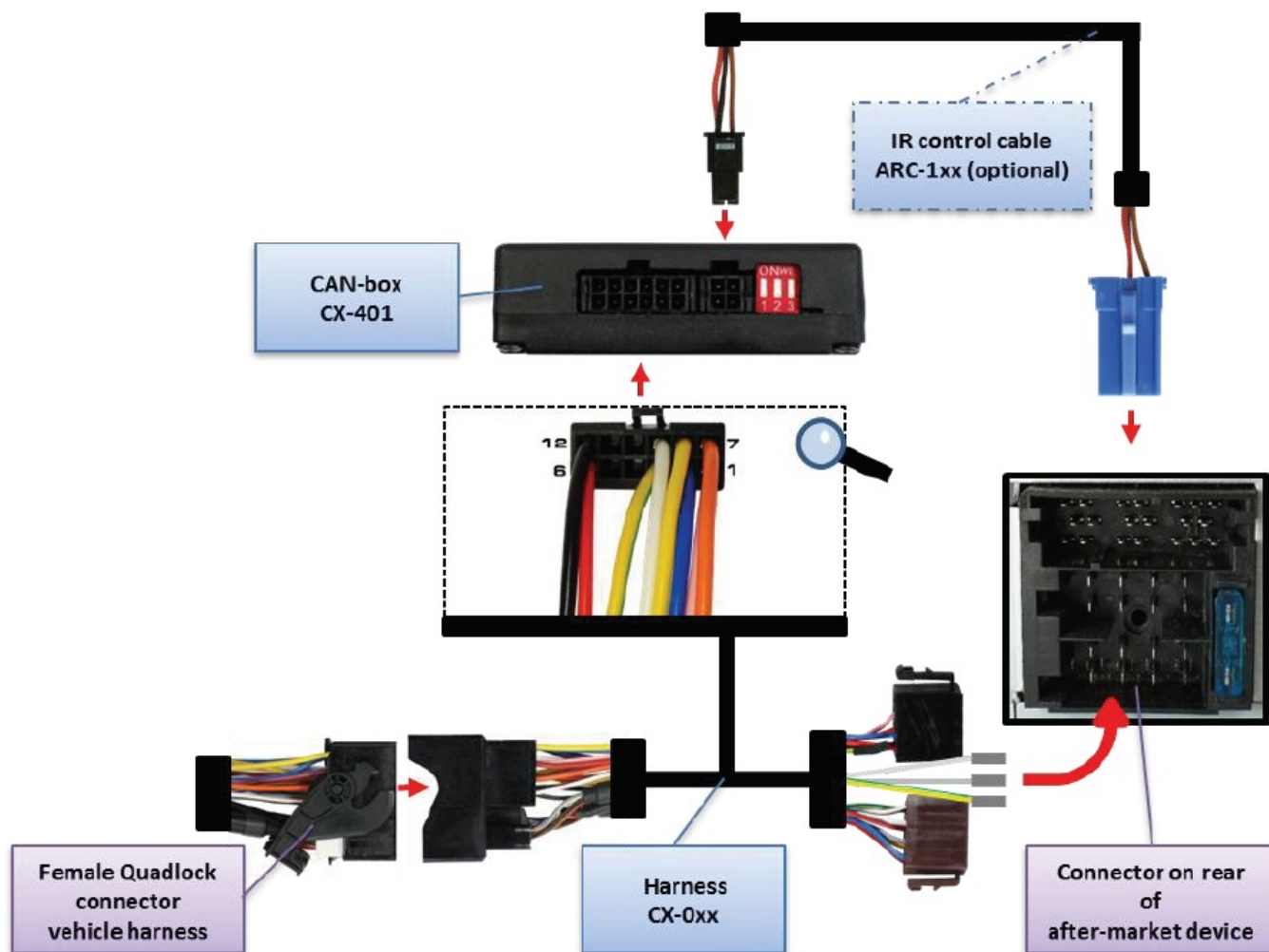**Assignment of the 12-pin Molex on CX-401**

Cable colour		Assignment
Pin 1	● pink	+12V ACC (Output) max.1.5A
Pin 2	● blue	CAN-LOW (Input)
Pin 3	●● yellow/green (●● yellow/red)	Speed signal (Output)
Pin 5	● red	+ signal PDC (harness CX-LS)
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-LS)
Pin 12	● black	Ground

CX-401 LED functions

LED	Status	Funktion
● Red	Lights	Ignition is ON
● Blue	Flashes	CAN Bus is searched
● Blue	Lights	CAN Bus found

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

IR control cable
ARC-1xx (optional)

CAN-box
CX-401

Female Quadlock
connector
vehicle harness

Harness
CX-0xx

Connector on rear
of
after-market device

Installation with vehicle-specific harness CX-0xx

1. 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.
2. 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.
3. Connect vehicle's female radio connector(s) to the corresponding male connector(s) of harness CX-0xx.
4. Connect harness CX-0xx to CAN-Box CX-401 via 12pin Molex.
5. Connect female ISO-connectors of harness CX-0xx to the ISO-connector of the aftermarket device.
6. Optional: Connect IR-control input of the after-market device to the 4pin Molex IRcontrol output of CAN-box CX-401 via the optional control cable ARC-1xx.

Note for CX-035 (Ford): ACC and illumination are not digital but analogue 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.

Installation with universal harness CX-010

1. 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.
2. **Optional**: Connect IR-control input of the after-market device to the 4pin Molex IRcontrol output of CAN-box

CX-401 via the optional control cable ARC-1xx.

Installation acoustic signal of park distance control with CX-PI200 (till SW 1.1.2)

1. 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:

CX-PI200

(-) black cable - pin 11
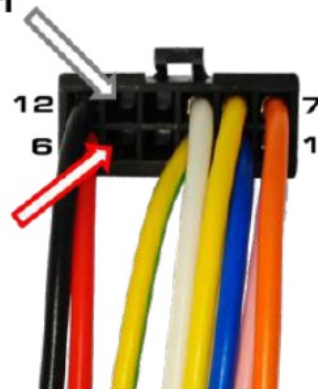
(+) red cable - pin 5

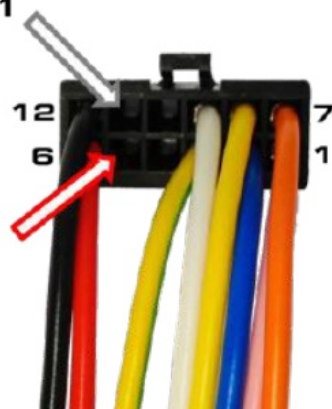**Installation acoustic signal of park distance control with CX-LS (from SW 1.1.3)**

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

CX-LS

(-) black cable - pin 11

(+) red cable - pin 5

Steering wheel functions

Button	Function	Vehicle / radio support
VOLUME + / **–**	Volume up / volume down	All vehicle brands , all radio brands
TRACK + / **–**	Next track / radio station, previous track / radio station	All vehicle brands , all radio brands
SOURCE	Source switching	Compatible vehicle brands, all radio brands
MUTE	Mute ON/OFF	Compatible vehicle brands, all radio brands
PICK UP PHONE / **HANG UP PHONE**	Answer call / end call	Compatible vehicle brands, all radio brands
PHONE	Answer call <u>OR</u> end call	Compatible vehicle brands, all radio brands
VOICE CONTROL	Activation of voice control	Compatible vehicle brands, compatible radio brands

Onboard computer control Citroen and Peugeot for after-market radios
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!

Vehicle-specific assignments – CAN-bus

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

ALFA ROMEO

147

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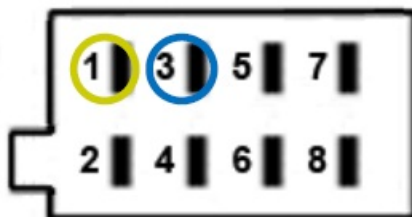
AUDI

- A2, A3, A4, A6 till 01/05
- Female Mini-ISO connector in radio slot CAN High – Pin 7
- CAN Low – Pin 12
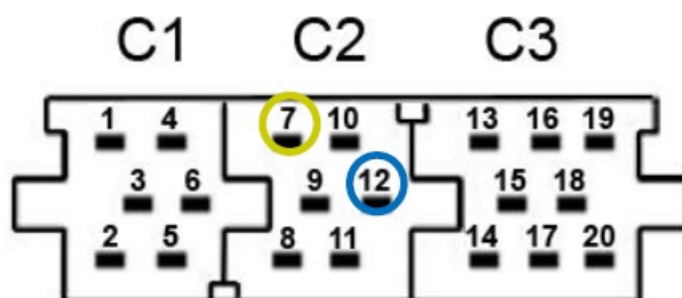
BMW

- 1series E81, 3series E90, 5series E60 Female Quadlock-connector in radio slot CAN High – Pin 11
- CAN Low – Pin 9
- Version 18.12.2024
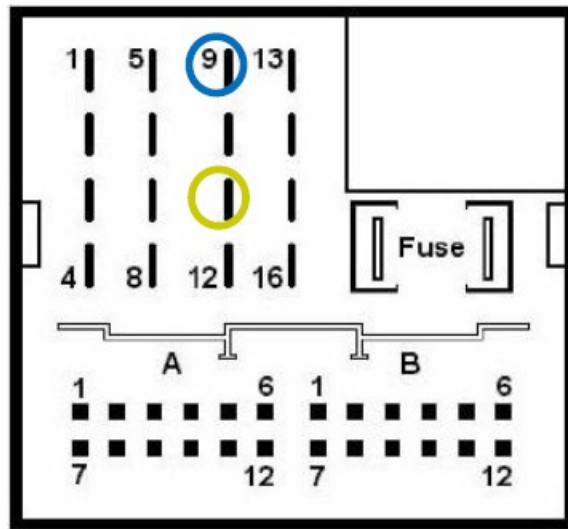
Chrysler

- Chrysler cars with female 22pin connector in radio slot CAN High – Pin 10
  - CAN Low – Pin 13
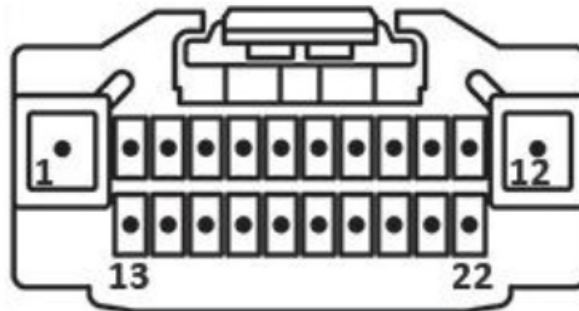
- Chrysler cars with female 52pin connector in radio slot CAN High – Pin 2
  - CAN Low – Pin 12
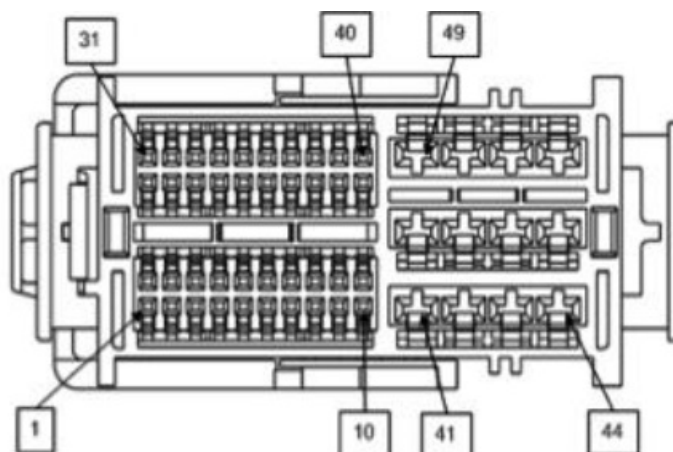
CITROËN

- C4, C5 from 10/04
- Female Quadlock-connector in radio slot
- CAN High – Pin 10
- CAN Low – Pin 13
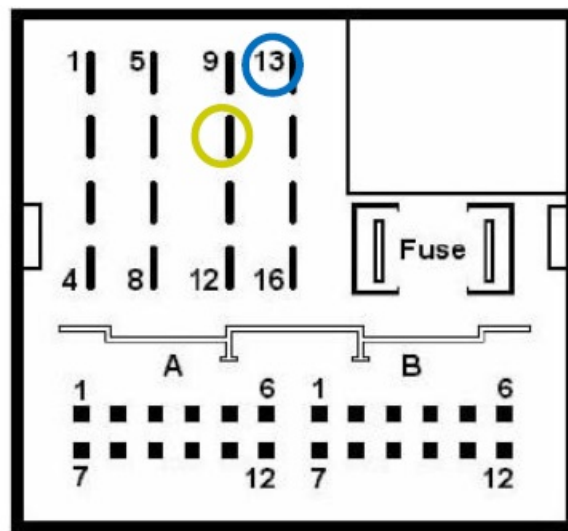
Jumper II

- Female 52pin connector in radio slot
- CAN High – Pin 2
- CAN Low – Pin 12
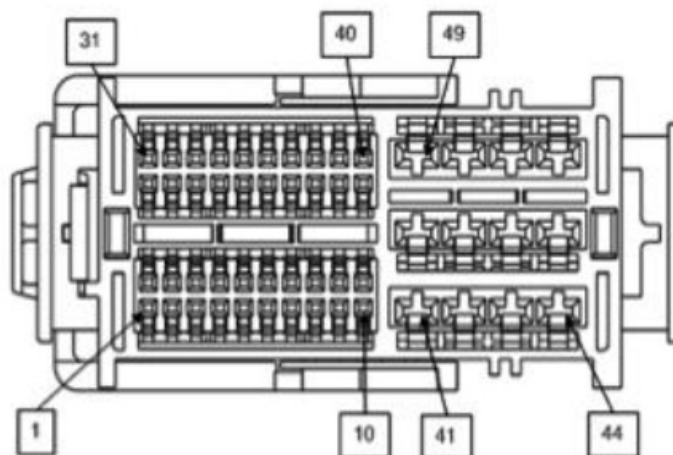
Dodge

- Dodge cars with female 22pin connector in radio slot CAN High – Pin 10
- CAN Low – Pin 13
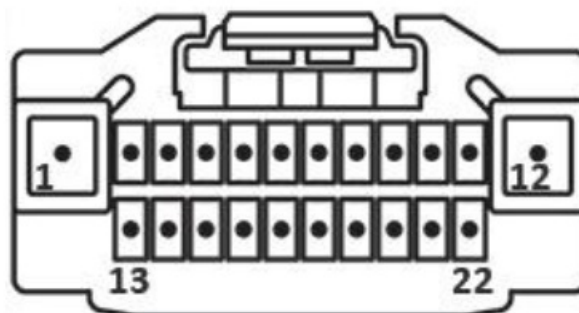
- Dodge cars with female 52pin connector in radio slot CAN High – Pin 2
- CAN Low – Pin 12
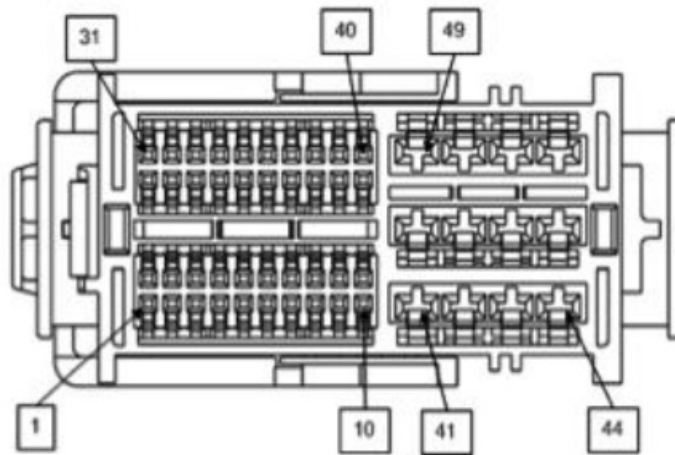
FIAT

- Stilo, 500
- Female 8pin ISO connector in radio slot
- CAN High – Pin 1
- CAN Low – Pin 3
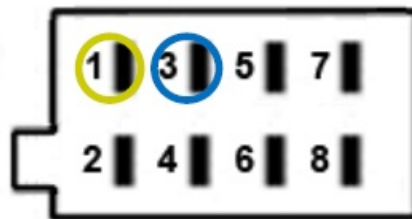
Ducato as of 2013

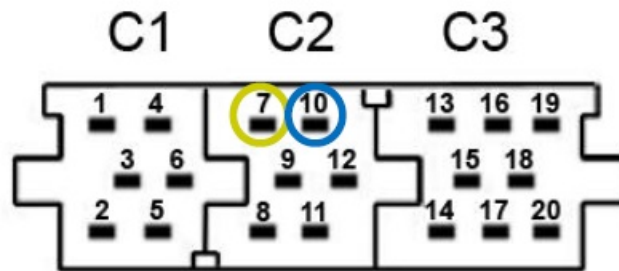- Female 52pin connector in radio slot
- CAN High – Pin 2
- CAN Low – Pin 12
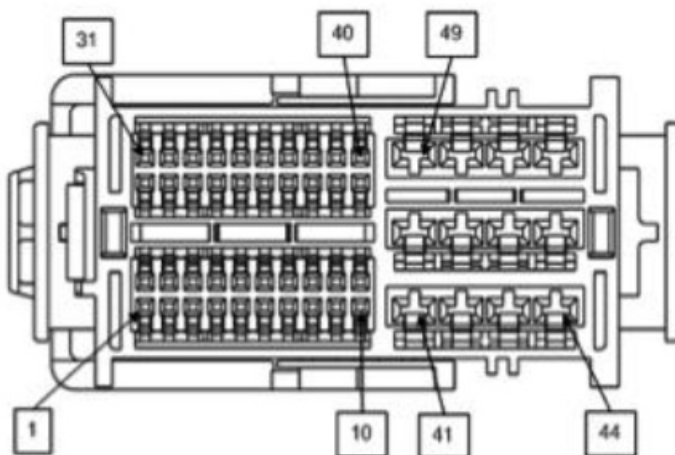
FORD

- **Focus, Focus C-MAX, S-MAX, Mondeo Female Quadlock connector in radio slot**

- CAN High – Pin 9
- CAN Low – Pin 10
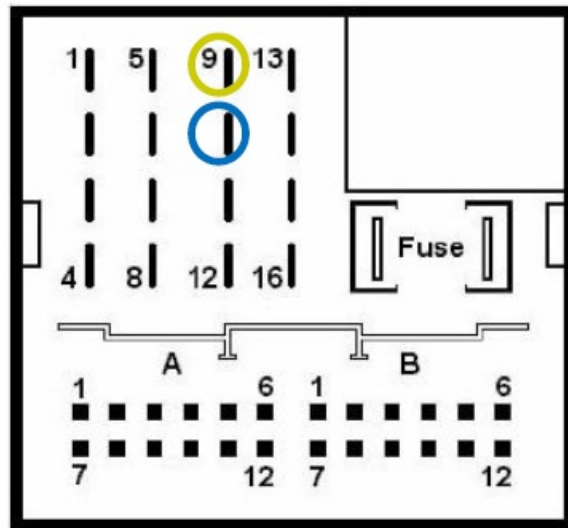
- **Fiesta, Transit, Transit Custom, Transit Connect Female 32pin connector in radio slot**
  - CAN High – Pin 19
  - CAN Low – Pin 30
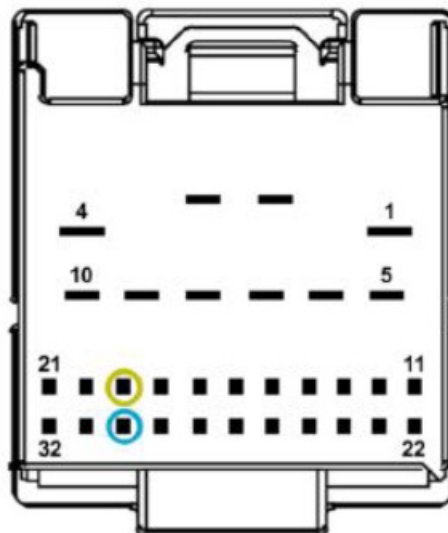
Honda

- **Accord (8G), CR-Z, Jazz (2G)**
  - Female 20pin connector in radio slot
  - CAN High – Pin 13
  - CAN Low – Pin 3
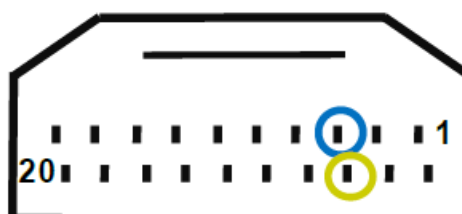
JEEP/CHRYSLER

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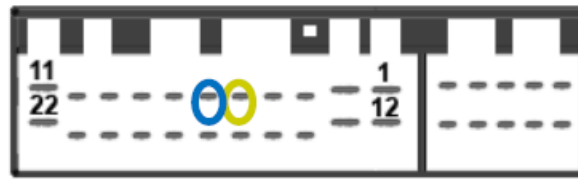
LANCIA

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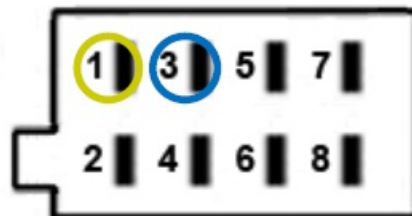
MERCEDES BENZ

- 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
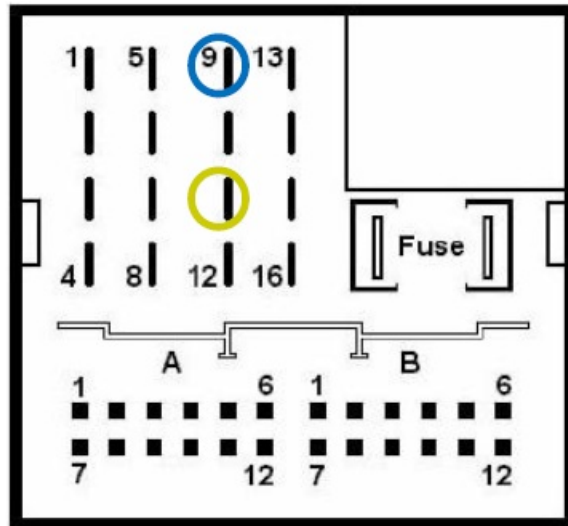
- E-Class W211 from 04/03, CLS W219, SLK R171 Female Quadlock-connector in radio slot
  - CAN High – Pin 1 (Kammer A)
  - CAN Low – Pin 2 (Kammer A)
  - Sprinter W907/W910 from 12/07
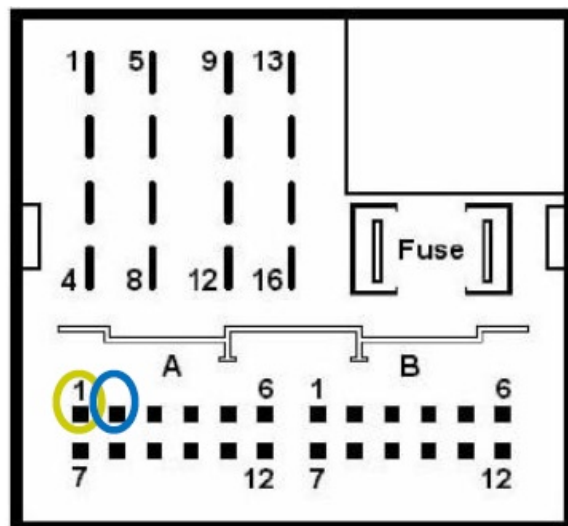
- Female 26pin connector in radio slot
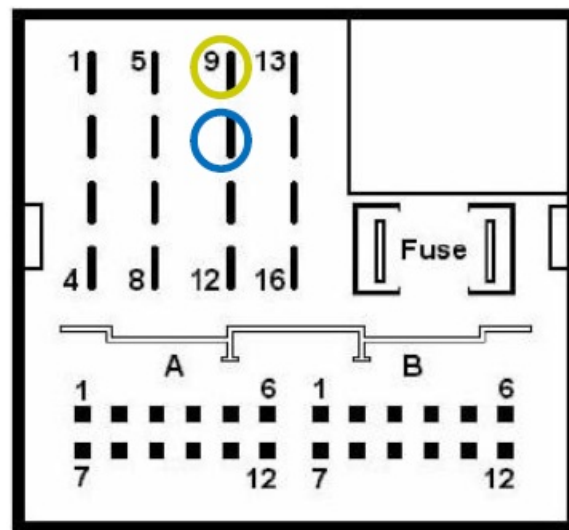 - CAN High – Pin 7
  - CAN Low – Pin 20

OPEL
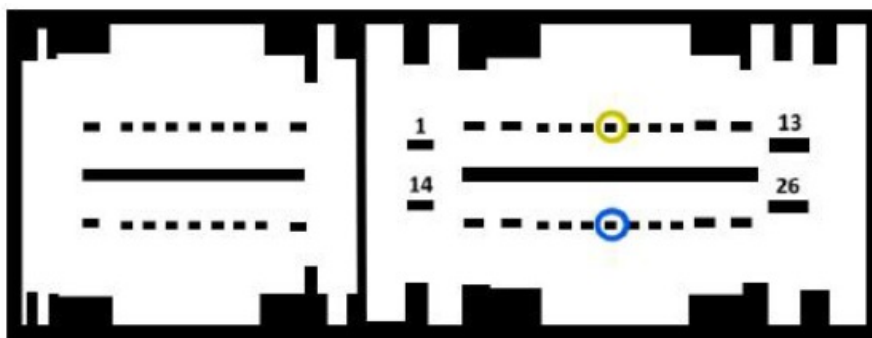
- **Vectra C till 07/04**
  - Female Mini-ISO connector in radio slot CAN High – Pin 7
  - CAN Low – Pin 10

- **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
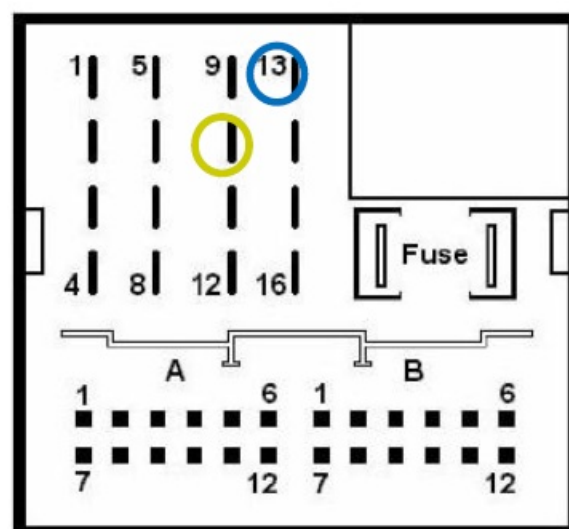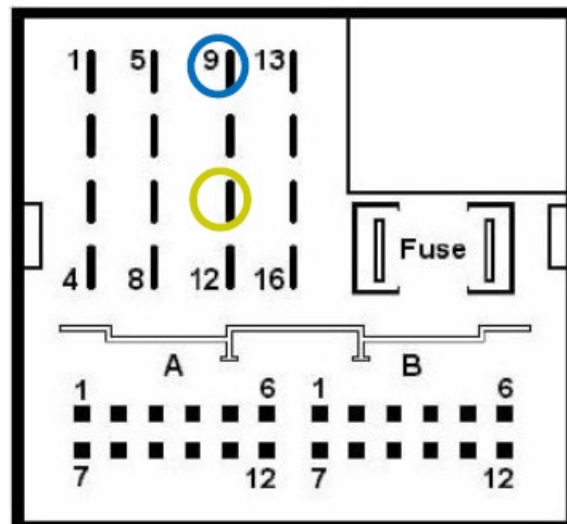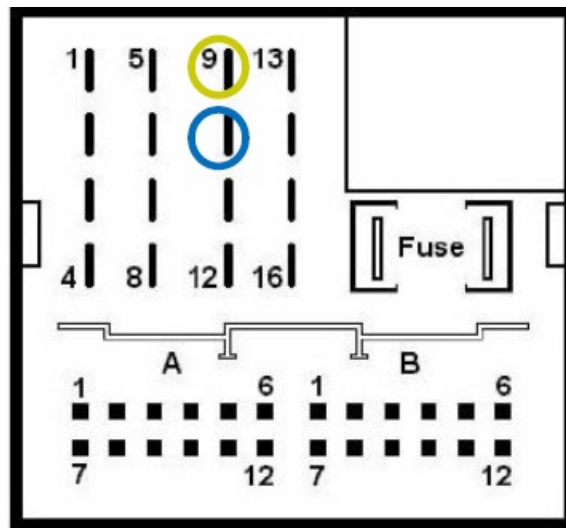
PORSCHE

- **Cayenne (9PA), Boxster (987), 911 (997)**
  - Female Mini-ISO connector in radio slot CAN High – Pin 1
  - CAN Low – Pin 2
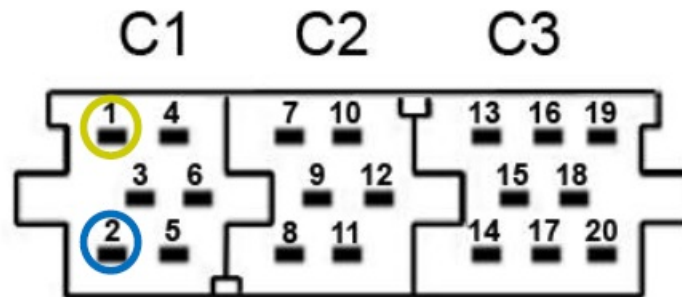
- **Cayenne (92A), Panamera (970)**
  - Female Quadlock-connector in radio slot
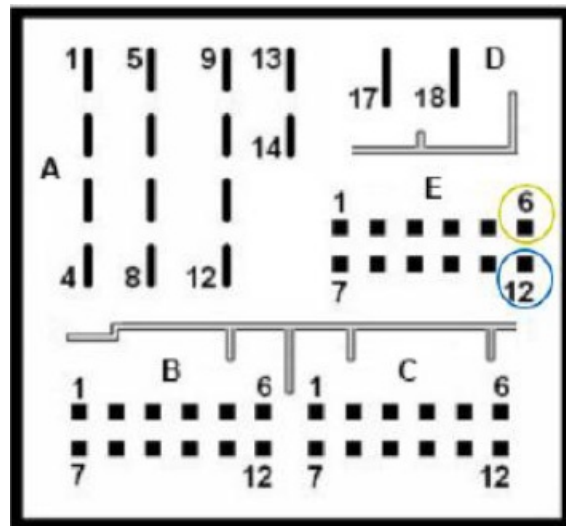 - CAN High – Pin 11
  - CAN Low – Pin 9

SEAT

- **Altea**
  - Female Quadlock-connector in radio slot CAN High – Pin 9
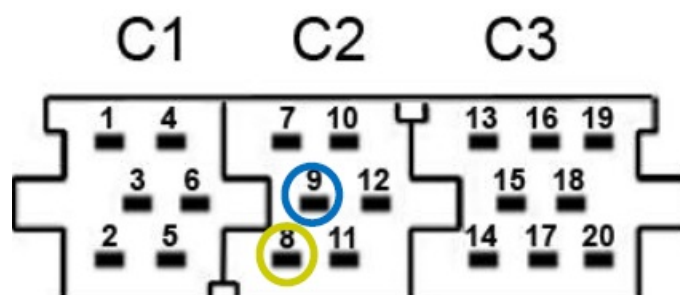 - CAN Low – Pin 10

Leon III

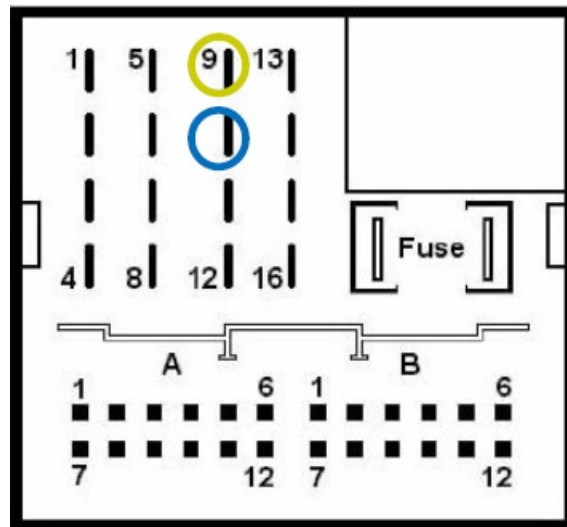- Female Quadlock-connector in radio slot CAN High – Pin 6
- CAN Low – Pin 12

ŠKODA

- Superb, Octavia I
  - Female Mini-ISO connector in radio slot CAN High – Pin 8
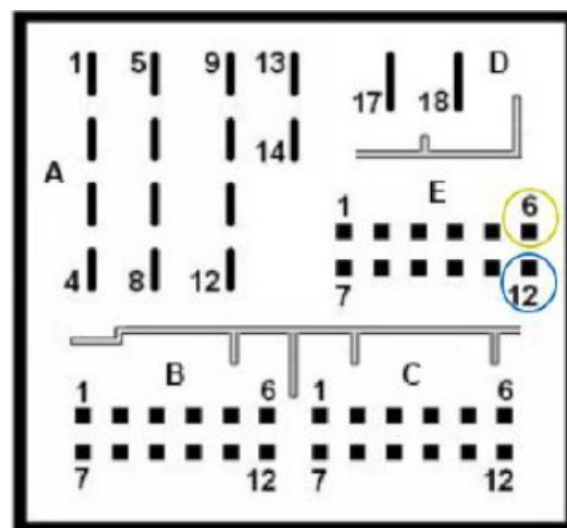 - CAN Low – Pin 9

Octavia II

- Female Quadlock-connector in radio slot CAN High – Pin 9
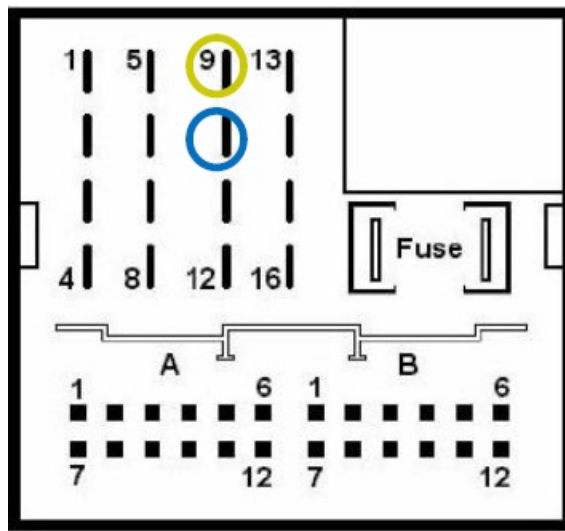- CAN Low – Pin 10
- Version 18.12.2024

Fabia III

- Female Quadlock-connector in radio slot CAN High – Pin 6
- CAN Low – Pin 12

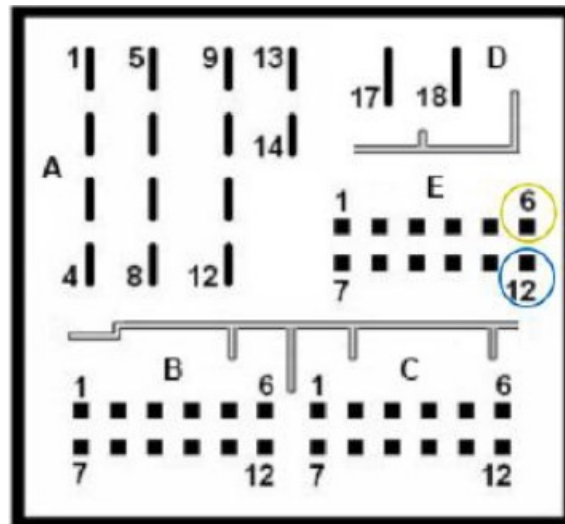**VOLKSWAGEN**

- Golf 4, Golf 5, Passat 3B, Caddy, Touran, Touareg, T5
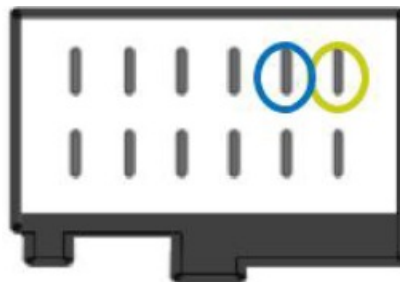- Female Quadlock-connector in radio slot CAN High – Pin 9
- CAN Low – Pin 10

Golf 7

- Female Quadlock-connector in radio slot CAN High – Pin 6
- CAN Low – Pin 12

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)
  - Version 18.12.2024

Specifications

- Operation voltage 10.5 – 14.8V
- Stand-by power drain <3mA
- 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

Technical Support
CAS GmbH manufacturer/distribution

- In den Fuchslöchern 3
- D-67240 Bobenheim-Roxheim
- **email support@casgermany.com**
- **Legal disclaimer:** The mentioned company and trademarks, as well as product names/codes are registered trademarks ® of their corresponding legal owners.

FAQ

Q: How do I update the software of the interface?
A: Changes/updates in the vehicle's software can cause malfunctions. We offer free software updates for one year after purchase. To receive an update, send in the interface at your own cost.

Documents / Resources

[Incar Solution CX-401 Steering Wheel Control Interface](#) [pdf] Instruction Manual
CX-401, CX-0xx, ARC-1xx, CX-401 Steering Wheel Control Interface, CX-401, Steering Wheel Control Interface, Wheel Control Interface, Control Interface

References

- [**User Manual**](#)