

## Ex9018/BL –M Quick Start

1. The default setting is MODBUS mode after Power On .
2. Using INIT pin to contact with GND pin then Power On will enter Normal mode.
3. Command: \$00P0 is set EX9018/BL-M to Normal mode after Repower On. On normal mode, user can set other setting like address, Baudrate, ..... (Please check the EX9000 user manual).
4. Command: \$AAP1 is set to MODBUS mode after Repower On .
5. Under Normal mode that Command: \$AAP can check which mode it is after Repower On .  
 response:  
 !AA10 = Normal  
 !AA11 = MODBUS
6. 04(0x4) READ INPUT CHANNELS

This function code is used to read from 1 to 8 continuous analog input channels or the CJC temperature.

### Request

|       |                             |         |   |
|-------|-----------------------------|---------|---|
| 00    | Address                     | 1Byte   | 1 to 247  |
| 01    | Function code               | 1Byete  | 0x04  |
| 02-03 | Starting channel            | 2 Bytes | 0 to 7 for reading analog inputs<br>0x80 for reading CJC temperature                      |
| 04-05 | Number of input Channels(N) | 2Bytes  | 1 to 8;(Starting channel+N)<=8 for reading analog inputs<br>1 for reading CJC temperature |

### Response

|     |                        |                |   |
|-----|------------------------|----------------|---|
| 00  | Address                | 1Byte          | 1 to 247  |
| 01  | Function code          | 1Byete         | 0x04  |
| 02  | Byte count             | 1 Byte         | 2 x N   |
| 03~ | Data of input channels | 2 x N<br>Bytes | When used for the CJC temperature, this is a 2's complement hex value in 0.01°C increments. |

### Error Response

|    |                |        |   |
|----|----------------|--------|---|
| 00 | Address        | 1Byte  | 1 to 247  |
| 01 | Function code  | 1Byete | 0x84  |
|    | Exception code | 1 Byte | 02:starting channel out of range<br>03:( starting channel+number of input channels) out of range,incorrect number of bytes received |

| EX9018BL-M analog input range Modbus Table |             |             |             |             |
|--|-------------|-------------|-------------|-------------|
| Type Code                                  | Data format | +F.S.       | Zero        | -F.S.       |
| -15~+15mV(00)                              | HEX         | <b>FFFF</b> | <b>8000</b> | <b>0000</b> |
| -50~+50mV(01)                              | HEX         | <b>FFFF</b> | <b>8000</b> | <b>0000</b> |
| -100~+100mV(02)                            | HEX         | <b>FFFF</b> | <b>8000</b> | <b>0000</b> |
| -500~+500mV(0B)                            | HEX         | <b>FFFF</b> | <b>8000</b> | <b>0000</b> |
| -1~+1V(04)                                 | HEX         | <b>FFFF</b> | <b>8000</b> | <b>0000</b> |
| -2.5~+2.5V(05)                             | HEX         | <b>FFFF</b> | <b>8000</b> | <b>0000</b> |
| -20~+20mA(06)                              | HEX         | <b>FFFF</b> | <b>8000</b> | <b>0000</b> |
| J(0E) -200~1100°C                          | HEX         | <b>FFFF</b> | <b>2762</b> | <b>0000</b> |
| K(0F) -250~1400°C                          | HEX         | <b>FFFF</b> | <b>238</b>  | <b>0000</b> |
| T(10)-250~400°C                            | HEX         | <b>FFFF</b> | <b>6275</b> | <b>0000</b> |
| E(11)-250~900°C                            | HEX         | <b>FFFF</b> | <b>37A6</b> | <b>0000</b> |
| R(12)0~1750°C                              | HEX         | <b>FFFF</b> | <b>0000</b> | <b>0000</b> |
| S(13)0~1750°C                              | HEX         | <b>FFFF</b> | <b>0000</b> | <b>0000</b> |
| B(14)0~1800°C                              | HEX         | <b>FFFF</b> | <b>0000</b> | <b>0000</b> |
| N(15)-250~1300°C                           | HEX         | <b>FFFF</b> | <b>294A</b> | <b>0000</b> |