**BMU TEST SYSTEM MESSAGE DEFINE**

# Common Define

**MCU RX MsgId:** 0x700(Standard identifier)

**MCU TX MsgId:** 0x701(Standard identifier)

**MsgLen:** 8 Bytes

**RX&&TX MsgFormat:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte1** | **Byte2** | **Byte3** | **Byte4** | **Byte5** | **Byte6** | **Byte7** | **Byte8** |
| Cmd | SubCmd | ParLen | Par1 | Par2 | Par3 | Par4 | Par5 |

If the request need reply, the TX MsgId will be used and the message content’s Byte1&&Byte2 are equal to request message, the return value is start from Byte4.

# Message Command Define

**---:** Means you can input any value, BMS will ignore these bytes.

## Test follow test case

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte1** | **Byte2** | **Byte3** | **Byte4** | **Byte5** | **Byte6** | **Byte7** | **Byte8** |
| 0x01 | --- | 0x01 | 0x01~0xff | --- | --- | --- | --- |

Description: Test Follow the test case sequence

**Byte4:** Test case id num. Please ref the following define:

**0X01~0X03:** Open all relay

**0x04:** Open POS relay and close all others relay

**0x05:** Open PRE relay and close all others relay

**0x06:** Open all relay

**0x07:** Open FCH relay and close all others relay

**0X08:** Open AC relay and close all others relay

**0X09:** Open CHR relay and close all others relay

**0X0A (10):** Open PTC relay and close all others relay

**0X0B~0X0F (11~15):** Open all relay

**0x10~0X11 (16~17):** Open POS relay and close all others relay

**0X12 (18):** CAN reply IO: CHRWU state and open all relay

**0X13 (19):** CAN reply IO: IGNACC state and open all relay

**0X14 (20):** CAN reply Cmd and SubCmd and open all relay

**0X15 (21):** CAN reply IO: ACPTCREQ state and open all relay

**0X16 (22):** CAN reply cmd and SubCmd and open all relay

**0X17 (23):** CAN reply ACPTCTEMP state and open all relay

**0X18 (24):** CAN reply IO: FASTCHRWU state and open all relay

**0X19 (25):** CAN reply Cmd and SubCmd and open all relay

**0X1A (26):** CAN reply IO: ACPTCOVERTEMP state and open all relay

**0X1B~0x21 (27~33):** CAN reply Cmd and SubCmd and open all relay

**0X22 (34):** CAN reply IO: ACPTCOVERTEMP state and open all relay

**0X23~0x27 (35~39):** CAN reply PACK\_CURRENT state and only open POS relay

**0X28~0x2C (40~44):** CAN reply PACK\_CURRENT state and only open FCH relay

**0X2B (45):** Open all relay

## Relay Control

### Independent Control

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte1** | **Byte2** | **Byte3** | **Byte4** | **Byte5** | **Byte6** | **Byte7** | **Byte8** |
| 0x02 | 0x00~x01 | 0x01~0x02 | 0x00~0xff | 0x00~0xff | --- | --- | --- |

Description: Control relay independently

Byte2: 0x00—Open Relay 0x01—Close Relay

If Byte3’s value is 0x01:

RelayNum = Byte4

If Byte3’s value is 0x02:

RelayNum = Byte4 + Byte5\*256

### Group Control

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte1** | **Byte2** | **Byte3** | **Byte4** | **Byte5** | **Byte6** | **Byte7** | **Byte8** |
| 0x03 | --- | 0x01~0x05 | 0x00~0xff | 0x00~0xff | 0x00~0xff | 0x00~0xff | 0x00~0xff |

Description: Control relay by group. Byte4 to Byte8 are working in bit pattern, each relay map to one bit. When the bit is 1, relay will close. On the contract, relay will open. Here we define total seven relay bits.

**Byte4:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Bit8** | **Bit7** | **Bit6** | **Bit5** | **Bit4** | **Bit3** | **Bit2** | **Bit1** |
| Reserved | PtcRly | AcRly | PreRly | FchRly | ChrRly | PosRly | NegRly |

**Byte5~Byte8:** Reserved

## CAN Communication Test

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte1** | **Byte2** | **Byte3** | **Byte4** | **Byte5** | **Byte6** | **Byte7** | **Byte8** |
| 0x04 | --- | --- | 0x00~0xff | 0x00~0xff | 0x00~0xff | 0x00~0xff | 0x00~0xff |

Description: Vehicle CAN Communication test

**Byte4~Byte8:** Any value you want. BMS will reply these value when it receive message.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte1** | **Byte2** | **Byte3** | **Byte4** | **Byte5** | **Byte6** | **Byte7** | **Byte8** |
| 0x04 | --- | --- | 0x00~0xff | 0x00~0xff | 0x00~0xff | 0x00~0xff | 0x00~0xff |

Description: Fast charge CAN Communication test

**Byte4~Byte8:** Any value you want. BMS will reply these value when it receive message.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte1** | **Byte2** | **Byte3** | **Byte4** | **Byte5** | **Byte6** | **Byte7** | **Byte8** |
| 0x04 | --- | --- | 0x00~0xff | 0x00~0xff | 0x00~0xff | 0x00~0xff | 0x00~0xff |

Description: Internal CAN Communication test

**Byte4~Byte8:** Any value you want. BMS will reply these value when it receive message.

## Read Digital Input Port Status

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Byte1** | **Byte2** | **Byte3** | **Byte4** | **Byte5** | **Byte6** | **Byte7** | **Byte8** |
| 0x05 | 0x00~0xff | --- | --- | --- | --- | --- | --- |

Description: Read digital input port status

Byte2 define as following:

**0x00:** CHRWU **0x01:** IGNACC **0x02:** ACPTCREQ **0x03:** FASTCHRWU

**0x04:** ACPTCOVERTEMP **0x05~0xff:** Reserved