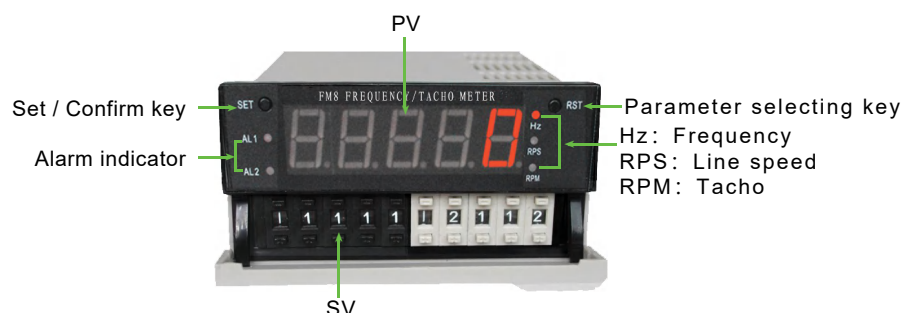


FM Series of Frequency/Tacho/Line Speed Meter

FM Series of Frequency/Tacho/Line Speed Meter User Manual

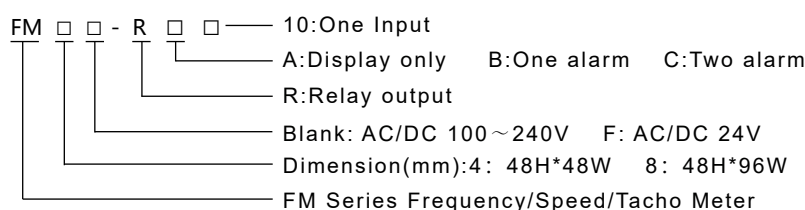
I. Panel name



Features:

- ①Thumb switch setting, 4-digit (FM4) or 5-digit (FM8) LED display,
- ②Dimension(mm): 48H*96W、48H*48W,
- ③4 alarm modes(U-U),(U-d),(d-U),(d-d) selectable,
- ④With return difference setting, improve the stability of instruments and systems,
- ⑤Multi purpose use: it can be used as frequency meter, line speed meter and tachometer through software selection,
- ⑥High measurement accuracy, fixed or floating decimal point display can be selected.

II. Model



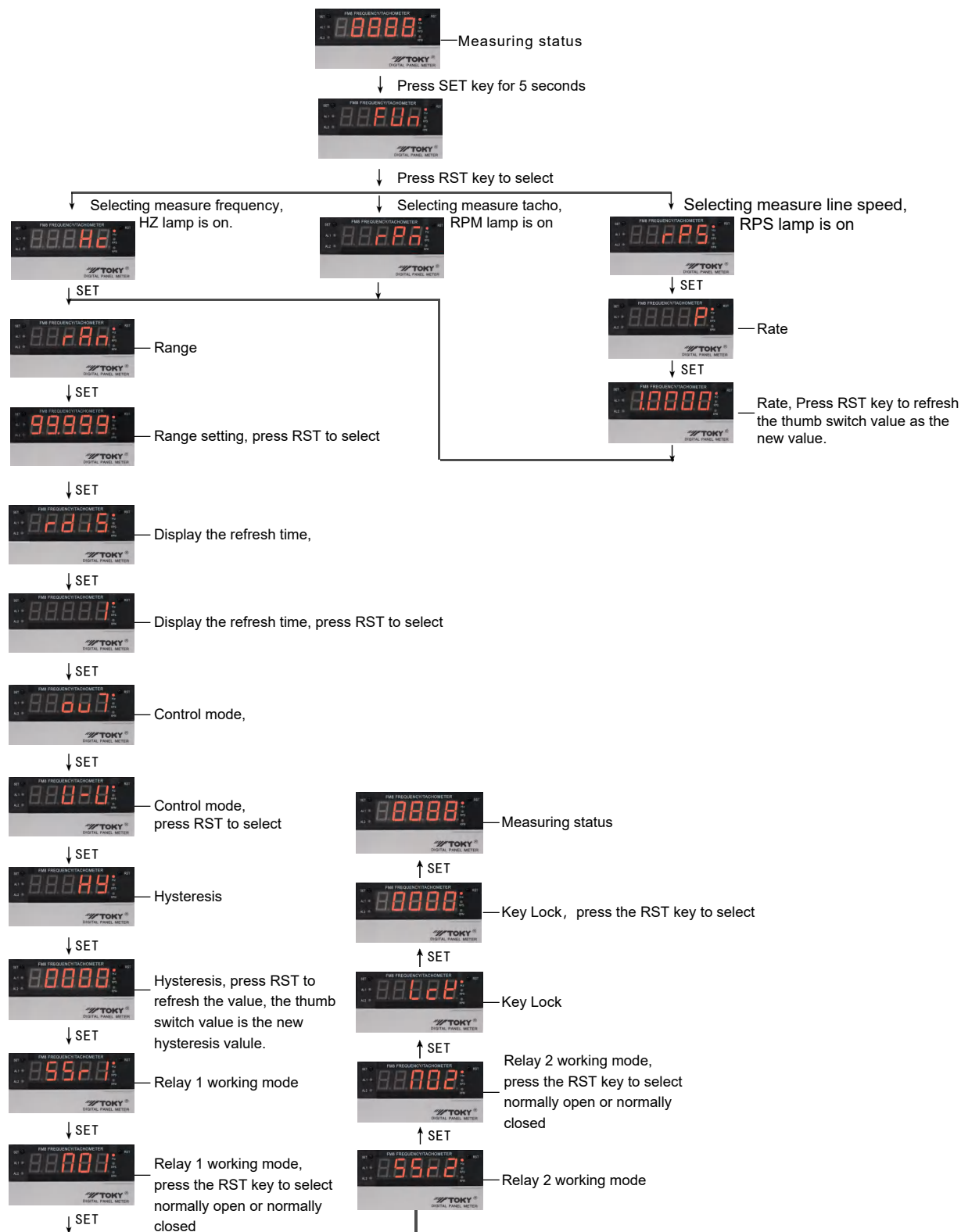
Model	Dimension (mm)	LED Display digits	Alarm
FM4-A10 (FM4-RL0)	48H*48W	4	NO
FM4-RB10 (FM8-RL1)	48H*48W	4	One AL2
FM8-A10 (FM8-RL0)	48H*96W	5	NO
FM8-RB10 (FM8-RL1)	48H*96W	5	One AL2
FM8-RC10 (FM8-RL2)	48H*96W	5	Two AL1、AL2

III. Technical Specifications

Power supply	AC/DC 100~240V±15%, AC/DC 24V
Power consumption	<5W
Relay capacity	AC 250V/3A or DC 30V/3A
External power supply	DC 24V±2V 50mA max
Insulation impedance	≥100MΩ
Anti-interference	Power supply:±2kV Input:±2kV
Anti vibration	10~55Hz; 0.75mm
Environment	0~50℃ 35~85% RH
Input signal	Square wave, Sine wave pulse signal: 5V≤ High level ≤30V 0≤ Low level ≤1V
Input resistance	≥10kΩ
measuring range	0.1~5000Hz
Accuracy	0.1%RD±3 Digits

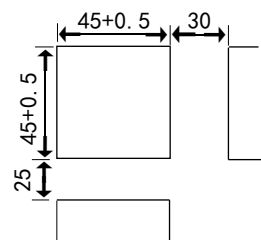
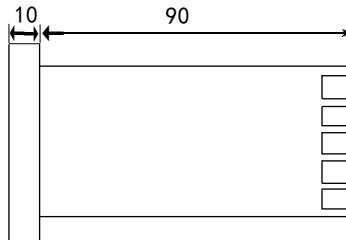
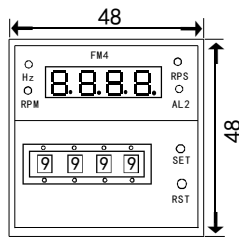
IV.Operation

1. Please study the instruction carefully and check if the connection is correct before power on.
2. The parameters can be set by the thumb switches and press keys.
 - SET: set and confirm key
 - RST: parameter selecting key
3. Operating process

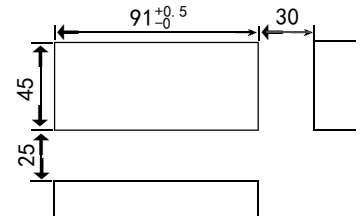
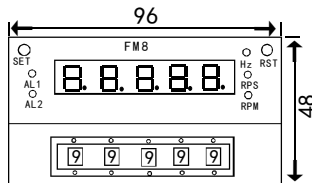


*Above parameters are the conventional factory setting values of this instrument.

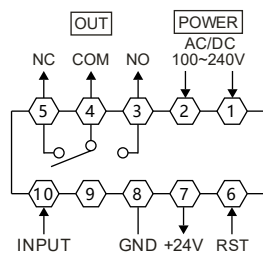
V. Dimension and Connection (Unit: mm)



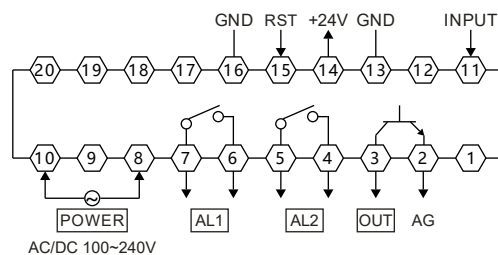
FM4



FM8



FM4



FM8

Note: Please connect cable according to the actual instrument wiring diagram.

VI. Special note and simple malfunction handling

- The input wire should not be too long. We suggest use the shielded wire to improve the anti-interference capacity. The instrument should not use in the environment of high humidity (>90RH%) or high acidity.
- Means overload range "UUUU".
- If the instrument is for display only, we suggest to set the measuring range (RAN) as float decimal point (99.9.9.9), refresh time display set as 0 (auto refresh)

If the instrument is for alarm output, it should be set as fixed decimal point, and select the two relay as NO or NC.

4. Malfunction handling:

A: displaying not stable, relay malfunction.

- *Use the shielded wire, let the input signal under the situation without high interference.
- *Set the decimal point correctly (RAN Manu) .
- *Use the pure power supply.
- *Adjust the hysteresis correctly.

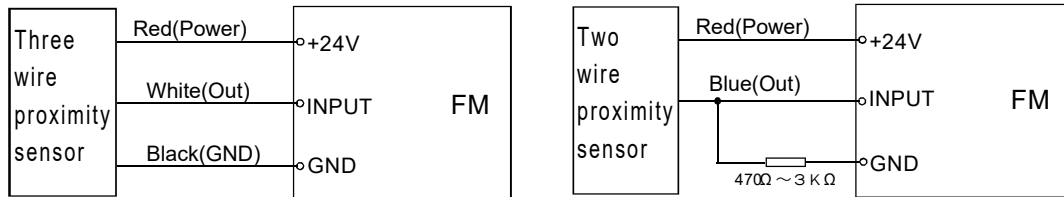
B: There is signal input, but the instrument displays 0.

- *Check if the wire connection is correct.
- *Check if the situation of diagrams is correct
- *Check if the refresh time is correct.

Refresh time display(s)	Range	Note
0	0.1Hz~5KHz	Auto-Refresh
0.5	2Hz~5KHz	Refresh per 0.5 second
1	1Hz~5KHz	Refresh per 1 second
2	0.5Hz~5KHz	Refresh per 2 seconds
10	0.2Hz~5KHz	Refresh per 10 seconds
20	0.1Hz~5KHz	Refresh per 20 seconds

- Rate setting (P): The rate stands for the length of each pulse. Line speed = frequency * P. Frequency and Tacho does not have this rate.

VII Example for usage



Form 1: Parameters

No	Parameter code	Parameter meaning	Description	Range	Factory setting
1	FUn	Function selecting	Select the measuring function by pressing RST key. HZ:frequency, HZ lamp on RPS: line speed, RPS lamp on RPM: tachometer, RPM lamp on	Hz、RPS、RPM	Hz
2	P	Rate coefficient (linear speed meter)	Setting rate value. Press RST key to refresh the new rate value of SV2 and change decimal point too. If don't press RST key, the value saved as the last time.	0.001~99.99 (FM4) 0.0001~999.99 (FM8)	1.0000
3	rAn	Measuring Range	Setting the measuring range and press RST key to select. 99999: 1~5000Hz(Fixed decimal point) 9999.9: 0.1~5000.0Hz(Fixed decimal point) 999.99: 0.10~999.99Hz(Fixed decimal point) 99.999: 0.100~99.999Hz(Fixed decimal point) 99.9.9.9: 0.100~5000.0Hz(Float decimal point)	99999 9999.9 999.99 99.999 99.9.9.9	99.9.9.9
4	rds	Refresh time Display	Press RST key to set the refresh time display 0.5: refresh per 0.5 second 1: refresh per 1 second 2: refresh per 2 seconds 10: refresh per 10 seconds 20: refresh per 20 seconds	0.5 (s) 1 (s) 2 (s) 10 (s) 20 (s)	1(s)
5	oU1	Control Mode	Set the output mode, Press RST key to select U-U: Up-Up U-d: Up-Down d-U: Down- Up d-d: Down-Down (Please refer Form A)	U-U U-d d-U d-d	U-U
6	H3	Hysteresis	Set the alarm Hysteresis, Press RST key to refresh the new setting value(SV2), otherwise the value saved as the last time.	0-9999 (The decimal point follows the measured value)	0
7	SS-1	Relay 1 working mode	Set AL relay working mode, Press RST key to select NO1: Normal open NC1: Normal closed	NO1、NC1	NO1
8	SS-2	Relay 2 working mode	Set AL relay working mode, Press RST key to select NO2: Normal open NC2: Normal closed	NO2、NC2	NO2
9	LC2	Key Protection	Select thumb protection level, Press RST key to select 0000: No protection 1111: Thumb protection only, Press RST key to refresh, then the new value is available 3333: Protecting for factory use only, not for users.	0000 1111 3333	0000

Form A: The relationship between measuring range and alarms.

