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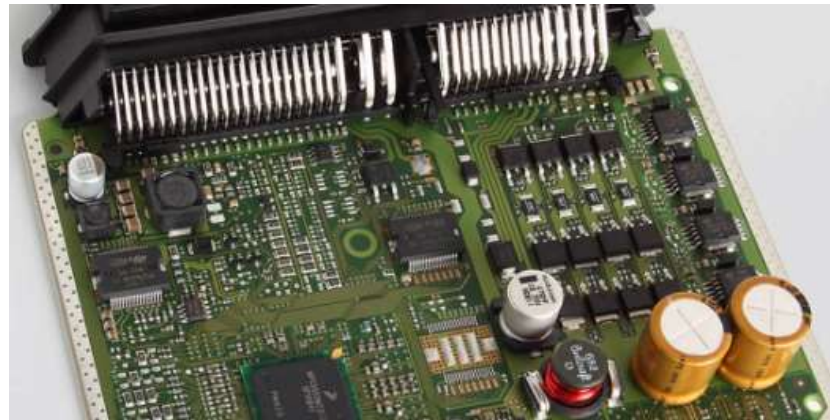
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Read Data By Periodic Identifier

Purpose : Client wants to Read the periodic transmission of data from the ECU by one or more periodic Identifier

How to Read the Periodic data in ECU ?

Using Service **and** Periodic DID



UDS Course

Purpose : Understand each and every Concepts in UDS



Relation between Periodic DID & DID

The periodic Data Identifier represents the low byte of a data Identifier reserved for this service.

Ex :

DID - A2 D4

Periodic DID – D4

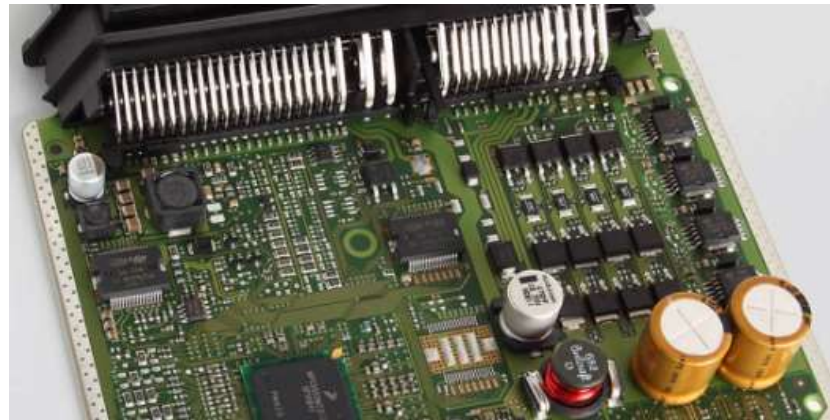


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Terms –Data by Periodic ID

Data Identifier

- This parameter **identifies** the server **data record** that the tester is requesting to write some data into the server with respect with this identifier. Each data have unique Identifier that can be retrieved by the same only

Terms –Data by ID

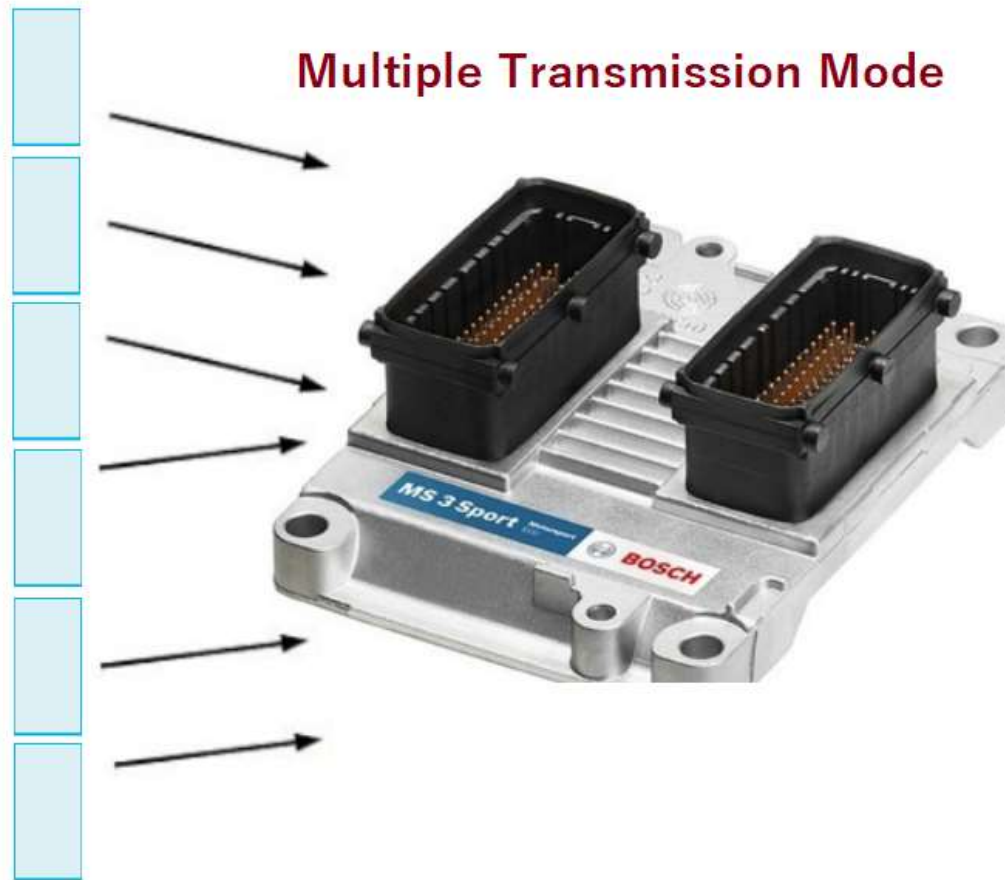
Data Identifier

- This parameter **identifies** the server **data record** that the tester is requesting to write some data into the server with respect with this identifier. Each data have unique Identifier that can be retrieved by the same only

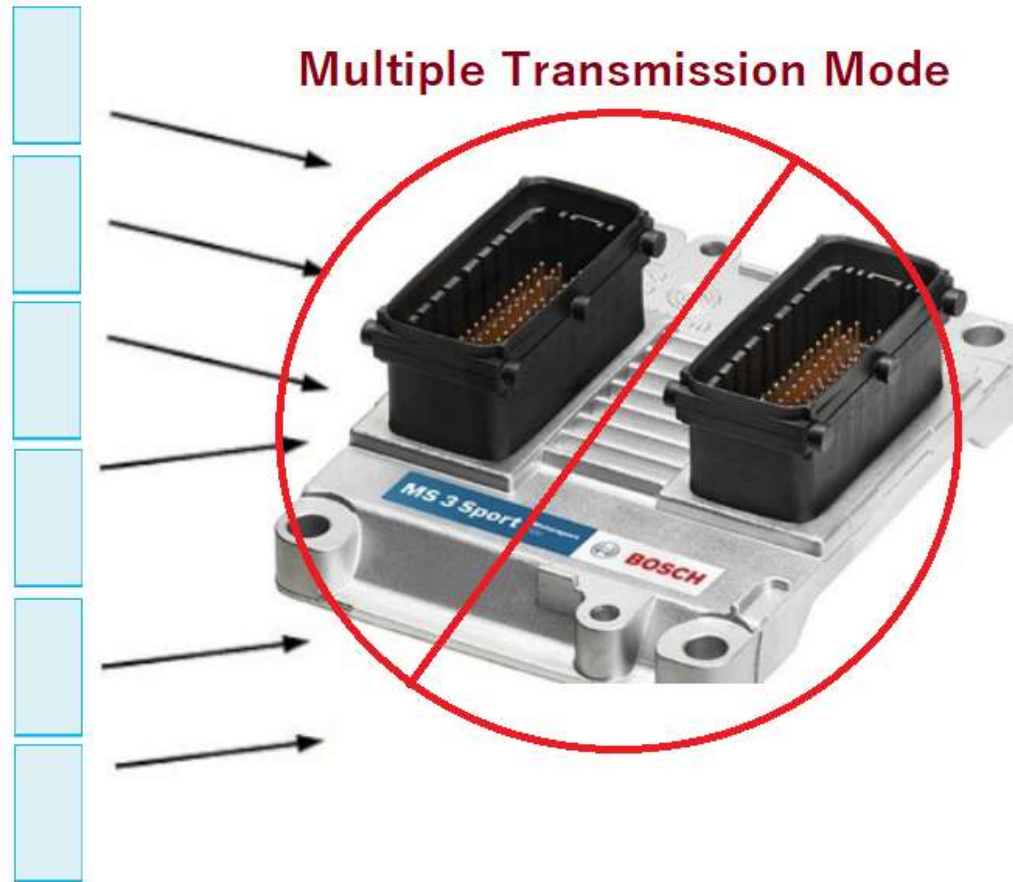
Data Record

- This parameter provides the data record associated with the data Identifier that the tester is requesting to write in to the server as **data**.

Single Transmission & Multiple Transmission

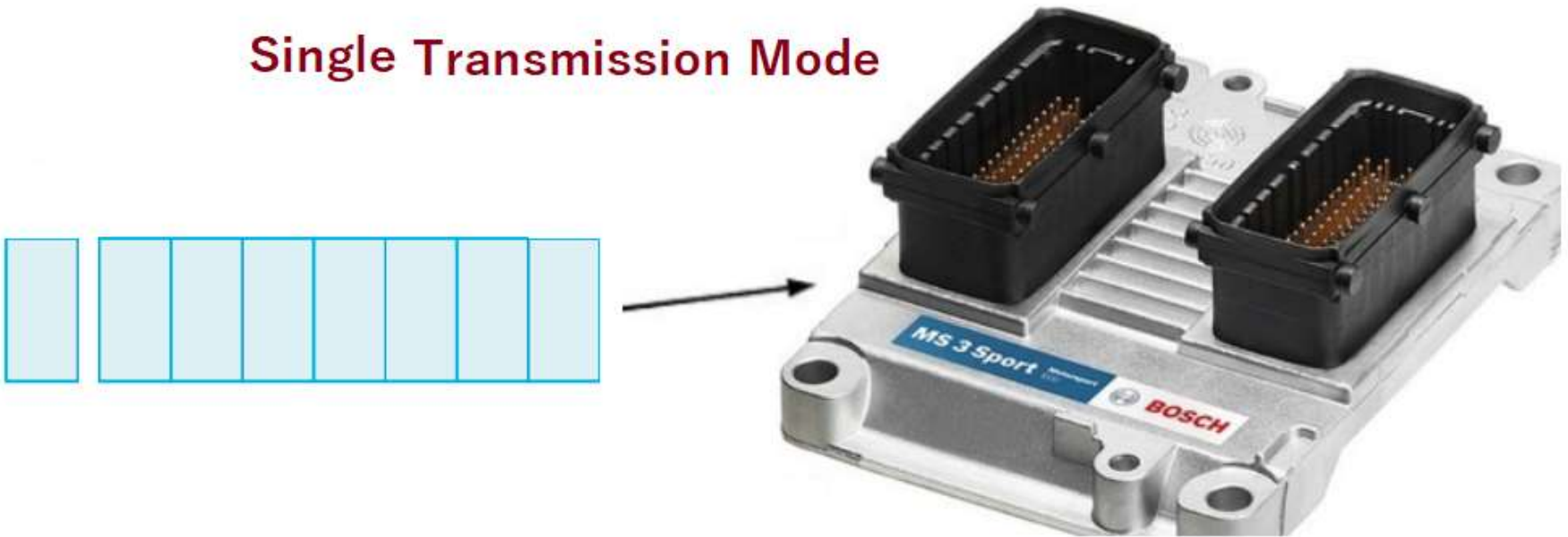


Single Transmission & Multiple Transmission

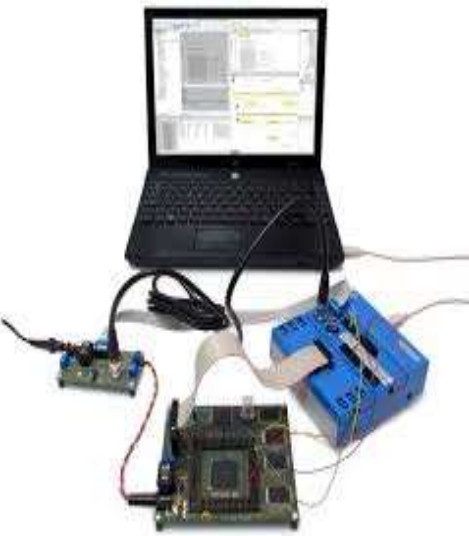


Single Transmission

Single Transmission Mode



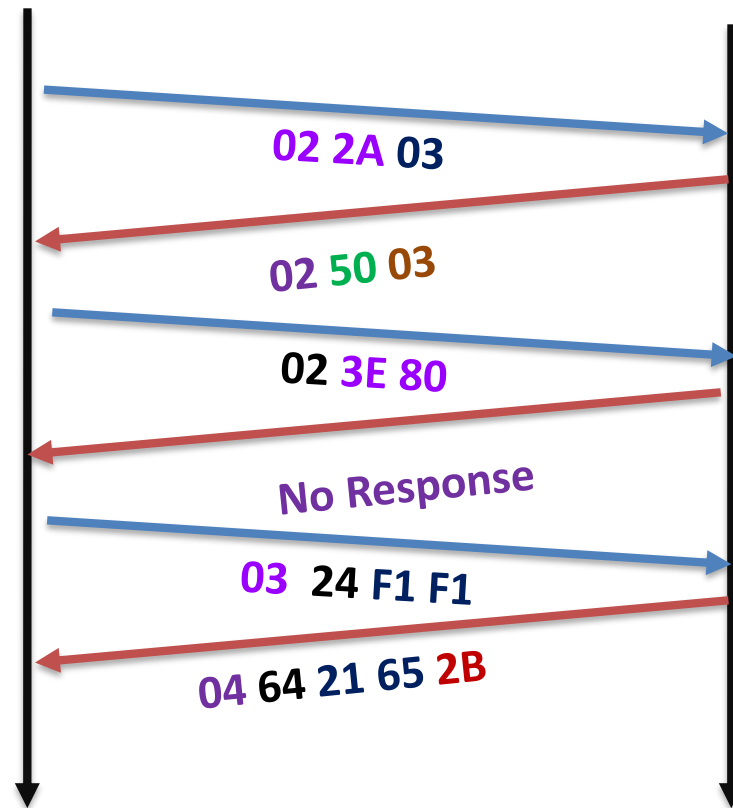
Single Transmission is the only allowed in **Read Data Period**
data Identifier



Request & Response for Read Data By Periodic Identifier



24 - Service ID
F1 F1 -
 Vehicle Speed
03 - PCI Length

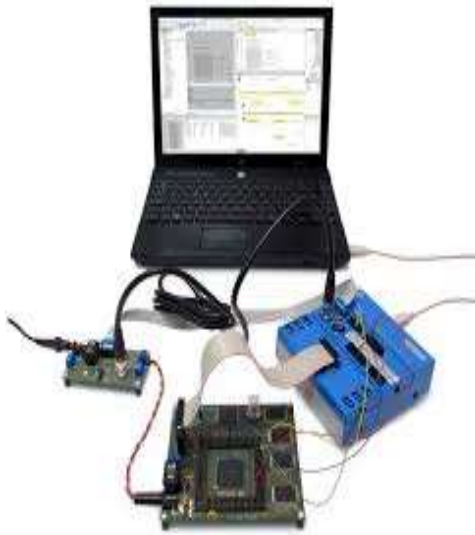


21 65 -
 Scaling Byte
2B -
 Scaling Byte Extension

2. Constant Data (Indirectly Accessible) Ex : S/w number

Usually, the constant data like software number can be **read by Service (0x22)**, but due to some reasons the data can be readable using this service also

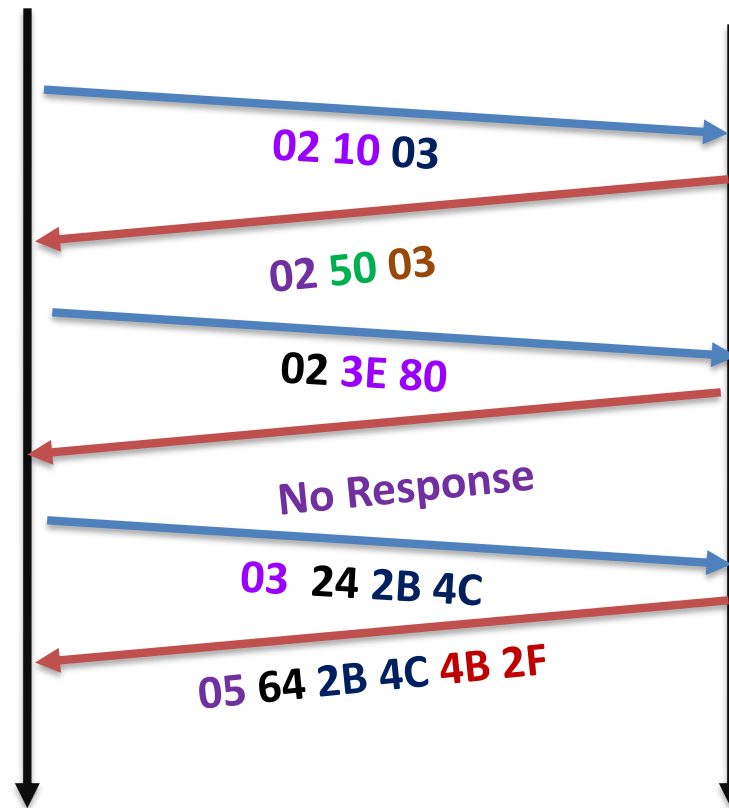
Note : There is no constraint to use the data in this service and its completely depends on the manufacturer or supplier specific



Request & Response for Read Scaling Data Software Number



24 - Service ID
2B 4C -
 Data Identifier
03 - PCI Length



4B 2F - Software Number
 (ASCII)

3. Maskable Ex : Flags / Indicators

Flags and Indicators are represented explicitly in bits !!

For Example :

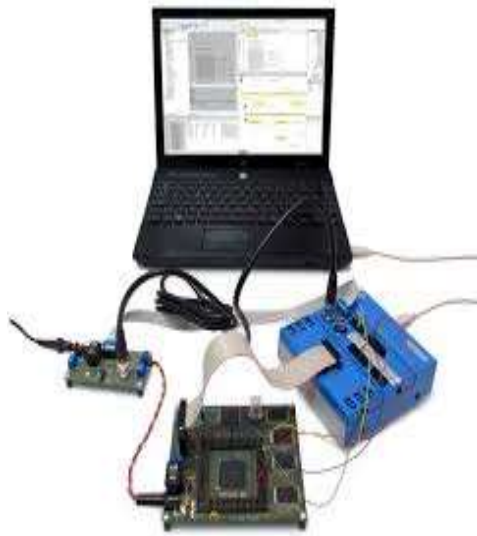
If a Scaling Extension Byte is encoded for the Scaling extension 1, then it contains **8 flags** as **8 bits**

Scaling Extension Byte 1 : 31 (Binary 0011 0001)

3. Maskable Ex : Flags / Indicators

Scaling Extension Byte 1 : 31 (Binary 0011 0001)

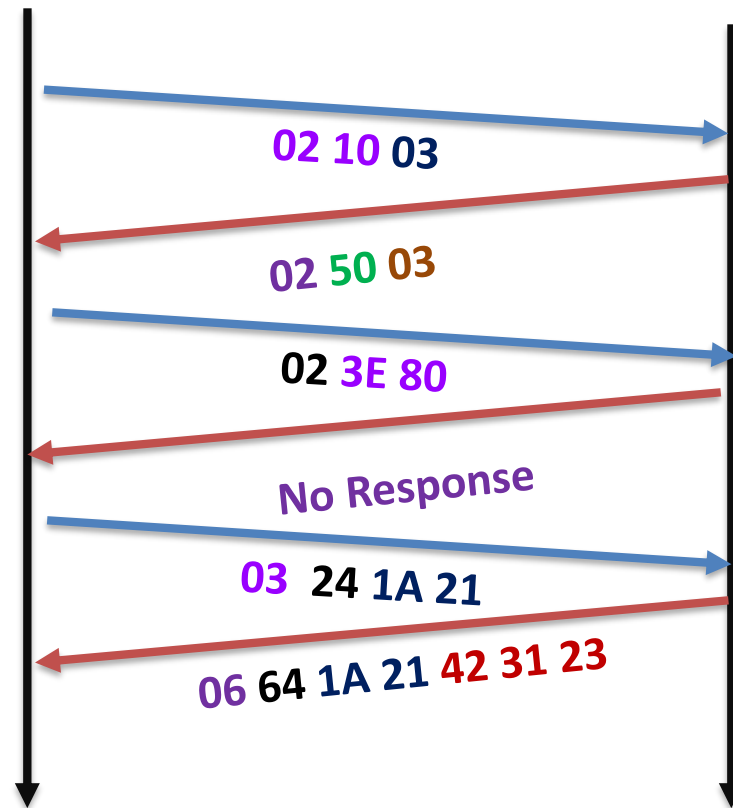
- 0 - Coolant System is not faulty
- 0 - Cylinder 1 misfiring not faulty
- 1 - TPMS error detected
- 1 - Yaw Rate Sensor fault detected
- 0 - SAS plausibility flag not set
- 0 - Cylinder2 misfiring not faulty
- 0 - Wheel Speed Sensor Fault not detected
- 1 - Fuel Exhaust Fault detected



Request & Response for Read Scaling Data Maskable data



24 - Service ID
1A 21 -
Data Identifier
03 - PCI Length



42 - Scaling Byte
31 23 - Scaling Byte Extension1
& 2

Scaling Extension Byte 1 : 31 (Binary 0011 0001)

- 0 - Coolant System is not faulty
- 0 - Cylinder 1 misfiring not faulty
- 1 - TPMS error detected
- 1 - Yaw Rate Sensor fault detected
- 0 - SAS plausibility flag not set
- 0 - Cylinder2 misfiring not faulty
- 0 - Wheel Speed Sensor Fault not detected
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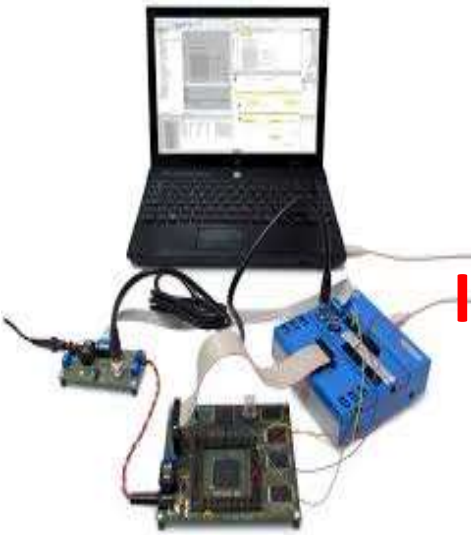
Scaling Extension Byte 1 : 23 (Binary 0010 0011)

- 0 - Airbag System is not faulty
- 0 - Cylinder 3 misfiring not faulty
- 1 - WSS1 error detected
- 0 - Longitudinal Sensor no fault detected
- 0 - SAS plausibility flag not set
- 0 - Cylinder 4 misfiring not faulty
- 1 - WSS2 Fault detected
- 1 - Compressor Fault detected

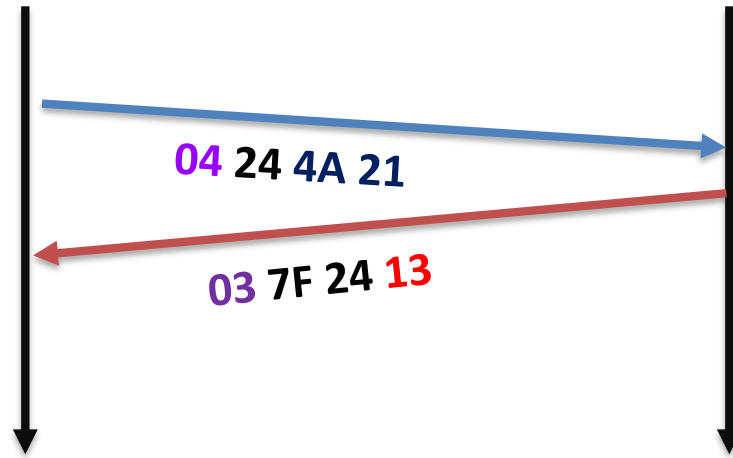


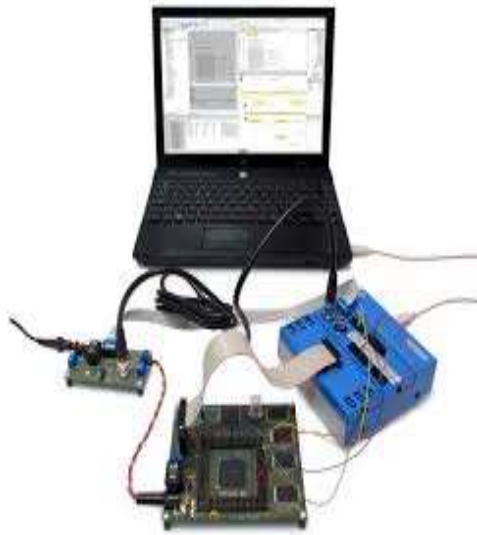
List of NRCs Supported – 0x22

- **0x13 Incorrect Message Length**
- **0x22 Conditions Not Correct**
- **0x31 Request Out of Range**
- **0x33 Security Access Denied**

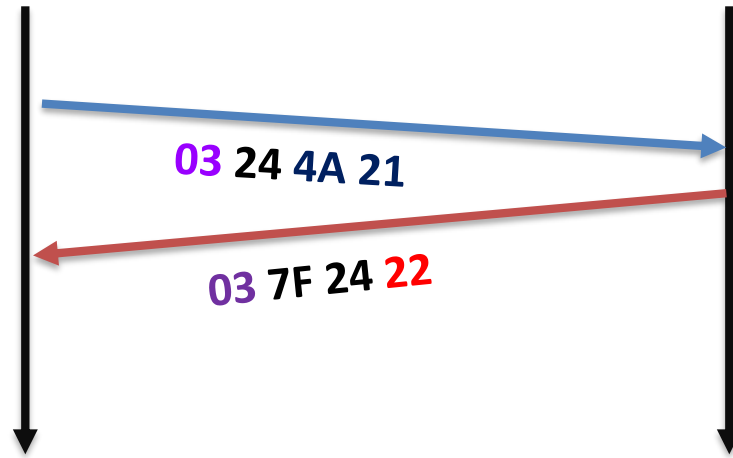


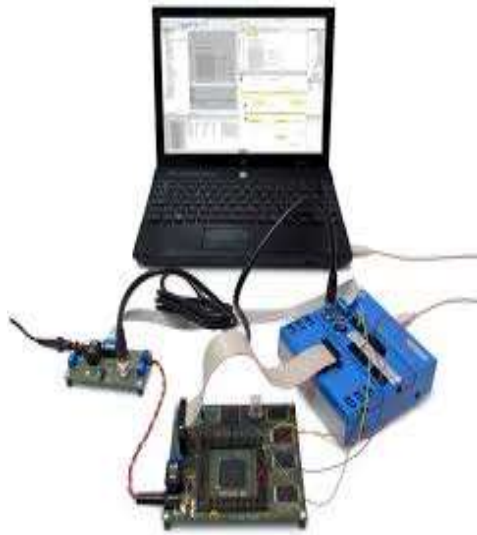
Incorrect Message Length



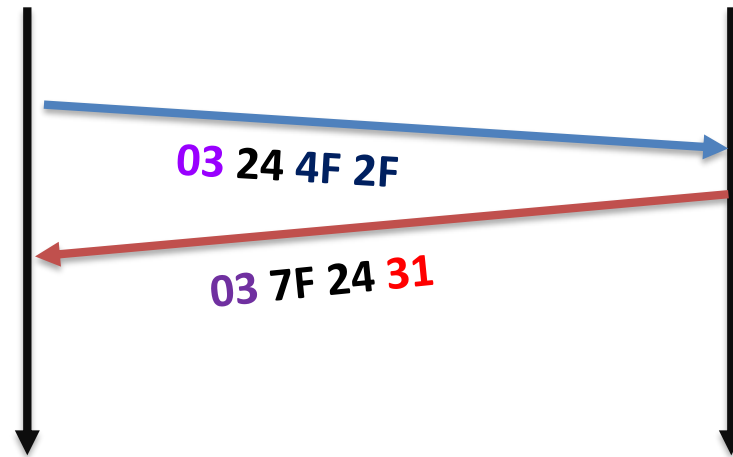


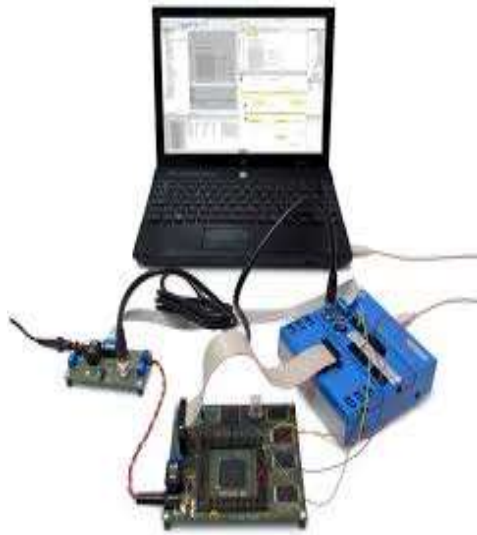
Conditions not correct



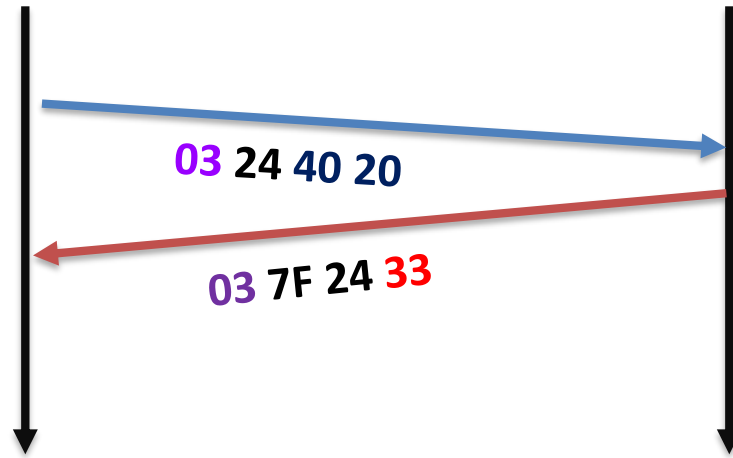


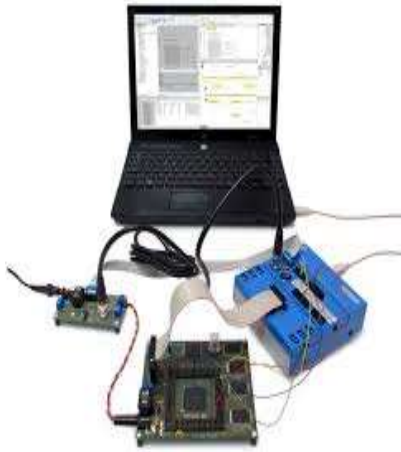
Request Out of Range





Security Access Denied





NRC Priority for Read Periodic Data Identifier

13 (Length Check) ---> 31 ---> 13 (Scaling Information data Bytes)--- > 33 -----> 22 -----> Other NRCs

The
End