

# 5 DIGITAL MICRO-PROCESS RPM / LINE-SPEED / FREQUENCY METER with 2~4 ALARMS / ANALOG OUTPUT / RS-485

## AM5H-R

### FEATURES

- Accuracy:  $\pm 0.03\%$  F.S.
- Measuring AC Frequency / DC Pulse / Magnetic; Input frequency: 0.001Hz~10KHz
- High brightness 0.8" LED display: 0~99999; decimal point selectable
- Line-Speed / RPM / Frequency selectable; Line unit: M, Ft, Y/min selectable
- RPM pulse input programmable: 1~99999
- 2~4 alarms programmable (Hi or Lo) / Analog output (15 bit resolution) / RS-485 communication optional (The above option can exist together)
- High stability, non-flammable case (PC), high safety
- CE approval



### ORDER INFORMATION: AM5H-R - [Code 1] [Code 2] - [Code 3] - [Code 4] [Code 5] [Code 6]

| Code 1 | Input Signal | Code 1 | Input Signal      |
|--------|--------------|--------|-------------------|
| N5     | NPN(5V)      | VA     | AC 2~60V          |
| N2     | NPN(12V)     | VB     | AC 60~600V        |
| P5     | PNP(5V)      | VC     | Pick-up 50mV~1.5V |
| P2     | PNP(12V)     | VD     | Pick-up 500mV~15V |
| CT     | Contact      | VE     | DC 24Vp           |
|        |              | O      | Option            |

| Code 2 | Display Unit |
|--------|--------------|
| H      | Hz           |
| R      | RPM          |
| M      | M/min        |
| Y      | Y/min        |
| F      | F/min        |

| Code 3 | Aux. Power     |
|--------|----------------|
| A      | AC/DC 100~240V |
| D      | AC/DC 22~60V   |

| Code 4 | Alarm Output   |
|--------|----------------|
| N      | None           |
| R2     | 2 Relays       |
| R3     | 3 Relays       |
| R4     | 4 Relays       |
| O2     | 2 Open Collect |
| O3     | 3 Open Collect |
| O4     | 4 Open Collect |

| Code 5 | Analog Output |
|--------|---------------|
| N      | None          |
| A      | 4~20mA        |
| V      | 0~10V         |
| O      | Option        |

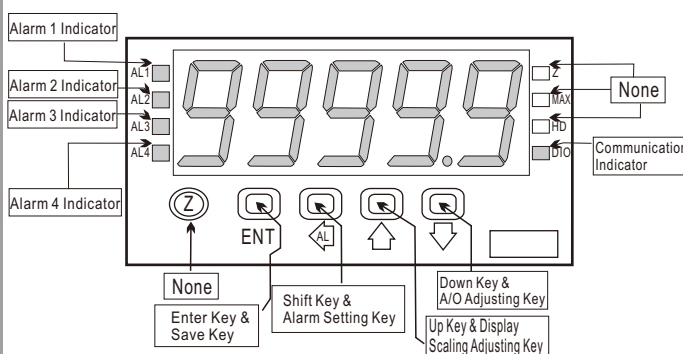
| Code 6 | RS-485 |
|--------|--------|
| N      | None   |
| Y      | Yes    |

\*\*1: NPN(5V), PNP(5V) offers excitation power DC5V; NPN(12V), PNP(12V) offers excitation power DC12V for sensors using.  
2: Please use PNP/NPN(5V/12V) or DC24Vp for DC pulse input.

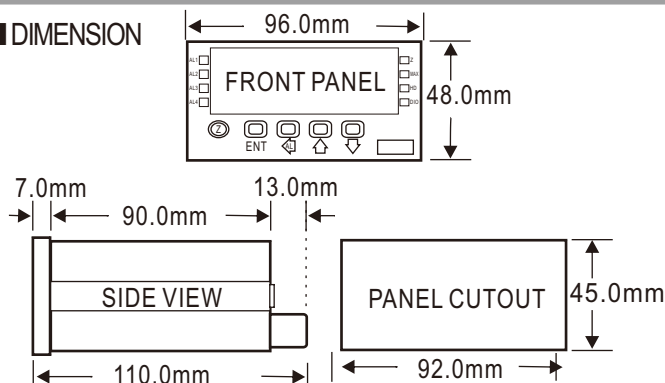
### SPECIFICATION

- ◆ Accuracy:  $\pm 0.03\%$  F.S.
- ◆ Display Screen: High brightness red LED; 20.3mm(0.8")
- ◆ Sampling Time: 10 cycles / sec: >10Hz  
f cycles / sec: <10Hz
- ◆ Display Range: 0~99999
- ◆ Over Range Indication: doFL / ioFL
- ◆ Polarity Indication: Automatic with "-" indication
- ◆ Parameters Setting: Push buttons
- ◆ Back Up Memory: EEPROM
- ◆ Alarm Action: "≥ (Hi) on" or "< (Lo) on"
- ◆ Alarm Run Delay Time: 0~99 sec
- ◆ Relay Contact: AC 277V / 7A; DC 30V / 7A
- ◆ Analog Output Resolution: 15 bit
- ◆ Output Response Time: <250 msec (0~90%)
- ◆ Output Capability: Voltage Output: <20mA  
Current Output: <10V
- ◆ Communication: RS-485 Modbus RTU mode
- ◆ Baud Rate: 38400 / 19200 / 9600 / 4800 bps
- ◆ Temperature Coefficient: 100ppm / °C (0~60°C)
- ◆ Operating Temperature: 0~60°C
- ◆ Operating Humidity: 20~90% RH (non-condensing)
- ◆ Storage Temperature: -10~70°C
- ◆ Storage Humidity: 20~90% RH (non-condensing)
- ◆ Power Supply: AC/DC 100~240V; AC/DC 22~60V
- ◆ Power Consumption: 8.5VA (all functions output)
- ◆ Surge Test: 1.5KVac / 1min (Input / Power)

### FRONT PANEL & KEY FUNCTIONS

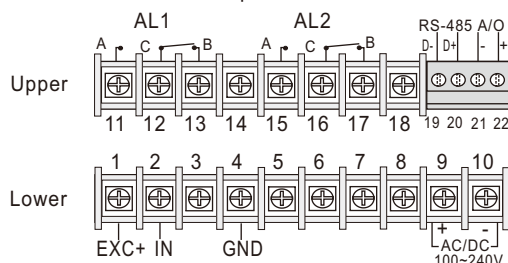


### DIMENSION

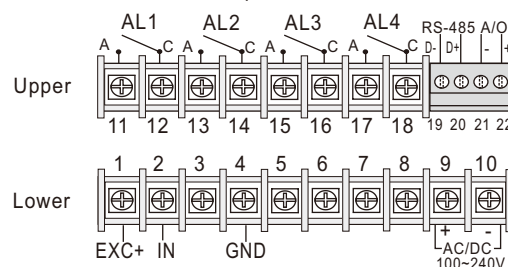


### WIRING CONNECTION

#### ● 2 Alarms Output

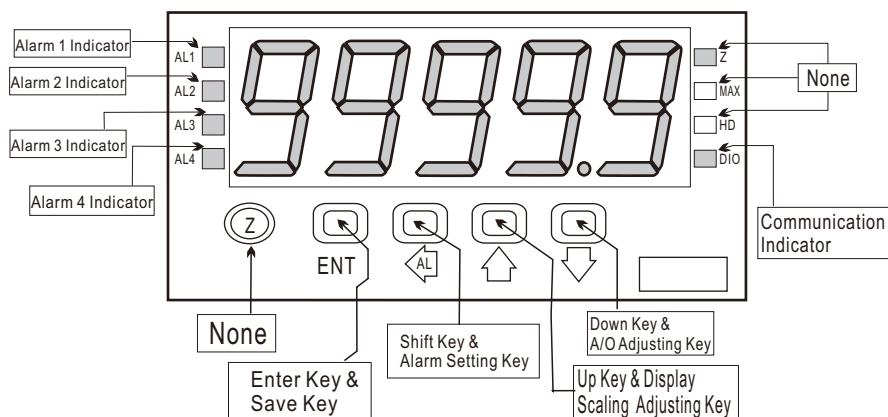


#### ● 4 Alarms Output



\* Please understand key indicators & functions at the first operation.

## FRONT PANEL & KEY FUNCTIONS



| Key Name                               | Symbol | Descriptions                                                                                                                                                                                        |
|----------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enter Key & Save Key                   | ENT    | 1. In the measuring status, press this key can enter to parameter pages.<br>2. In the parameter setting, press this key can save the value & go to next parameter.                                  |
| Shift Key & Alarm Setting Key          | AL     | 1. In the measuring status, press this key for 3 sec can enter to alarm setting page (The selecting digit will be flashed)<br>2. In the parameter setting, press this key can move the cursor left. |
| Up Key & Display Scaling Adjusting Key | ↑      | 1. In the measuring status, press this key for 3 sec can enter to display scaling adjustment<br>2. In the parameter setting, press this key can increase the digits.                                |
| Down Key & A/O Adjusting Key           | ↓      | 1. In the measuring status, press this key for 3 sec can enter to analog output adjustment.<br>2. In the parameter setting, press this key can decrease the digits.                                 |

- \*\*1. The following block charts are parameters codes, parameter codes & parameters will alternate flashing if the parameters can be modified.
2. To modify the parameters, please press  $\leftarrow \rightarrow$ , and press **ENT** to save the parameter after the modification.
3. Please don't forget the new pass code after modification.
4. In any pages, press  $\leftarrow \rightarrow$ , or don't press any keys for 2 minutes that will back to measuring status.

## GENERAL MODE OPERATING PROCEDURES

| Block Charts                                         | Display | Descriptions                         | Default                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------|---------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Alarm Setpoint</b>                                |         |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Power ON                                             | 10000   | Measuring Status                     | Present value for measurement.                                                                                                                                                                                                                                                                                                                                                                                  |
| Press $\leftarrow$ for 3 sec                         | AL 1    | Alarm 1 Setpoint (AL1)               | Press $\leftarrow \rightarrow$ to modify alarm 1 setpoint.                                                                                                                                                                                                                                                                                                                                                      |
| Press ENT                                            | AL 2    | Alarm 2 Setpoint (AL2)               | Press $\leftarrow \rightarrow$ to modify alarm 2 setpoint.                                                                                                                                                                                                                                                                                                                                                      |
| Press ENT                                            | AL 3    | Alarm 3 Setpoint (AL3)               | Press $\leftarrow \rightarrow$ to modify alarm 3 setpoint.                                                                                                                                                                                                                                                                                                                                                      |
| Press ENT                                            | AL 4    | Alarm 4 Setpoint (AL4)               | Press $\leftarrow \rightarrow$ to modify alarm 4 setpoint.                                                                                                                                                                                                                                                                                                                                                      |
| Press ENT                                            |         |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Scaling Adjustment</b>                            |         |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Power ON                                             | 10000   | Measuring Status                     | Present value for measurement.                                                                                                                                                                                                                                                                                                                                                                                  |
| Press $\leftarrow$ for 3 sec                         | SCALE   | Scale Coefficient Adjustment (SCALE) | Press $\leftarrow \rightarrow$ to modify scale coefficient 1 (0.0001 ~ 9.9999).<br>PS: 1. In Frequency & RPM types, this coefficient can be modified for display value. (Please refer to Scaling Formula)<br>2. In Line-Speed type, this coefficient means "diameter" of the roll, the unit will be changed by selecting display unit. EX: If the display unit is "Meter", the diameter is also showed "Meter". |
| Press ENT                                            |         |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Analog Output: "ZERO" &amp; "SPAN" Adjustment</b> |         |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Power ON                                             | 10000   | Measuring Status                     | Present value for measurement.                                                                                                                                                                                                                                                                                                                                                                                  |
| Press $\leftarrow$ for 3 sec                         | APEro   | A/O Zero Adjustment (AZero)          | Press $\leftarrow$ to select adjusting speed rate, press $\leftarrow \rightarrow$ to modify the A/O zero.<br>PS: To use this function to adjust the real A/O zero.                                                                                                                                                                                                                                              |
| Press ENT                                            | ASPA n  | A/O Span Adjustment (ASPA n)         | Press $\leftarrow$ to select adjusting speed rate, press $\leftarrow \rightarrow$ to modify the A/O span.<br>PS: To use this function to adjust the real A/O span.                                                                                                                                                                                                                                              |
| Press ENT                                            |         |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                 |

- Remark: 1. There are 4 parameter groups of "System Setting Group(SYS)", "Alarm Setting Group(roP)", "Analog Output Setting Group (AoP)" & "RS485 Setting Group(doP)" for modification.
2. Press  $\leftarrow$  to select each group page, and press **ENT** to enter each group or parameter page for modification or saving the parameters.
3. Some of optional functions of parameter pages still exist, but the functions are disable.

## PROGRAMMING MODE OPERATING PROCEDURES

| Block Charts                              | Display   | Descriptions         | Default                                                                                                             |
|-------------------------------------------|-----------|----------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Parameter Group Setting Procedures</b> |           |                      |                                                                                                                     |
| Power ON                                  | 10000     | Measuring Status     | Present value for measurement.                                                                                      |
| Press ENT                                 | PCod      | Pass Code (P.Cod)    | Press $\leftarrow \rightarrow$ to enter pass code.                                                                  |
| Press ENT                                 |           |                      |                                                                                                                     |
| P.Code Correct?                           |           |                      | Pass code is correct that will enter to parameter groups.<br>Pass code is wrong that will back to measuring status. |
| NO                                        |           |                      |                                                                                                                     |
| YES                                       | 555 (SYS) | System Setting Group |                                                                                                                     |
| Press ENT                                 |           |                      |                                                                                                                     |
| Press $\leftarrow$                        | roP (roP) | Alarm Setting Group  |                                                                                                                     |
| Press ENT                                 |           |                      |                                                                                                                     |
| Press $\leftarrow$                        | RoP (AoP) | A/O Setting Group    |                                                                                                                     |
| Press ENT                                 |           |                      |                                                                                                                     |
| Press $\leftarrow$                        | doP (doP) | RS485 Setting Group  |                                                                                                                     |
| Press ENT                                 |           |                      |                                                                                                                     |

| Display                                                                                                                                                 | Descriptions                                                                                                                                                                                                                                                                             | Default                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System Setting Group Procedures</b>                                                                                                                  |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 555<br>Press ENT<br>dP                                                                                                                                  | System Setting Page (SYS)<br>Decimal Point Setting (dP)<br>Press $\uparrow \downarrow$ to select decimal point (0, 1, 2, 3, 4).<br>EX: if the value shows "0.00" that means the decimal point is 2 digits.                                                                               | Customers specify                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Press ENT<br>tYPE                                                                                                                                       | Input Type Setting (tYPE)<br>Press $\uparrow \downarrow$ to modify the input type.<br>(RPM/Linear-Speed/Frequency)                                                                                                                                                                       | Customers specify                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Press ENT<br>Unit                                                                                                                                       | Line-Speed Unit Setting (Unit)<br>Press $\uparrow \downarrow$ to modify the unit of line-speed (Meter/Foot/Yard).<br><b>PS: Line-Speed type available</b>                                                                                                                                | Customers specify                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Press ENT<br>PPr                                                                                                                                        | PPR Setting (PPr)<br>Press $\uparrow \downarrow$ to modify ppr (1~99999).                                                                                                                                                                                                                | 00001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Press ENT<br>tbASE                                                                                                                                      | Sampling Time Base (tbASE)<br>Press $\uparrow \downarrow$ to modify sampling time base (0.1~999.9 sec).                                                                                                                                                                                  | 00001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Press ENT<br>AvG                                                                                                                                        | Display Average Setting (AvG)<br>Press $\uparrow \downarrow$ to modify display average (1~99).<br>PS: Please use this function for stable display value when input signal is unstable.                                                                                                   | 00005                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Press ENT<br>CodE                                                                                                                                       | Pass Code Setting (CodE)<br>Press $\uparrow \downarrow$ to modify pass code (0~19999).<br>PS: Please don't forget the new pass code after modification.                                                                                                                                  | 00000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Press ENT<br>LoCK                                                                                                                                       | Key Lock Setting (LoCK)<br>Press $\uparrow \downarrow$ to lock the keys, using key lock function only can view the parameters, but cannot modify any values.<br>PS: no (unlock), YES ("ENT" unlock, others lock).                                                                        | no                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Alarm Setting Group Procedures</b>                                                                                                                   |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| roP<br>Press ENT<br>ACt1<br>ACt2<br>ACt3<br>ACt4<br>Press ENT<br>HYS1<br>HYS2<br>HYS3<br>HYS4<br>Press ENT<br>dEL1<br>dEL2<br>dEL3<br>dEL4<br>Press ENT | Alarm Setting Page (roP)<br>Alarm 1 (ACt1)<br>Alarm 2 (ACt2)<br>Alarm 3 (ACt3)<br>Alarm 4 (ACt4)<br>Hysteresis 1 (HYS1)<br>Hysteresis 2 (HYS2)<br>Hysteresis 3 (HYS3)<br>Hysteresis 4 (HYS4)<br>Delay Time 1 (dEL1)<br>Delay Time 2 (dEL2)<br>Delay Time 3 (dEL3)<br>Delay Time 4 (dEL4) | <p><b>The following steps are only available for alarm output.</b></p> <p>Press <math>\uparrow \downarrow</math> to modify alarm value that is <math>\geq</math>(Hi) or <math>\leq</math>(Lo) for alarm action.<br/>PS: 1. There are 4 alarms output optional.<br/>2. This page is exist without alarm output, but the function will be disabled.<br/>3. Press ENT to save the value and go to the next parameter.</p> <p>Press <math>\uparrow \downarrow</math> to modify the value, when alarm runs lower or higher display value (depends on alarm action). Alarm setpoint <math>\pm</math> this value (0~999) will turn off the alarm.<br/>PS: 1. There are 4 alarms output optional.<br/>2. This page is exist without alarm output, but the function will be disabled.<br/>3. Press ENT to save the value and go to the next parameter.</p> <p>Press <math>\uparrow \downarrow</math> to modify the value, when the display value reach the alarm value that need to wait for this time (0~99 sec) for alarm action.<br/>PS: 1. There are 4 alarms output optional.<br/>2. This page is exist without alarm output, but the function will be disabled.<br/>3. Press ENT to save the value and go to the next parameter.</p> |

| Display                                                                                               | Descriptions                                                                                                                     | Default                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A/O Setting Group Procedures</b>                                                                   |                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RoP<br>Press ENT<br>PoLAr<br>Press ENT<br>AnLo<br>Press ENT<br>AnHi<br>Press ENT                      | A/O Setting Page (AoP)<br>A/O Polarity Setting (PoLAr)<br>A/O Low Scale Setting (AnLo)<br>A/O Hi Scale Setting (AnHi)            | <p><b>The following steps are only available for analog output.</b></p> <p>Press <math>\uparrow \downarrow</math> to select output for positive or negative pole.<br/>PS: Voltage output, NO: positive pole output (0~+10V)<br/>YES: positive &amp; negative pole output (-10~+10V)</p> <p>Press <math>\uparrow \downarrow</math> to adjust A/O low scale to correspond to the display value.<br/>EX: A/O is 0~10V, the display is 10.0 to output 0V, this value must be set for 10.0.</p> <p>Press <math>\uparrow \downarrow</math> to adjust A/O hi scale to correspond to the display value.<br/>EX: A/O is 0~10V, the display is 90.0 to output 1 0V, this value must be set for 90.0.</p> |
| <b>RS485 Setting Group Procedures</b>                                                                 |                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| doP<br>Press ENT<br>Addr<br>Press ENT<br>bAUd<br>Press ENT<br>PARi<br>Press ENT<br>FrAmE<br>Press ENT | RS485 Setting Page (doP)<br>Address Setting (Addr)<br>Baud Rate Setting (bAUd)<br>Parity Setting (PARi)<br>Frame Setting (FrAmE) | <p><b>The following steps are only available for RS-485.</b></p> <p>Press <math>\uparrow \downarrow</math> to modify address (0~255).</p> <p>Press <math>\uparrow \downarrow</math> to select baud rate (38400/19200/9600/4800).</p> <p>Press <math>\uparrow \downarrow</math> to select parity (n.8.2/n.8.1/even/odd).</p> <p>Press <math>\uparrow \downarrow</math> to select frame type.<br/>(NO:Hi<math>\rightarrow</math>Lo, YES:Lo<math>\rightarrow</math>Hi)</p>                                                                                                                                                                                                                        |

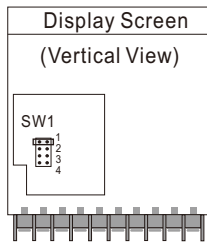
### Error Code of Self-Diagnosis

| Display | Descriptions                                                             |
|---------|--------------------------------------------------------------------------|
| oFL     | Input signal is over input range (0~100KHz).                             |
| doFL    | Input signal is over display range (99999).                              |
| E-00    | EEPROM reading/writing suffers the interference (about 1 million times). |

\*\*Please check the wiring connection is correct first, if the problem still exist, please return the meter to the factory.

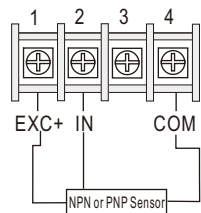
## Input Signal Modification

**\*\*To Select the pin to modify the input signal for different sensors.**  
**PS: In dual input type, excitation power must be the same.**



| SW1 | JUMPER | DEFINITION                |
|-----|--------|---------------------------|
| • • | 1      | Open: 12V; Close: 5V      |
| • • | 2      | Open: 10KHz; Close: 400Hz |
| • • | 3      | Open: NPN; Close: PNP     |
| • • | 4      | Open: PNP; Close: NPN     |

**\*\*Connection:**



**NPN (5V): 0~400 Hz**

| JUMPER | SW1/SW2 |
|--------|---------|
| 1      | • •     |
| 2      | • •     |
| 3      | • •     |
| 4      | • •     |

**NPN (5V): 0~10 KHz**

| JUMPER | SW1/SW2 |
|--------|---------|
| 1      | • •     |
| 2      | • •     |
| 3      | • •     |
| 4      | • •     |

**NPN (12V): 0~400 Hz**

| JUMPER | SW1/SW2 |
|--------|---------|
| 1      | • •     |
| 2      | • •     |
| 3      | • •     |
| 4      | • •     |

**NPN (12V): 0~10 KHz**

| JUMPER | SW1/SW2 |
|--------|---------|
| 1      | • •     |
| 2      | • •     |
| 3      | • •     |
| 4      | • •     |

**PNP (5V): 0~400 Hz**

| JUMPER | SW1/SW2 |
|--------|---------|
| 1      | • •     |
| 2      | • •     |
| 3      | • •     |
| 4      | • •     |

**PNP (5V): 0~10 KHz**

| JUMPER | SW1/SW2 |
|--------|---------|
| 1      | • •     |
| 2      | • •     |
| 3      | • •     |
| 4      | • •     |

**PNP (12V): 0~400 Hz**

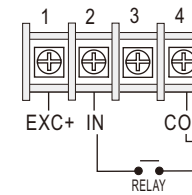
| JUMPER | SW1/SW2 |
|--------|---------|
| 1      | • •     |
| 2      | • •     |
| 3      | • •     |
| 4      | • •     |

**PNP (12V): 0~10 KHz**

| JUMPER | SW1/SW2 |
|--------|---------|
| 1      | • •     |
| 2      | • •     |
| 3      | • •     |
| 4      | • •     |

**\*\*Connection:**

**Relay Contact: NPN 0~400 Hz**



| JUMPER | SW1/SW2 |
|--------|---------|
| 1      | • •     |
| 2      | • •     |
| 3      | • •     |
| 4      | • •     |

**\*\*For relay input type, please select NPN 0~ 400 Hz.**



## Modbus RTU Mode Protocol Address Table

Data: 16Bit/32Bit, +/- is 8000~7FFF (-32768~32767), 80000000~7FFFFFFF(-2147483648~2147483647)

| Modbus | HEX  | Name   | Descriptions                                                                                                                                    | Act |
|--------|------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 40001  | 0000 | ID     | Model number identification; AM5H-R is "01"                                                                                                     | R   |
| 40002  | 0001 | STATUS | Current alarm output status display; range: 0000~00F0 (0~240) (0:OFF, 1:ON) (Bit7:AL4, Bit6: AL3, Bit5: AL2, Bit4: AL1)                         | R   |
| 40003  | 0002 | DP     | Decimal point setting; range: 0000~0004 (0~4) 0:10 <sup>0</sup> , 1:10 <sup>1</sup> , 2:10 <sup>2</sup> , 3:10 <sup>3</sup> , 4:10 <sup>4</sup> | R/W |
| 40004  | 0003 | TYPE   | Input type setting; range: 0000~0002 (0~2) 0:RPM, 1:Liner-Speed, 2:Frequency                                                                    | R/W |
| 40005  | 0004 | UNIT   | Linear-Speed unit setting; range: 0000~0002 (0~2) 0:Meter, 1:Foot, 2:Yard                                                                       | R/W |
| 40006  | 0005 | LOCK   | Key lock setting; range: 0000~0001 (0~1) 0:NO, 1:YES                                                                                            | R/W |
| 40007  | 0006 | FRAME  | Frame setting; range 0000~0001(0~1) 0:NO, 1:YES                                                                                                 | R/W |
| 40008  | 0007 | ACT1   | Alarm 1 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo                                                                                            | R/W |
| 40009  | 0008 | ACT2   | Alarm 2 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo                                                                                            | R/W |
| 40010  | 0009 | ACT3   | Alarm 3 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo                                                                                            | R/W |
| 40011  | 000A | ACT4   | Alarm 4 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo                                                                                            | R/W |
| 40012  | 000B | BAUD   | Baud rate setting; range: 0000~0003 (0~3) 0:38400, 1:19200, 2:9600, 3:4800                                                                      | R/W |
| 40013  | 000C | PARI   | Parity setting; range: 0000~0003 (0~3), 0:N.8.2., 1:N.8.1., 2:EVEN, 3:ODD                                                                       | R/W |
| 40014  | 000D | POLAR  | Analog output polarity setting; range: 0000~0001 (0~1) 0:NO, 1:YES                                                                              | R/W |
| 40015  | 000E | AVG    | Display average setting; range: 0001~0063 (1~99)                                                                                                | R/W |
| 40016  | 000F | ADDR   | Address setting; range: 0000~00FF (0~255)                                                                                                       | R/W |
| 40017  | 0010 | DEL1   | Alarm 1 act delay time setting; range: 0000~0063 (0~99)                                                                                         | R/W |
| 40018  | 0011 | DEL2   | Alarm 2 act delay time setting; range: 0000~0063 (0~99)                                                                                         | R/W |
| 40019  | 0012 | DEL3   | Alarm 3 act delay time setting; range: 0000~0063 (0~99)                                                                                         | R/W |
| 40020  | 0013 | DEL4   | Alarm 4 act delay time setting; range: 0000~0063 (0~99)                                                                                         | R/W |
| 40021  | 0014 | TBASE  | Sampling time base setting; range: 0001~270F (1~9999)                                                                                           | R/W |
| 40022  | 0015 | HYS1   | Alarm 1 hysteresis setting; range: 0000~270F (0~9999)                                                                                           | R/W |
| 40023  | 0016 | HYS2   | Alarm 2 hysteresis setting; range: 0000~270F (0~9999)                                                                                           | R/W |
| 40024  | 0017 | HYS3   | Alarm 3 hysteresis setting; range: 0000~270F (0~9999)                                                                                           | R/W |
| 40025  | 0018 | HYS4   | Alarm 4 hysteresis setting; range: 0000~270F (0~9999)                                                                                           | R/W |
| 40026  | 0019 | AZERO  | Analog output zero setting; range: D8F1~270F (-9999~9999)                                                                                       | R/W |
| 40027  | 001A | ASPAN  | Analog output span setting; range: D8F1~270F (-9999~9999)                                                                                       | R/W |
| 40028  | 001B | CODE   | Pass code setting; range: 0000~4E1F (0~19999)                                                                                                   | R/W |
| 40029  | 001C | PPR    | PPR setting; range: 00000001~0001869F (0~199999) Hi Bit                                                                                         | R/W |
| 40030  | 001D |        | PPR setting; range: 00000001~0001869F (0~199999) Low Bit                                                                                        | R/W |
| 40031  | 001E | SCALE  | Display scaling setting; range: 00000001~0001869F (0~199999) Hi Bit                                                                             | R/W |
| 40032  | 001F |        | Display scaling setting; range: 00000001~0001869F (0~199999) Low Bit                                                                            | R/W |
| 40033  | 0020 | AL1    | Alarm 1 setpoint setting; range: 00000000~0001869F(0~99999) Hi Bit                                                                              | R/W |
| 40034  | 0021 |        | Alarm 1 setpoint setting; range: 00000000~0001869F(0~99999) Low Bit                                                                             | R/W |

| Modbus | HEX  | Name    | Descriptions                                                                | Act |
|--------|------|---------|-----------------------------------------------------------------------------|-----|
| 40035  | 0022 | AL2     | Alarm 2 setpoint setting; range: 00000000~0001869F(0~99999) Hi Bit          | R/W |
| 40036  | 0023 |         | Alarm 2 setpoint setting; range: 00000000~0001869F(0~99999) Low Bit         | R/W |
| 40037  | 0024 | AL3     | Alarm 3 setpoint setting; range: 00000000~0001869F(0~99999) Hi Bit          | R/W |
| 40038  | 0025 |         | Alarm 3 setpoint setting; range: 00000000~0001869F(0~99999) Low Bit         | R/W |
| 40039  | 0026 | AL4     | Alarm 4 setpoint setting; range: 00000000~0001869F(0~99999) Hi Bit          | R/W |
| 40040  | 0027 |         | Alarm 4 setpoint setting; range: 00000000~0001869F(0~99999) Low Bit         | R/W |
| 40041  | 0028 | ANLO    | Analog output low scale setting; range: 00000000~0001869F (0~99999) Hi Bit  | R/W |
| 40042  | 0029 |         | Analog output low scale setting; range: 00000000~0001869F (0~99999) Low Bit | R/W |
| 40043  | 002A | ANHI    | Analog output hi scale setting; range: 00000000~0001869F (0~99999) Hi Bit   | R/W |
| 40044  | 002B |         | Analog output hi scale setting; range: 00000000~0001869F (0~99999) Low Bit  | R/W |
| 40045  | 002C | DISPLAY | Current display; range: 00000000~0001869F (0~99999) Hi Bit                  | R   |
| 40046  | 002D |         | Current display; range: 00000000~0001869F (0~99999) Low Bit                 | R   |