

## Customer upgrade guide: MiCS-VZ89TD to MiCS-VZ89TE

This document guides customer how to upgrade to MiCS-VZ89TE on his application which already used MiCS-VZ8XTD. The target is to make minimum modification on customer side.

### Overview of convert

Module Name	Hardware	Firmware
MiCS-VZ89TD	No modification	Add CRC code, change I2C receive data order

### Detail on customer modification.

CRC function:

Example:

Year	Month	Day	Version	-	-	CRC
0F	0A	0F	42	00	00	95

CRC processing:

$0x0F + 0x0A + 0x0F + 0x42 + 0x00 + 0x00 = 0x6A$

$CRC = 0xFF - 0x6A = 0x95$

Source Code:

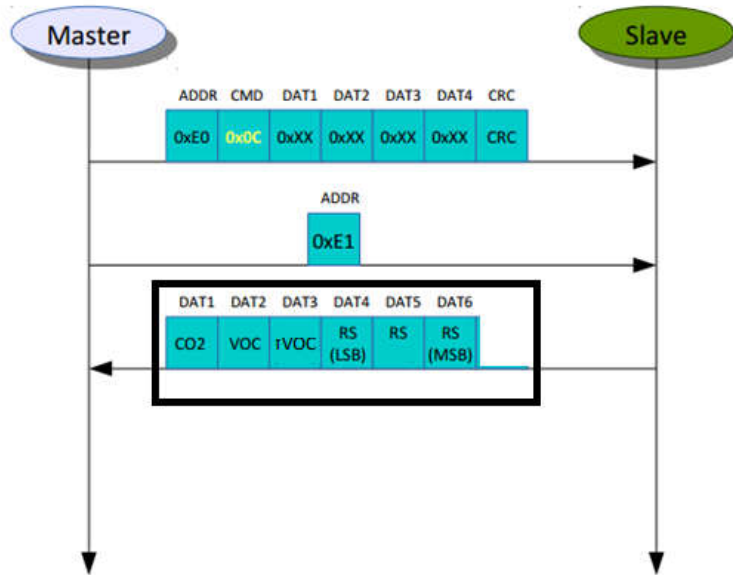
```
byte crc_getCrc(byte *data, byte size, byte crc_type) {
    //-----
    // Local variable
    //-----
    byte  crc = 0x00;
    byte  i   = 0x00;
    word  sum = 0x0000;
    //-----
    // Checking CRC type
    //-----
    if (crc_type == ECRC) crc = PID;
    //-----
    // Summation loop
    //-----
    for(i=0; i < size; i++) {
        sum = crc + data[i];
        crc = (byte)sum;
        crc += (sum/0x100);
    }// end loop
    crc = 0xFF-crc; // complement
    return(crc);
} //end Method
```

**Note:** For master, address byte is not taken in account for CRC processing.

## I2C data order change (reading VZ module status)

- ✓ TVOC data remove
- ✓ VOC data change to DAT1
- ✓ CO2 data change to DAT2
- ✓ RS MSB change to DAT3, LSB change to DAT5

MiCS-VZ89TD



MiCS-VZ89TE

