

# Modbus Functionality



## Registers

| DATA                      |   |
|---------------------------|---|
| Function code (f)         | 03 (Read Holding Register)  |
| Start address             | 0 (40001)   |
| Number of register (coil) | 30  |
| Data format               | 16-bit Signed Integer number reg.: 0(40001) , 20(40021)<br>16-bit Unsigned Integer number reg.: 1 (40002) to 32 (40033) |

### Modbus RTU: Read Register

| Description                                      | Modbus value                             | address    | f  |
|--|--|------------|----|
| H2 gas concentration %VOL                        | %VOL, scaled to divide by 10<br>11 = 1.1 | 0 (40001)  | 03 |
| Temperature                                      | °F                                       | 1 (40002)  | 03 |
| Temperature                                      | °C (scaled/10)                           | 2 (40003)  |    |
| Humidity   | %RH                                      | 3 (40004)  | 03 |
| Analogue OUT 1 V                                 | V (scaled/10)                            | 4 (40005)  | 03 |
| Analogue OUT 2 V                                 | V (scaled/10)                            | 5 (40006)  | 03 |
| Analogue OUT 1 mA                                | mA (scaled/10)                           | 6 (40007)  | 03 |
| Analogue OUT 2 mA                                | mA (scaled/10)                           | 7 (40008)  | 03 |
| Not used   | -  | 8 (40009)  | 03 |
| Not used   | -  | 9 (40010)  | 03 |
| Pre Alarm Relay current status                   | 0 = OFF, 1 = ON                          | 10 (40011) | 03 |
| Alarm Relay current status                       | 0 = OFF, 1 = ON                          | 11 (40012) | 03 |
| Fire Alarm Relay current status                  | 0 = OFF, 1 = ON                          | 12 (40013) | 03 |
| Strobe output status                             | 0 = OFF, 1 = ON                          | 13 (40014) | 03 |
| Buzer status                                     | 0 = OFF, 1 = ON                          | 14 (40015) | 03 |
| Not used   | -  | 15 (40016) | 03 |
| Not used   | -  | 16 (40017) | 03 |
| ZERO calibration value                           | ADC                                      | 17 (40018) | 03 |
| SPAN calibration value                           | ADC                                      | 18 (40019) | 03 |
| RAW ADC  | ADC                                      | 19 (40020) | 03 |
| RAW H2 gas concentration %VOL (ignored deadband) | %VOL, (scaled/10)                        | 20 (40021) | 03 |
| Not used   | -  | 21 (40022) | 03 |
| Not used   | -  | 22 (40023) | 03 |
| Not used   | -  | 23 (40024) | 03 |
| Not used   | -  | 24 (40025) | 03 |
| Not used   | -  | 25 (40026) | 03 |
| Not used   | -  | 26 (40027) | 03 |
| GDM working days                                 |  | 27 (40028) | 03 |
| HGD sw version                                   | Scale to divide by 10<br>10 = 1v0 or 1.0 | 28 (40029) | 03 |
| GDM sw version                                   | Scale to divide by 10<br>10 = 1v0 or 1.0 | 29 (40030) | 03 |

**Modbus RTU: Read/Write Register**

| DATA              |  |
|-------------------|--|
| Function code (f) | 03 (Read Holding Register)<br>06 (Write Single Holding Register) |
| Start address     | 30 (40031)   |
| Data format       | 16-bit Unsigned Integer number                                   |

| FUNCTION                        | OPTION | Description                                | Modbus value | address    | f     |
|---------------------------------|--------|--|--------------|------------|-------|
| Minimum value for analogue OUT1 | - 0    | 0 = 0V or 0mA                              | 0 or 1       | 30 (40031) | 03/06 |
|                                 | - 1    | 1= 2V or 4mA                               |              |            |       |
| Minimum value for analogue OUT2 | - 0    | 0 = 0V or 0mA                              | 0 or 1       | 31 (40032) | 03/06 |
|                                 | - 1    | 1= 2V or 4mA                               |              |            |       |
| Pre alarm Relay Delay           | - 0-15 | Delay to switch pre alarm relay, (seconds) | 0-15         | 32 (40033) | 03/06 |
| Alarm Relay Delay               | - 0-15 | Delay to switch alarm relay, (seconds)     | 0-15         | 33 (40034) | 03/06 |
| Deadband                        | - 0    | Enable or disable.                         | 0 or 1       | 34 (40035) | 03/06 |
|                                 | - 1    |  |              |            |       |

|              |  |           |            |    |
|--------------|--|-----------|------------|----|
| Save Changes | Confirmation to save the changes to the memory | 99 = SAVE | 99 (40100) | 06 |
|--------------|--|-----------|------------|----|

Rev 02 10/01/2024 MG

- Added Temperature in °C reg 2
- RAW H2 gas concentration %VOL reg 20
- Deadband R/W reg 34