CanEasy
– Creating a database

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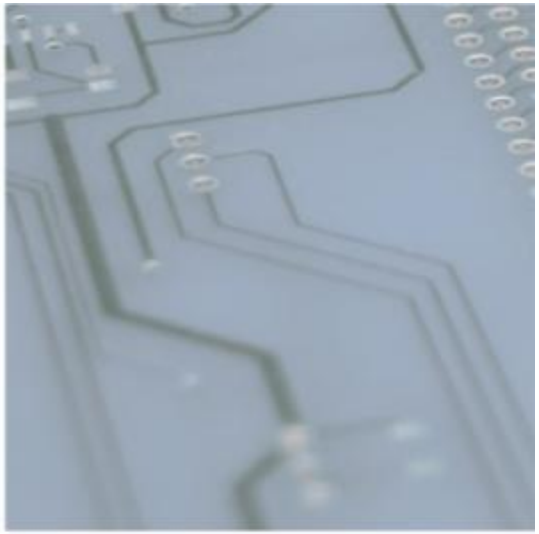

Kay Müller
Holger Dahinten

Motivation

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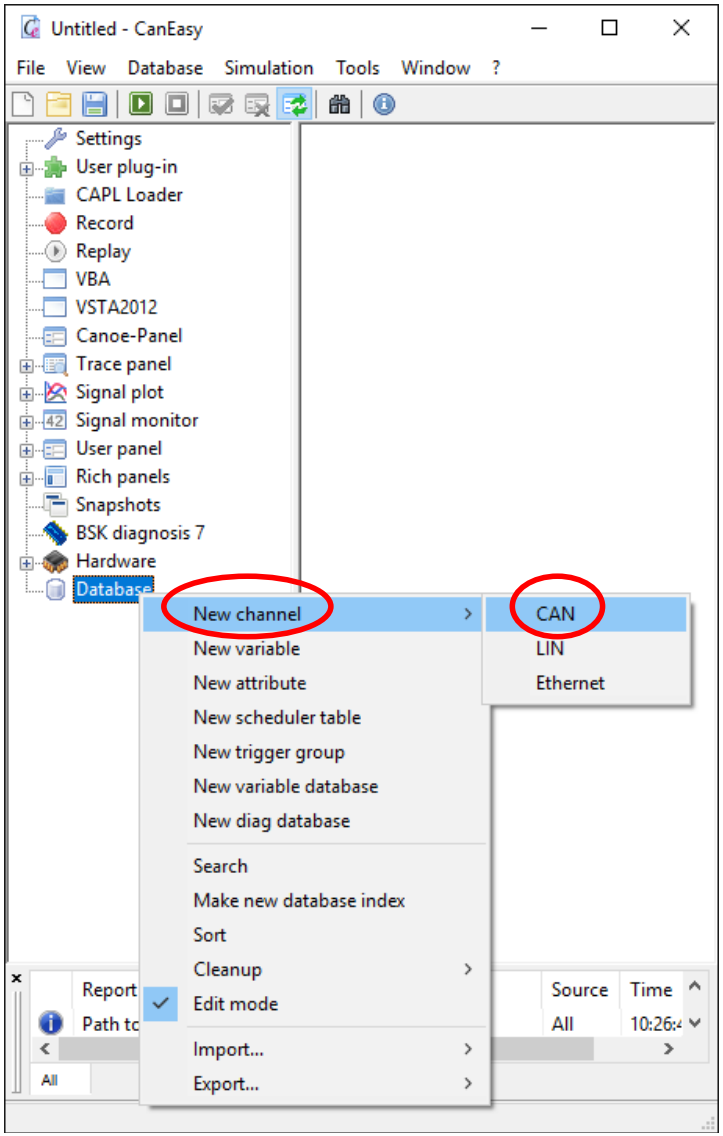
- Use CanEasy to quickly and easily modify your communication matrix
- With the help of the integrated editors, CanEasy is also useful to create a new database
- Of course you can also import, modify and export your communication matrix
- The following pages show how to create a database and shows useful editors of CanEasy

Create a channel

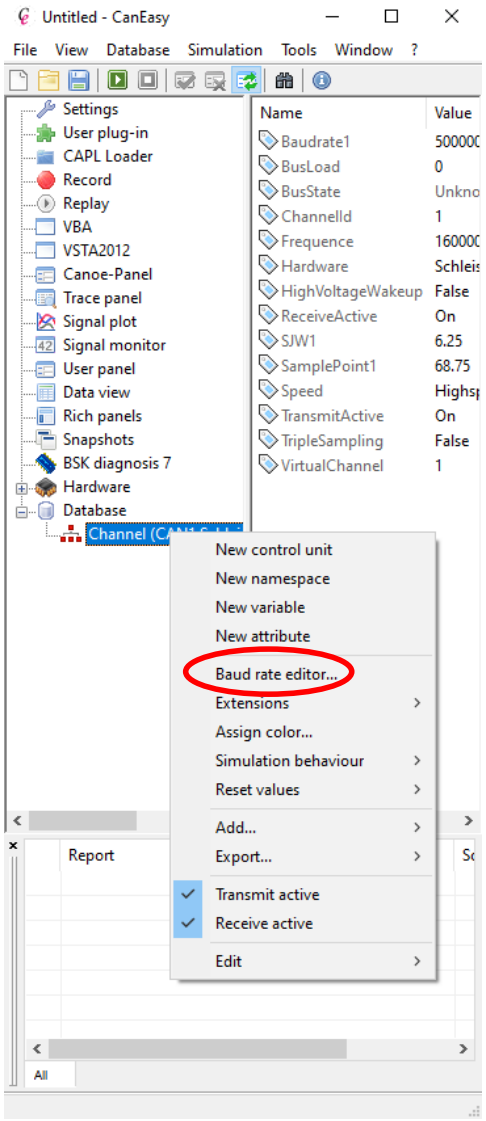


- You can create a new channel via the database context menu

  Database
  → *New channel*
  → *CAN*

- Or directly import your communication matrix

Channel
Select baud rate editor



- Select
  → *Baud rate editor*
  from the channels
  context menu

Channel
Baud rate editor

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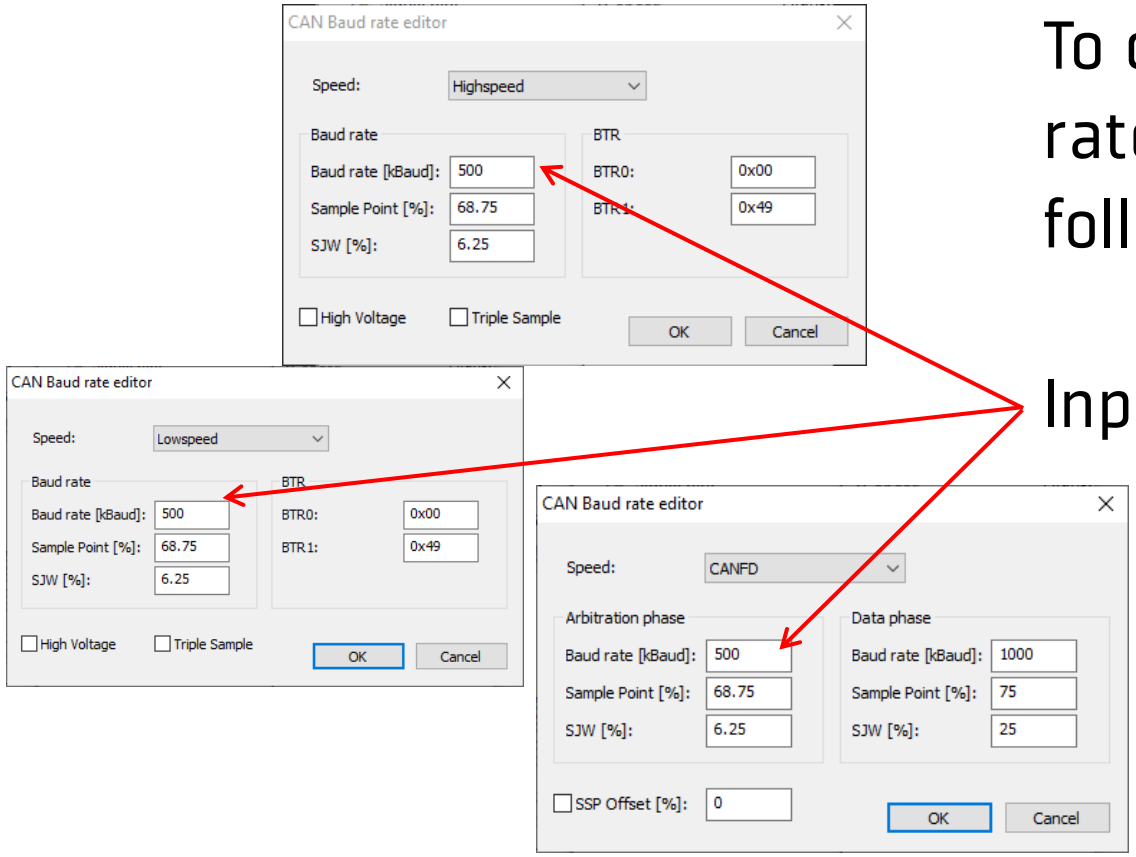
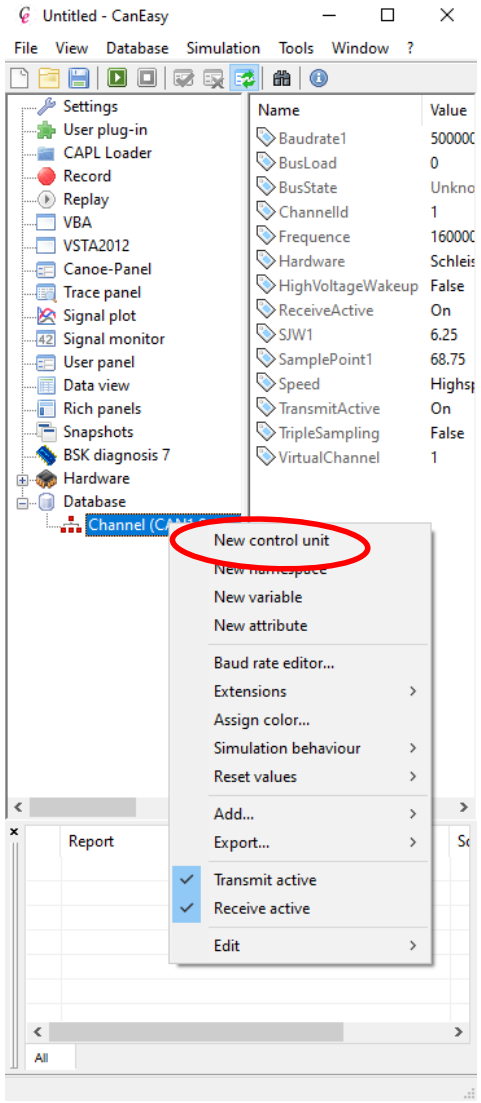
- The desired baud rate can be configured
- Possible BTR values can be selected from the list



To configure the baud rate you can use the following procedure:

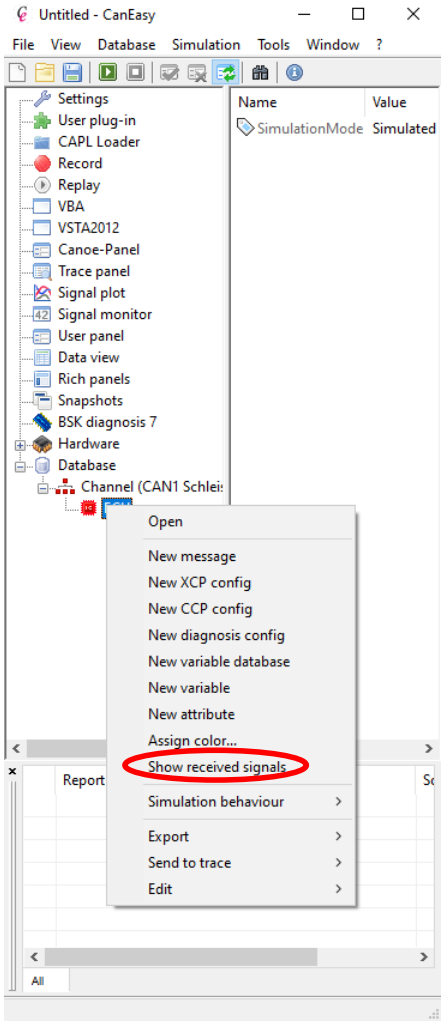
Input Baud rate

Channel
Create a new control unit



- Select
  → *New control unit*
  from the channel
  context menu

Control unit
Signal receiver editor



- Select
  → *Show received signals*
  from the ECU context menu

Control unit
Signal receiver editor

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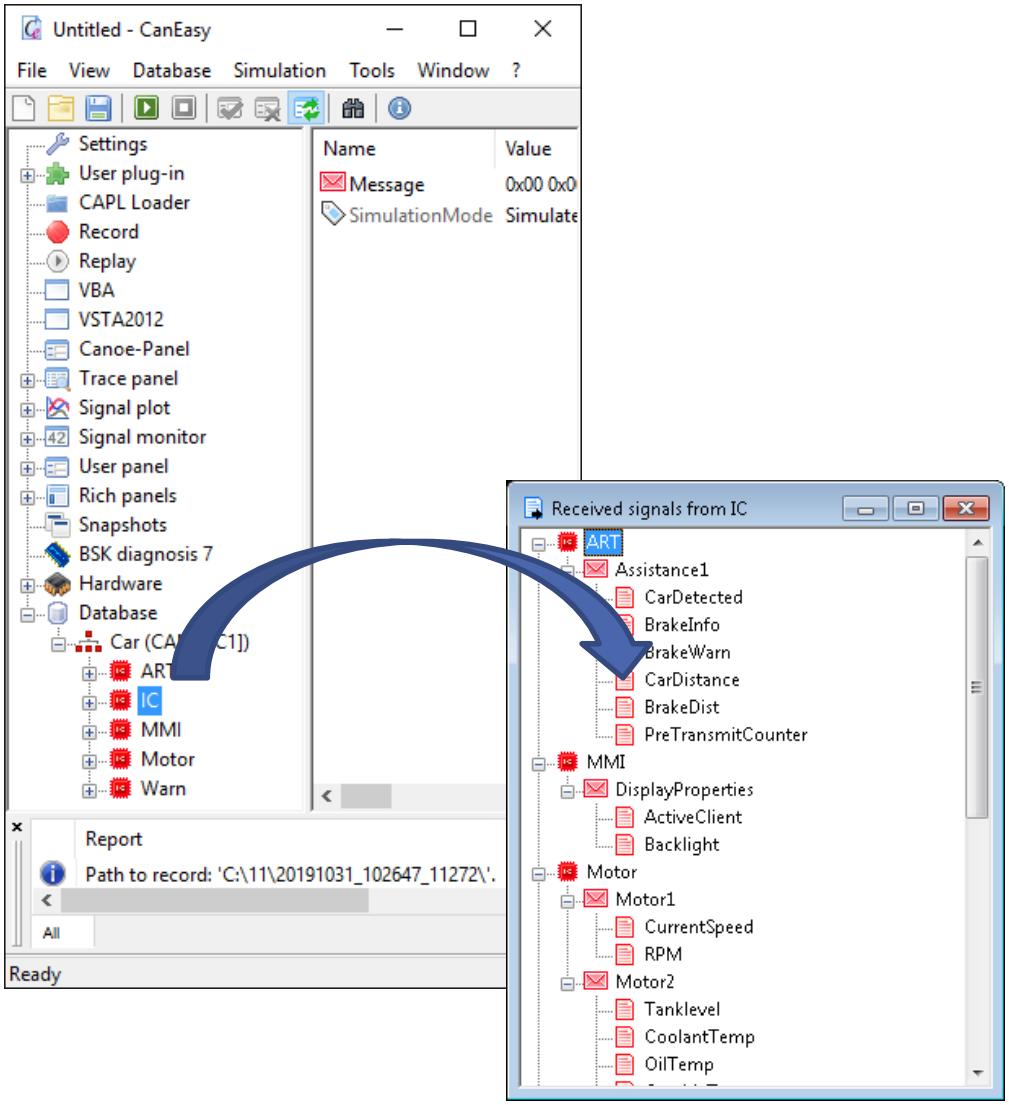
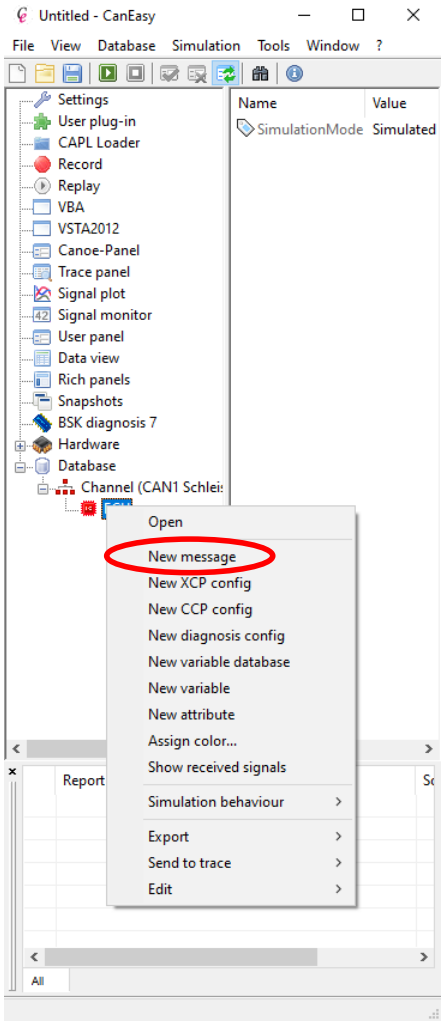


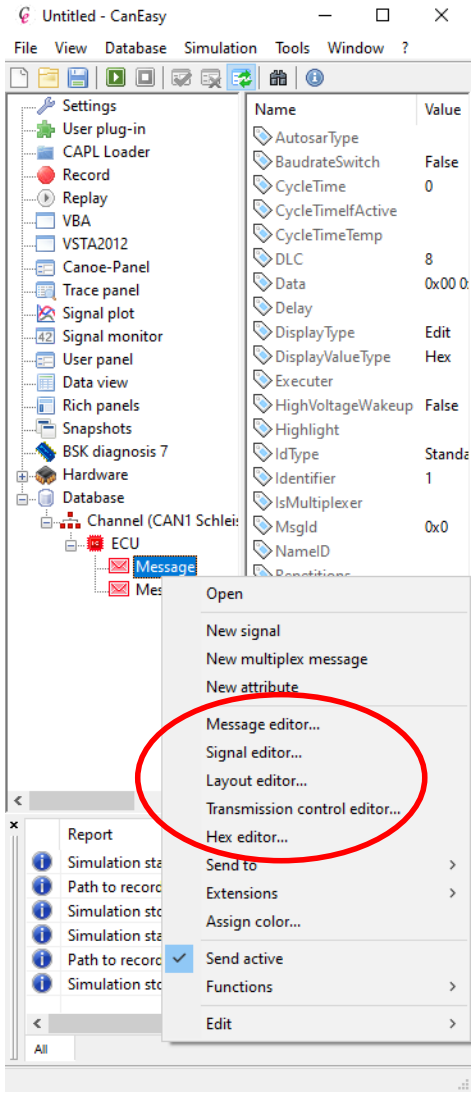
- You can Drag & Drop any database element
- The ECU will be set as receiver to all containing signals
- If you remove a signal, the ECU will be automatically removed from the receiver list

Control unit
Create a new message



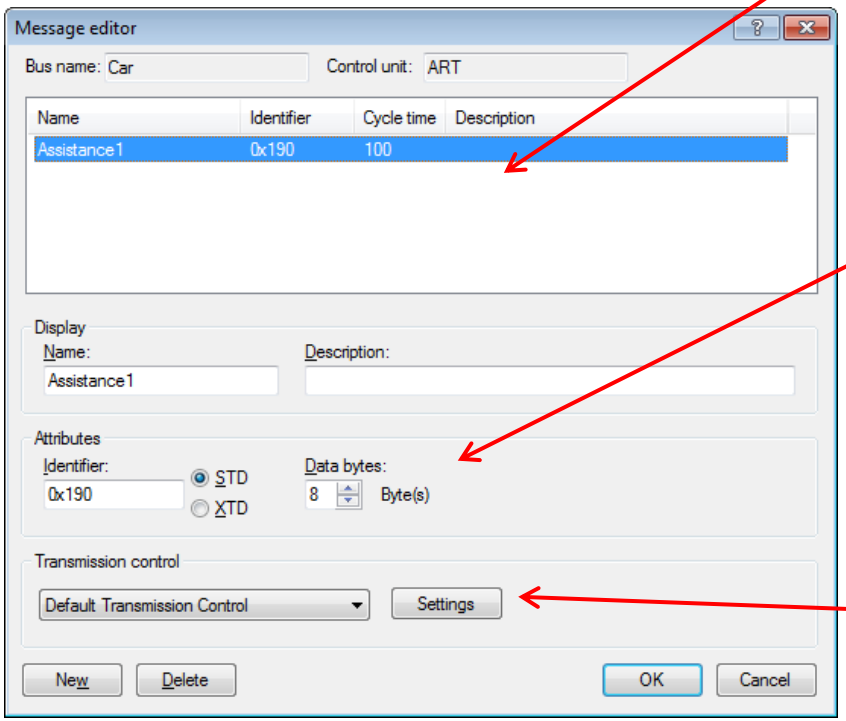
- Select
  → *New message*
  from the ECU context menu

Message
Available editors



- You can open all available editors via the context menu of the message
- Select
  - → *Message editor*
  - → *Signal editor…*
  - → *Layout editor…*
  - → *Transmission control editor*
  - → *Hex editor*

Message
Using message editor



- List of message sent by control units
  - Message name
  - Description
- Settings for the selected message
  - Identifier (Standard/Extended)
  - Payload length
- Transmission-Control
  - Opens editor to setup the transmission behavior

Message
Transmission control editor

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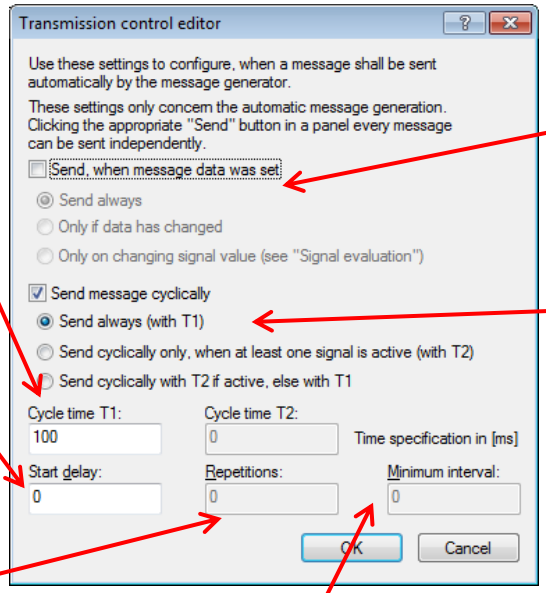
Cycle time T1, T2:
Time interval used for cyclical sending of messages.

Start delay:
Delay before the message is sent

Repetitions:
Specifies how often a message is sent.

Minimum interval:
Separation time between messages



- Send, if message data was set
- Send message cyclically

Message
Hex editor

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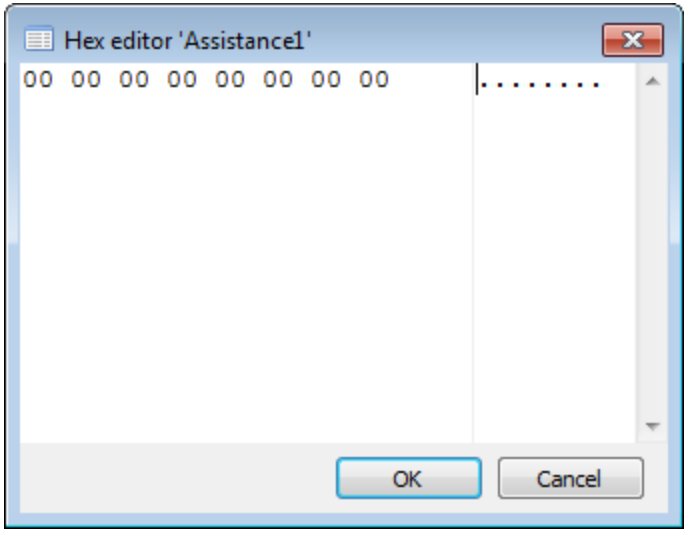
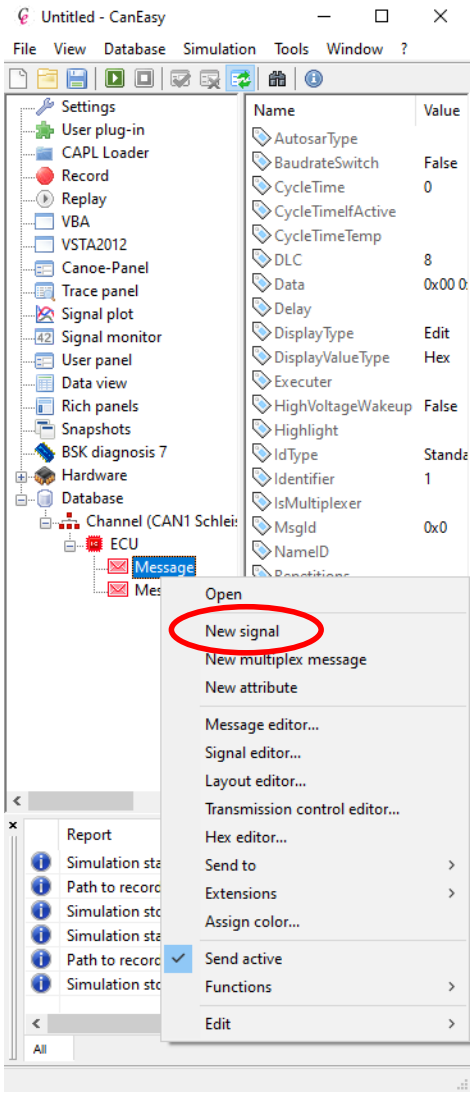


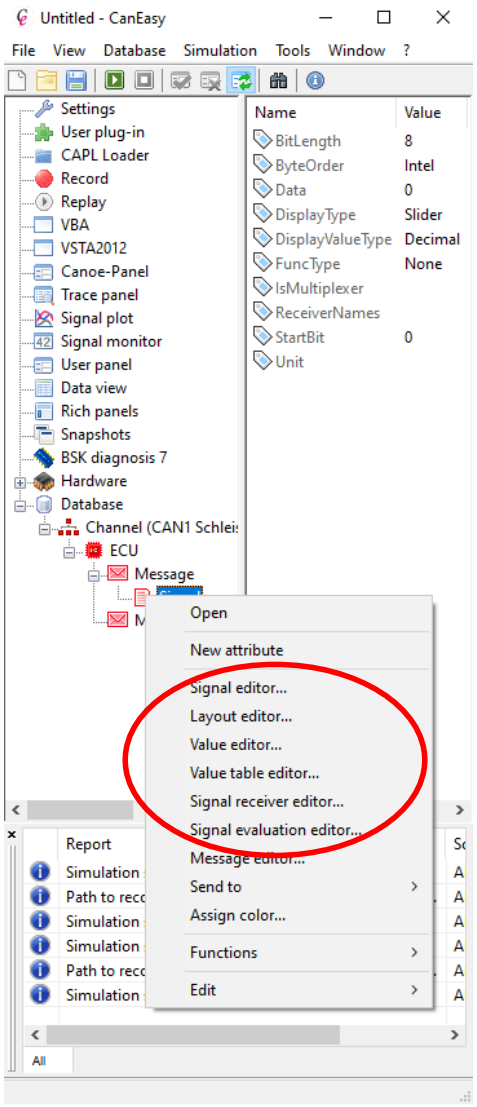
- Allows changing of hexadecimal values
- On the right side you will see a text representation

Message
Create a new signal



- Select
  → *New signal*
  from the message context menu

Signal
Available editors



- Select Signal

  → *Signal editor*

  → *Layout editor*

  → *Value editor*

  → *Value table editor*

  → *Signal receiver editor*

  → *Signal evaluation editor*

  from the signals context menu

Signal
Using signal editor

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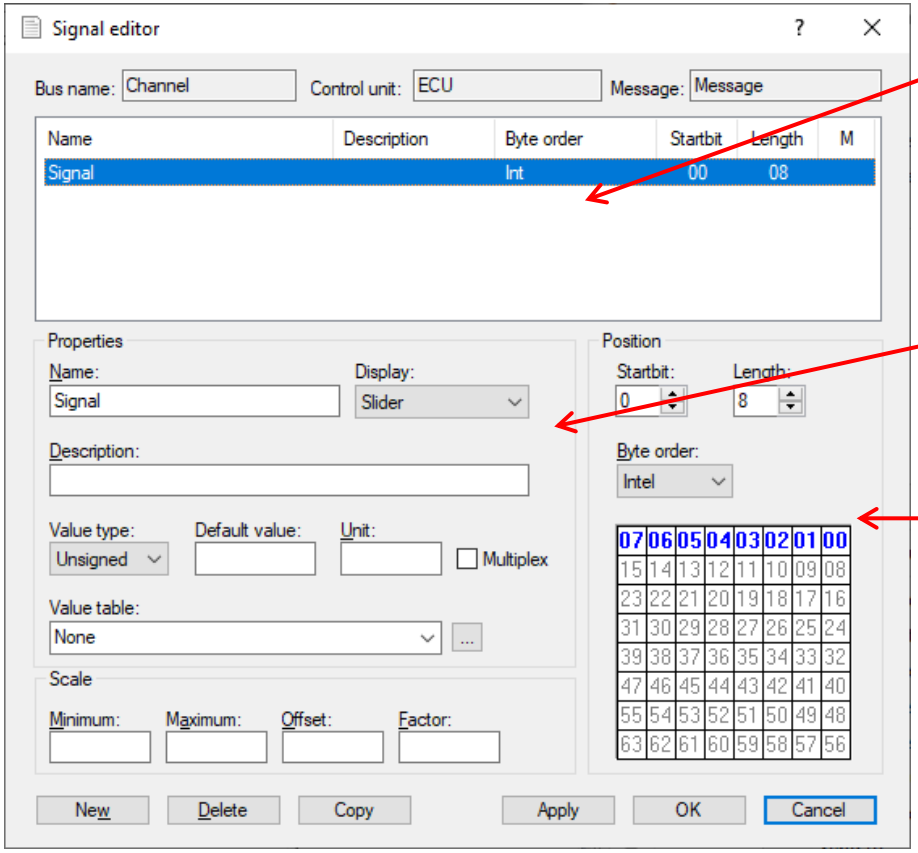

- List of signals contained in the message
- Settings of the selected signal
- Assignment of the bits by the selected signal (blue) within the message

Signal
Using signal editor "Attributes"

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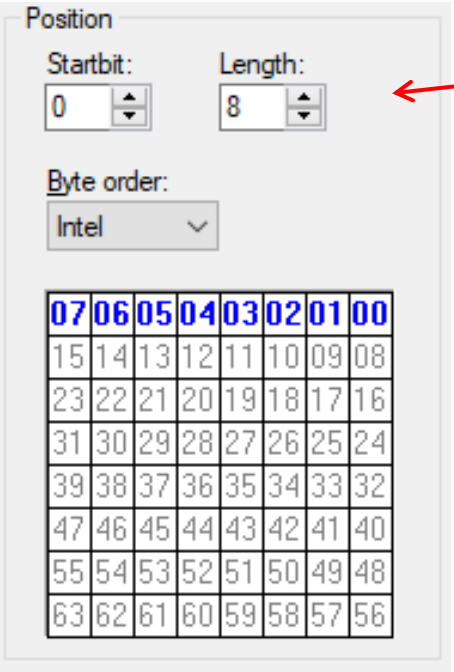
- Assignment of signal bits
- The order corresponds to the selected byte sequences
  – Intel or Motorola
- Bits that are used by more than one signal are displayed in red



- The currently selected signal can be configured via the "Attributes" controls

Signal
Using signal editor "View"

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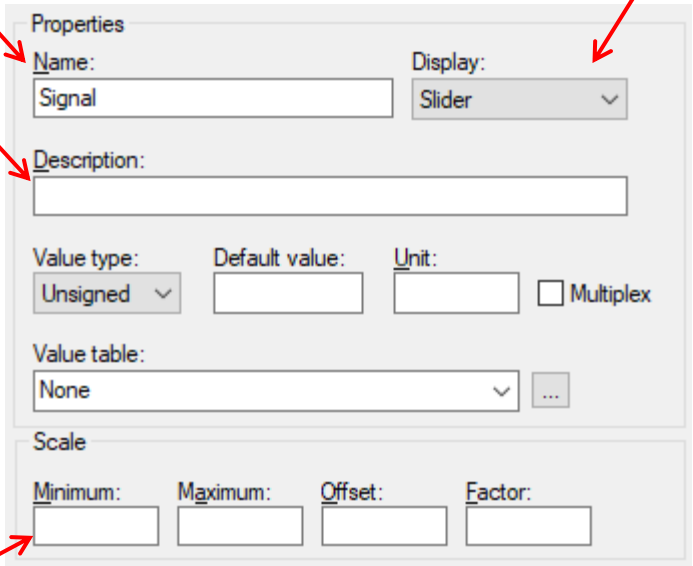
- Name of the signal
- Description of the signal



- Display dropdown list with the following options:
  - Checkbox
  - Slider
  - Edit
  - Combobox

In the "Scale" section, the following settings can be made:

- Minimum/Maximum (used by display type "Slider")
- Factor/Offset (used to convert value to physical value)
- Unit (e.g. displayed in plot and trace)

Signal
Layout editor

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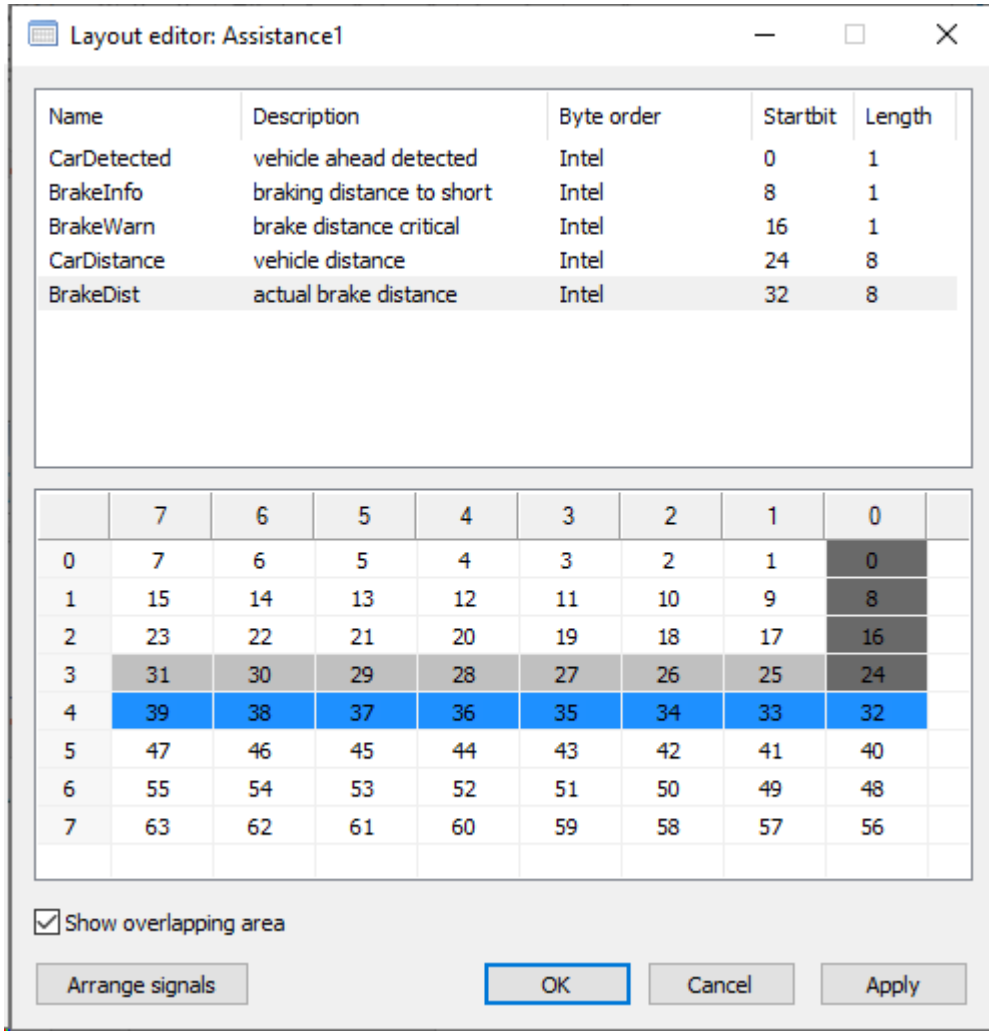
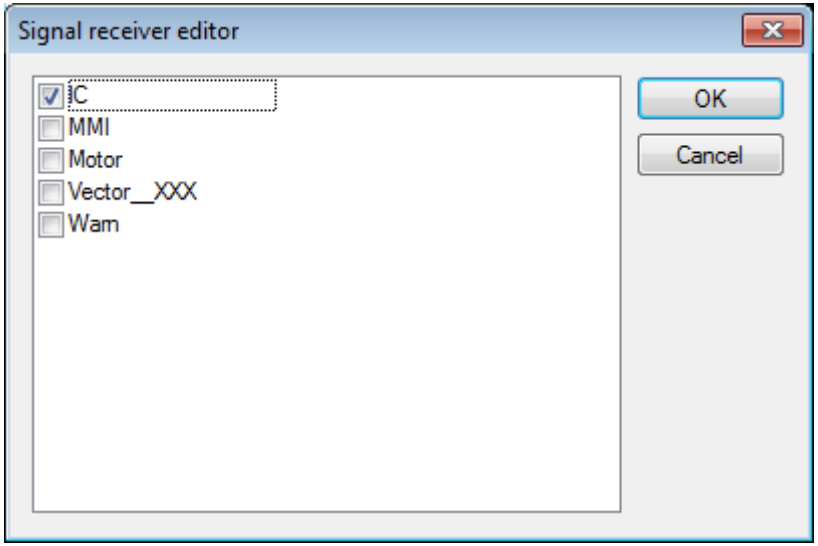


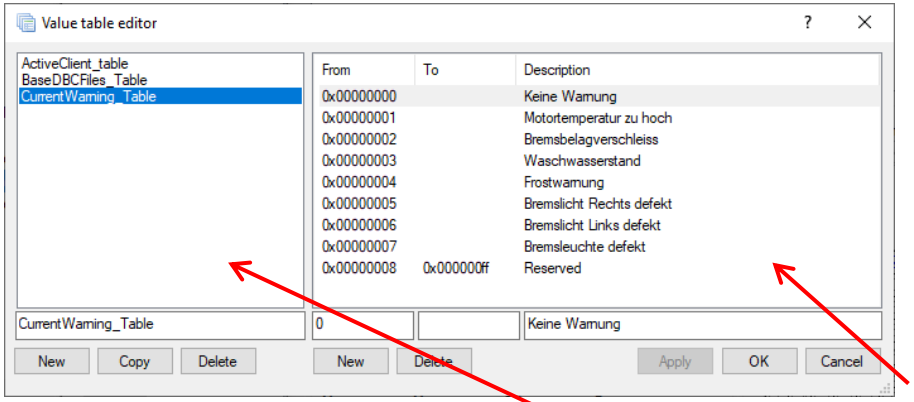
- The layout editor allows changing setting position of signals and struct elements.
- It modifies startbit, bitlength and byte order
- Modify position by drag & drop

Signal
Signal receiver editor



- The signal receiver editor determines which control unit receives the signal
- Selecting multiple ECUs is possible.

Value tables editor



- Value tables apply to all signals of the data base using the representation type “Combobox”
- Content of the selected value table
- List of value tables

Signal evaluation editor

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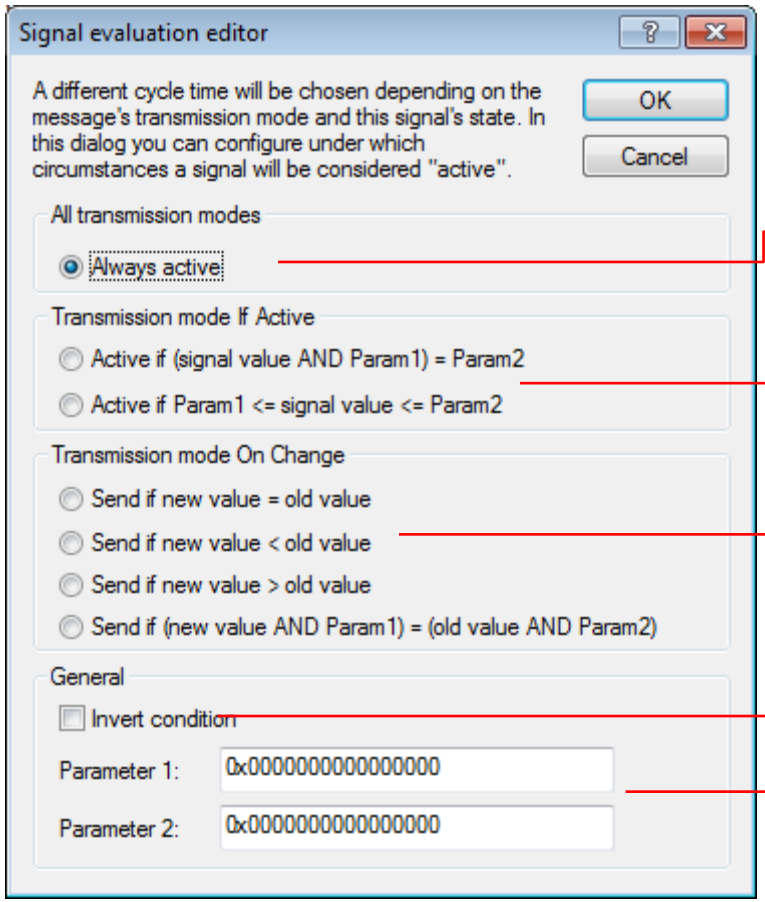
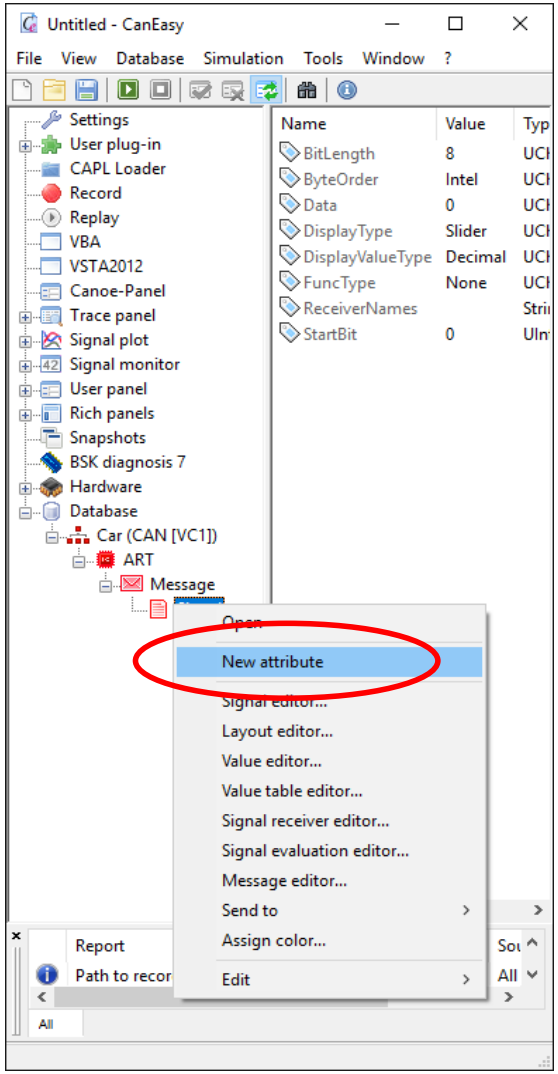


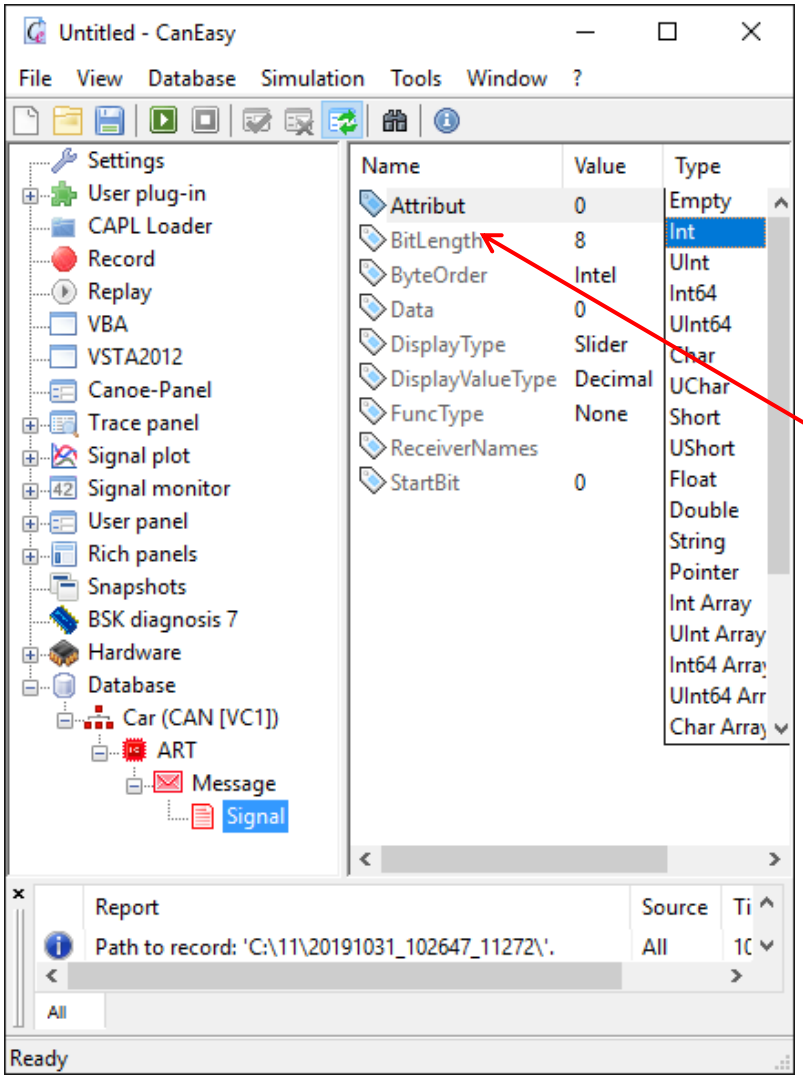
- Message is active if at least one signal is active
- Signal is always active
- Signal is active compared with parameters
- Signal is active compared with old value
- Invert active state
- Parameters to be compared with signal value

Create a new attribute



- Select
  → *New attribute*
  from the signal context menu

Attribute
List view



- Values inside the list view can be edited directly or via the value editor

Attribute
Value editor

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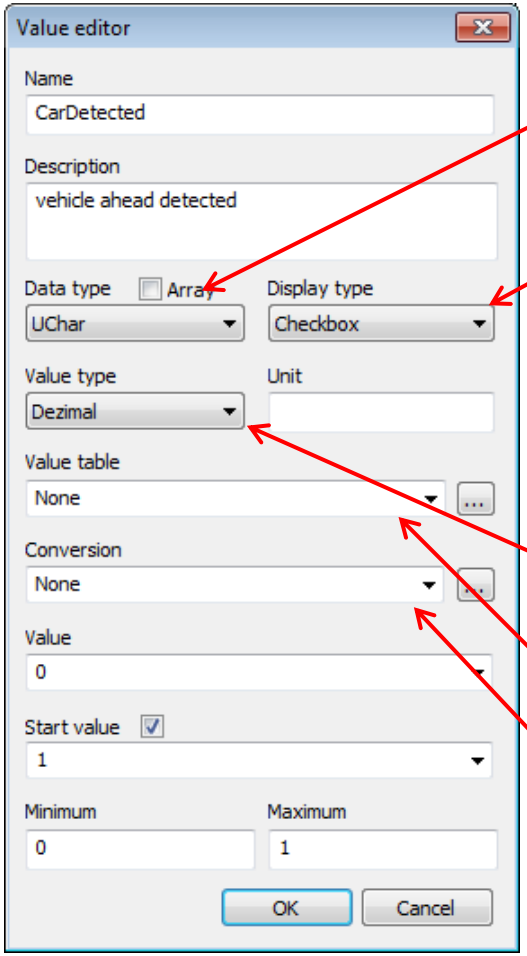

- Values can have different data types (e.g. UChar, UInt32, ..)
- Display type:
  - Checkbox
  - Slider
  - Edit
  - Combobox
- The value type is decimal or hexadecimal
- Select value table
- Select conversion

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Thank you for your attention!