

| M5Stack Unit 8Encoder I2C Protocol |             |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                | V1 (FW Version) |   |                |  |
|------------------------------------|-------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|---|----------------|--|
|                                    |             |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                | 2022/11/8       |   |                |  |
| REG MAP (Addr:0x41)                |             | 0              | 1              | 2              | 3              | 4              | 5              | 6              | 7              | 8              | 9              | A              | B              | C              | D              | E              | F               | note  |                |  |
| Counter Value                      | 0x00<br>R/W | Cnt0-<br>byte0 | Cnt0-<br>byte1 | Cnt0-<br>byte2 | Cnt0-<br>byte3 | Cnt1-<br>byte0 | Cnt1-<br>byte1 | Cnt1-<br>byte2 | Cnt1-<br>byte3 | Cnt2-<br>byte0 | Cnt2-<br>byte1 | Cnt2-<br>byte2 | Cnt2-<br>byte3 | Cnt3-<br>byte0 | Cnt3-<br>byte1 | Cnt3-<br>byte2 | Cnt3-<br>byte3  | Cnt: -2147483648-2147483647<br>(will be reset after set reg 0x40) |                |  |
|                                    | 0x10<br>R/W | Cnt4-<br>byte0 | Cnt4-<br>byte1 | Cnt4-<br>byte2 | Cnt4-<br>byte3 | Cnt5-<br>byte0 | Cnt5-<br>byte1 | Cnt5-<br>byte2 | Cnt5-<br>byte3 | Cnt6-<br>byte0 | Cnt6-<br>byte1 | Cnt6-<br>byte2 | Cnt6-<br>byte3 | Cnt7-<br>byte0 | Cnt7-<br>byte1 | Cnt7-<br>byte2 | Cnt7-<br>byte3  |   |                |  |
| Increment Value                    | 0x20<br>R   | Inc0-<br>byte0 | Inc0-<br>byte1 | Inc0-<br>byte2 | Inc0-<br>byte3 | Inc1-<br>byte0 | Inc1-<br>byte1 | Inc1-<br>byte2 | Inc1-<br>byte3 | Inc2-<br>byte0 | Inc2-<br>byte1 | Inc2-<br>byte2 | Inc2-<br>byte3 | Inc3-<br>byte0 | Inc3-<br>byte1 | Inc3-<br>byte2 | Inc3-<br>byte3  | Inc: -2147483648-2147483647<br>(will be reset after get)          |                |  |
|                                    | 0x30<br>R   | Inc4-<br>byte0 | Inc4-<br>byte1 | Inc4-<br>byte2 | Inc4-<br>byte3 | Inc5-<br>byte0 | Inc5-<br>byte1 | Inc5-<br>byte2 | Inc5-<br>byte3 | Inc6-<br>byte0 | Inc6-<br>byte1 | Inc6-<br>byte2 | Inc6-<br>byte3 | Inc7-<br>byte0 | Inc7-<br>byte1 | Inc7-<br>byte2 | Inc7-<br>byte3  |   |                |  |
| Counter Reset                      | 0x40<br>W   | Cnt0-<br>RST   | Cnt1-<br>RST   | Cnt2-<br>RST   | Cnt3-<br>RST   | Cnt4-<br>RST   | Cnt5-<br>RST   | Cnt6-<br>RST   | Cnt7-<br>RST   |                |                |                |                |                |                |                |                 | RST: write 1 to reset counter                                     |                |  |
| Button Value                       | 0x50<br>R   | BNT0           | BNT1           | BNT2           | BNT3           | BNT4           | BNT5           | BNT6           | BNT7           |                |                |                |                |                |                |                |                 | BNT: 0~1  |                |  |
| Switch                             | 0x60<br>R   | SW<br>value    |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                 | SW Value: 0~1   |                |  |
| RGB                                | 0x70<br>R/W | LED0-R         | LED0-G         | LED0-B         | LED1-R         | LED1-G         | LED1-B         | LED2-R         | LED2-G         | LED2-B         | LED3-R         | LED3-G         | LED3-B         | LED4-R         | LED4-G         | LED4-B         | LED5-R          | R/G/B: 0~255  |                |  |
|                                    | 0x80<br>R/W | LED5-G         | LED5-B         | LED6-R         | LED6-G         | LED6-B         | LED7-R         | LED7-G         | LED7-B         | LED8-R         | LED8-G         | LED8-B         |                |                |                |                |                 |   |                |  |
| Firmware<br>Version                | 0xF0<br>R   |                |                |                |                |                |                |                |                |                |                |                |                |                |                | Version        |                 | Version: firmware version<br>number                               |                |  |
| I2C Address                        | 0xF0<br>R/W |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                | Address<br>s    |   | Address: 1~127 |  |