

5 DIGITAL RPM / LINE-SPEED / FREQUENCY METER (24x48mm) with 1 ALARM

AM5S-R

FEATURES

- Accuracy: $\pm 0.03\%$ F.S.
- Measuring AC Frequency / DC Pulse / Magnetic; Input frequency: 0.001Hz~10KHz
- High brightness 0.4" 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
- 1 alarm setting (Hi or Lo) programmable
- High stability, non-flammable case (PC), high safety
- CE approval



ORDER INFORMATION: AM5S-R - [Code 1] [Code 2] - [Code 3] - [Code 4]

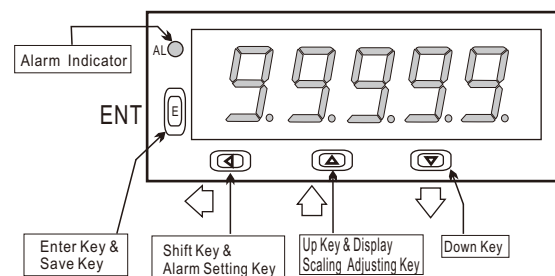
Code 1	Input Signal	Code 1	Input Signal	Code 1	Input Signal	Code 2	Display Unit	Code 3	Aux. Power	Code 4	Alarm Output
N5	NPN(5V)	VA	AC 2~60V	VE	DC 24Vp	H	Hz	A	AC/DC 100~240V	N	None
N2	NPN(12V)	VB	AC 60~600V	CT	Contact	R	RPM	D	AC/DC 22~60V	R1	1 Relay
P5	PNP(5V)	VC	Pick-up 50mV~1.5V	O	Option	M	M/min				
P2	PNP(12V)	VD	Pick-up 500mV~15V			Y	Y/min				
						F	F/min				

**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.

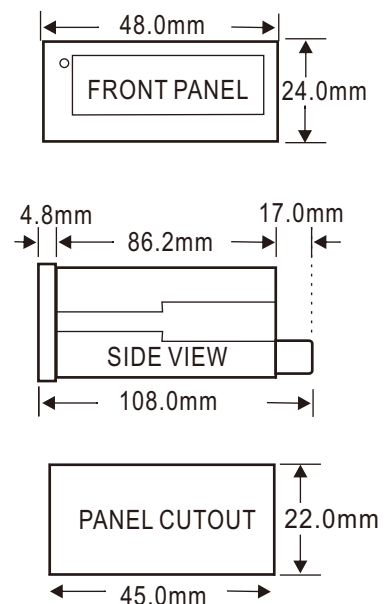
SPECIFICATION

- ◆ Accuracy: $\pm 0.03\%$ F.S.
- ◆ Display Screen: High brightness red LED; 10.16mm(0.4")
- ◆ Max. Input Frequency: 10KHz (50% duty cycle)
- ◆ Sampling Time: 10 cycles / sec: >10Hz
f cycles / sec: <10Hz
- ◆ Display Range: 0~99999
- ◆ Over Range Indication: doFL / ioFL
- ◆ Parameters Setting: Push buttons
- ◆ Back Up Memory: EEPROM
- ◆ Diameter Setting Range: 0.0001~9.9999 (M)
- ◆ Alarm Action: " $\geq$ (Hi) on" or "< (Lo) on"
- ◆ Alarm Run Delay Time: 0~99 sec
- ◆ Relay Contact: AC 277V / 7A; DC 30V / 7A
- ◆ Temperature Coefficient: 100ppm / $^{\circ}\text{C}$ (0~60 $^{\circ}\text{C}$)
- ◆ Operating Temperature: 0~60 $^{\circ}\text{C}$
- ◆ Operating Humidity: 20~90% RH (non-condensing)
- ◆ Storage Temperature: -10~70 $^{\circ}\text{C}$
- ◆ Storage Humidity: 20~90% RH (non-condensing)
- ◆ Power Supply: AC/DC 100~240V; AC/DC 22~60V
- ◆ Power Consumption: 4.5VA
- ◆ Surge Test: 2KVac / 1min (Input / Power)

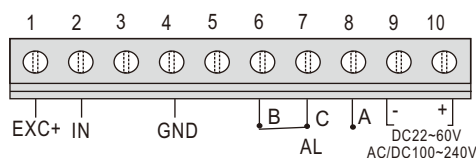
FRONT PANEL & KEY FUNCTIONS



DIMENSION

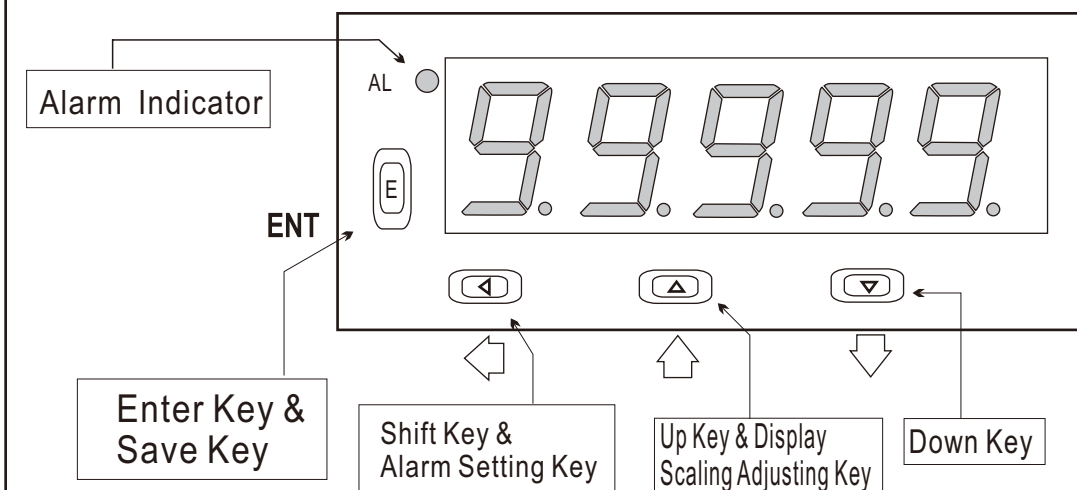


WIRING CONNECTION



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

FRONT PANEL & KEY FUNCTIONS



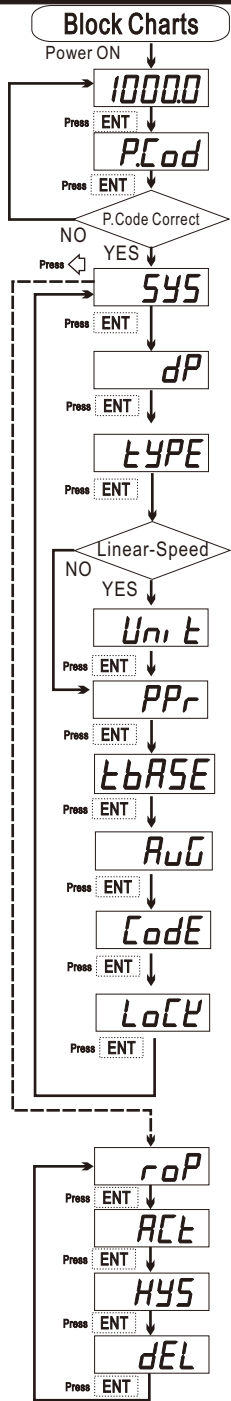
Key Name	Symbol	Descriptions
Enter Key & Save Key	ENT	1. In the measuring status, press this key can enter to parameter pages. 2. In the parameter setting, press this key can save the value & go to next parameter.
Shift Key & Alarm Setting Key	←	1. In the measuring status, press this key for 3 sec can enter to alarm setting page. (The selecting digit will be flashed) 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. 2. In the parameter setting, press this key can increase the digits.
Down Key	↓	1. 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 ← ↑ ↓, and press **ENT** to save the parameters after the modification.
3. Please don't forget the new pass code after modification.
4. In any pages, press ↑ & ↓, or don't press any keys for 2 minutes that will back to measuring status.
5. Scaling Formula: Frequency Display = (Scale x Input Frequency)/PPR
 RPM Display = (Scale x Input Frequency x 60)/PPR
 Line-Speed Display = [Scale x Input RPM x 3.1416 (π)]

GENERAL MODE OPERATING PROCEDURES

Block Charts	Display	Descriptions	Default
Power On		Alarm Setpoint	
	Measuring Status	Present value for measurement.	
	Alarm Setpoint (AL)	Press ← ↑ ↓ to modify alarm setpoint.	00000
		Scaling Adjustment	
	Measuring Status	Present value for measurement.	
	Scale Coefficient Adjustment (SCALE)	Press ← ↑ ↓ to modify scale coefficient 2 (0.0001 ~9.9999). PS: 1. In Frequency & RPM types, this coefficient can be modified for display value. (Please refer to Scaling Formula) 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".	10000

PROGRAMMING MODE OPERATING PROCEDURES

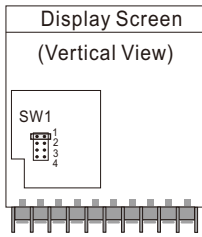


Display	Descriptions	Default
Measuring Status	Present value for measurement.	
Pass Code (P.Cod)	Press    to enter pass code.	00000
	Pass code is correct that will enter to parameter groups. Pass code is wrong that will back to measuring status.	
System Setting Page (SYS)	Press  to select system setting group (SYS) or alarm setting group (roP).	
Decimal Point Setting (dP)	Press    to select decimal point (0, 1, 2, 3, 4) EX: if the value shows "0.00" that means the decimal point is 2 digits.	0
Input Type Setting (tYPE)	Press   to modify the input type (RPM/Line-Speed/Frequency)	Customers specify
	The following steps are only available for Line-Speed type.	
Line-Speed Unit Setting (Unit)	Press   to modify the unit of line-speed (Meter/Foot/Yard).	Customers specify
PPR Setting (PPr)	Press    to modify ppr (1~99999).	0000 1
Sampling Time Base (tbASE)	Press    to modify sampling time base (0.1~999.9 sec).	0000. 1
Display Average Setting (AvG)	Press    to modify display average (1~99). PS: Please use this function for stable display value when input signal is unstable.	00005
Pass Code Setting (CodE)	Press    to modify pass code (0~19999). PS: Please don't forget the new pass code after modification.	00000
Key Lock Setting (LoCK)	Press   to lock the keys, using key lock function only can view the parameters, but cannot modify any values.PS: no (unlock) ,YES ("ENT" unlock , others lock).	no
	Alarm Setting Group Procedures	
Alarm Setting Page (roP)	The following steps are not available for alarm output.	
Alarm Action Setting (ACT)	Press   to modify alarm value that is $\geq$ (Hi) or $<$ (Lo) for alarm action.	Hi
Alarm Hysteresis Setting (HYS)	Press    to modify the value, when alarm runs lower or higher display value (depends on alarm action) Alarm setpoint $\pm$ this value(0~999) will turn off the alarm.	00000
Alarm Run Delay Setting (dEL)	Press    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.	00000

Error Code of Self-Diagnosis

Display	Descriptions	Remark
LOFL	Input signal is over input range (0~100KHz).	**Please check the wiring connection is correct first, if the problem still exist, please return the meter to the factory.
DOFL	Input signal is over display range (99999).	
E-00	EEPROM reading/writing suffers the interference (about 1 million times).	

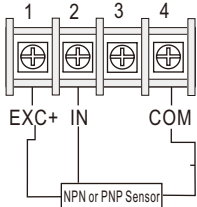
Input Signal Modification



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

SW1/SW2	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	● ●

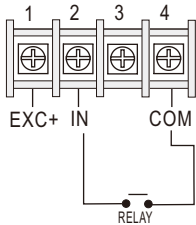
PNP (12V): 0~400 Hz

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.**