

DETAILED NOTE ABOUT THE FIELDS IN EXCEL

1.ID

Every message has a unique ID called arbitration ID . This Field represents the Arbitration ID of a message . The ID should be a valid hexadecimal value.

2.Frame Name

This field represents the name of the message that's been sent by the ECU to the bus .

3.Cycle Time(ms)

It's the time interval at which the cyclic message will be sent to the bus continuously . For instance , If a message has a cyclic time of 10ms , then the message will be sent to the bus continuously with a time interval of 10ms.

4.Launch Type

This field represents the transmission method of the messages . The transmission method can be cyclic , event or event cyclic.

5.Signal Byte No.

The size of the CAN message is 8 bytes . A message may have multiple signals . So , every signal will be allocated with a byte and a bit depending upon the signal length . This field represents the byte that the signal is allocated with .

6.Signal bit No.

Similarly , this field represents the bit allocated to the signal depending upon the signal length.

7.Signal Name

It represents the name of the signal

8.Signal Function

This field is nothing but a short description about the signal . It tells about the basic function of the signal .

9.signal Length(bit)

This field represents the length of the signal in bits.

10.Signal default

This field represents the initial value of the signal . In most of the cases the initial value will be 0.

11.Signal Not Available

This field tells whether the signal is available or not . If this field is given with 1 , then the signal will not get transmitted to the bus.This field may or may not be used based on the need.

12.Byteorder

This field represents the byteorder of the message . It will be either Motorola(m) or intel(i).

If it's motorola the message will be considered from the most significant bit . If it's Intel , the message will be considered from the least significant bit.

13.testBU

It is a field that represents the messages that's been transmitting to a node . These messages are transmitting messages.If the field was left empty , it means that the signal is not a transmitting signal. Fill this column of a signal with 'S' to represent that the signal is a transmitting signal.

14.recBU

This field represents the receiving messages.Similarly If the field is left empty , it means that the signal is not a receiving signal, Fill this column with 'r' to represent that the signal is a receiving signal.If nothing is filled in this column , the received node will take 'VECTOR ___XXX' as a default receiving node.

15.Value

This field represents the value of the signal , which literally meant the data that's been sent by a signal.

16.Name / Phys. Range

This field represents the Name or the physical range of the values from the signal . For instance , signals like velocity needs to be provided with a range . For that, this field is is used .

17.Function / Increment Unit

Signals like velocity or Pressure will have an unit of measurement . In such cases , the units will be added in this column .

18.Signal.offset

The value that is assigned to the offset will get added or subtracted based on the given value with the actual data that's been sent by the ECU to the bus. In short, Offset is a value, which is used to decrease or increase the number of bytes that's assigned to a data.This field represents the offset value of the signal. If the offset is 0 , it makes no change to the actual message.

19.Signal.factor

The value that is assigned to a factor will get multiplied with the actual data that's been sent by the ECU to the bus. In general, factor is used to increase the speed of the signal to reach the destination.This field represents the offset value of the signal. If the factor is 1 , it makes no change to the actual message.

20.Minimum value , Maximum value

In CAN protocol Minimum and maximum values are two different fields, in which the range of the message will be given by the user itself. Thus, the data transmitting from the ECU will be sent to the bus only if it fits in the range.

21.Signal.is_signed

This field is a kind of boolean field in which '1' refers to true and '0' refers to false. Here in this field '1' refers to a signed value and contrary for unsigned value.

22.signal.is-double

Similarly, in this field '1' refers to a IEEE float value and contrary for IEEE double.

TERMS TO BE FOLLOWED WHILE CREATING THIS EXCEL :

- Use or use not the field before 'function/increment unit' column based on the individual need . But deleting the columns may throw an error while converting the excel into DBC.
- Every column should be in the same order as given here . Changing the order may throw an error or the given values may not get converted properly in the DBC.