FR series

Multifunctional cymometer/tachometer

OPERATION GUIDE

Thanks for the purchasing our C series cymometer/ tachometer.Please do read the manual before the use of the meter so that you could make a full acknowledge of our product and operate it correctly. The edition of the manual is RE-F-05A0.We will not inform you specially if any modification made.

1、Cautions

(1) Do not use this product in following environment:

- **full of the air that are easy to blast and fire**
- **full of strong erodible air or powder dust**
- **high temperature**
- **strong vibration or strike**
- **with water,oil dust,chemical splashing**

(2) Please make sure that the wire connection of every pin is set correctly and the power supply is in use limit before it is powered on.

(3) Breaking up,changing and repairing our product by yourself is forbidden

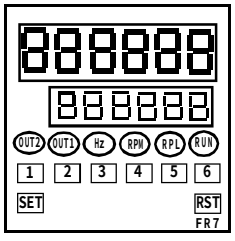
(4) Please by far away from high-voltage,big-current dynamical wire while wire assignment for avoiding anti-jamming.

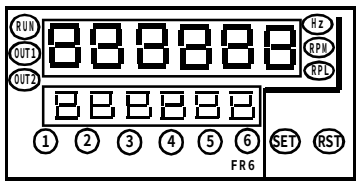
2、Meter characteristics

- ★ **strong anti-jamming ability**
- ★ **two line 6digit LED display**
- ★ **many size can be selectable:96W × 48H、72W × 72H**
- ★ **set the parameter value with touch switch**
- ★ **can be used by cymometer(Hz)、tachometer(RPM);**
- ★ **rate setting range: 0.00001～999999;**
- ★ **two segment setting and output(relay or transistor)**
- ★ **Measured range: 0.1Hz～5000Hz or 6～999999RPM;**
- ★ **Measured decimal point position can be setted;**
- ★ **the meter can supply DC24V power(also manufacture other specification)**
- ★ **4～20mA transmission output;**
- ★ **RS485 communication**

3、Panel function instruction

FR7





FR6

NO	Panel words	Content instruction
1	PV	Real measure data/mode indicator
2	SV	Setting data/mode content indicator
3	OUT1	Output 1 indicator
4	OUT2	Output 2 indicator
5	Hz	cymomter indicator
6	RPM	tachometer indicator
7	RPL	line speed meter indicator
8	RUN	meter run indicator
9	SET	Confirmation key
10	RST	Reset key
11	1-6	NO.1 to 6 bit number setting key,parameter modifying key

4、Type distinguishing

FR ■ — ■ — ■ ■ ■

size	code
DIN96×48	6
DIN72×72	7

output function	code
display only	F0
one section	F1
two section	F2

output	code
relay	R
transistor	T

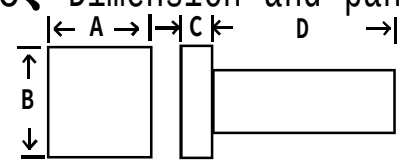
transmission	code
none	0
4-20mA	I

comuntication	code
none	0
RS485	2

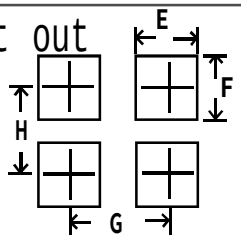
5、Characteristics index

Power voltage	85V-265VAC,50Hz/60Hz(available to select 10-50VDC input)
Electric power consumption	5VA MAX
Output method	Relay contact output or transistor output
Relay contact capacity	250VAC/3A或30VDC/5A
Transistor output capacity	30VDC/50mA
Exterior power supply	DC24VD DC50mA MAX(also manufacture other specification)
Insulated resistance	≥100MΩ
Resisting irrelated signal interference	Power：±2000V，input：±500V
Resisting vibration	10～55Hz/0.75mm
Parameter keeping	10 years
Ambient temperature	0～50℃
Ambient humidity	35～85%RH
Signal input	pulse：5V≤H≤30V 0≤L≤2V
Impedance input	≥10KΩ
Rate setting range	0.00001～999999
precision	0.1%F.S±2digit
Measured range	0.1～5000Hz(cymometer) 6～999999RPM(tachometer)
Measured period	GAT=0.5s：2～5000Hz(cymometer) 120～999999RPM(tachometer) GAT=1s：1～5000Hz(cymometer) 60～999999RPM(tachometer) GAT=5s：0.2～5000Hz(cymometer) 12～999999RPM(tachometer) GAT=10s：0.1～5000Hz(cymometer) 6～999999RPM(tachometer)

6、Dimension and panel cut out



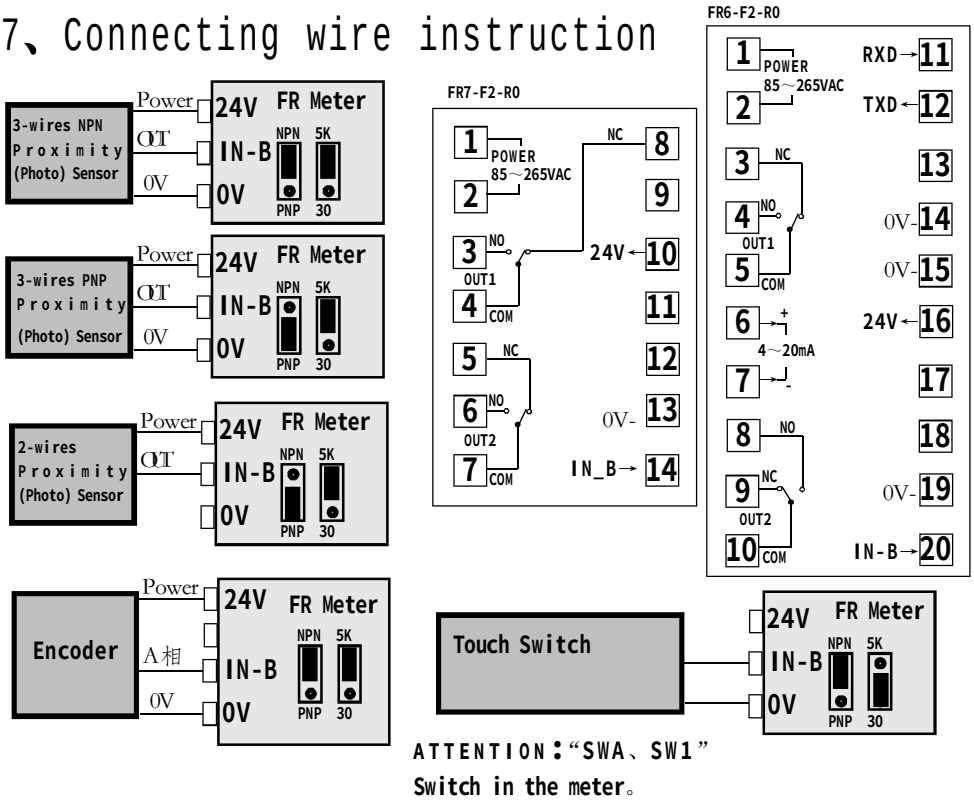
Appearance



dimensions

type \ size	A	B	C	D	E	F	G	H
FR6	96	48	14	80	90+0.5	44+0.5	90	126
FR7	72	72	14	80	68+0.5	68+0.5	104	104

7、Connecting wire instruction



ATTENTION："SWA、SW1"
Switch in the meter。

8、Key operation

Initial data setting meethod

Measurement state
→ Press SET key
→ SV2 indicator bright / SV2 — Press 1-6 number key modify SV1
→ Press SET key
→ SV1 indicator bright / SV1 — Press 1-6 number key modify SV1
→ Press SET key
→ Measurement state

Measurement state
→ Press SET key
→ LCK lock parameter / 0000 — Press 3-6 any one number key to modify
→ Press SET key
→ ADR communication address / 00 — Press 1-6 any one number key to modify
→ Press SET key
→ BOT communication baud rate / 9600 — Press 1-6 any one number key to modify
→ Press SET key

Meter operation parameter setting method

Measurement state
→ Press SET key 5 second
→ MOD method sign / Hz — Press 1-6 any one number key to modify Hz:cymometer RPM:tachometer RPL:line speed meter
→ Press SET key
→ P rate / 1.00000 — Press 1-6 number key modify SV1; Press RST key to change decimal point position
→ Press SET key
→ DPSV measurement data decimal point position / ----.-- — Press 1-6 any one number key to modify
→ Press SET key
→ GATMeasuredperiod / 1 — Press 1-6 any one number key to modify 0.5、1、5、10 second
→ Press SET key
→ HY alarm hystersis / 0001.00 — Press 1-6 number key modify
→ Press SET key
→ OUL low transmission / 0000.00 — Press 1-6 number key modify
→ Press SET key
→ OUH high transmission / 0100.00 — Press 1-6 number key modify
→ Press SET key

Code	name	Instruction	Initial date
MOD	Measured method	Hz: cymomter RPM: tachometer RPL: Line speed meter	Hz
P	rate	The P can be setted When the MOD is "RPL". example1: Encoder resolution=1000C/T, IF perimeter L=2 π R=1CM, then P=L/1000=1/1000=0.001CM example2: the wheel is being 10 hole, IF perimeter L=2 π R=1CM, then P=L/10=1/10=0.1CM	1.00000
DPSV	measurement data decimal point position	DPSV=------: 0～5000Hz（0 decimal point） 0～999999 RPM DPSV=-----.-: 0.0～5000.0Hz（1decimal point） 0.0～99999.9 RPM DPSV=---.--: 0.00～999.99Hz（2decimal point） 0.00～999.99 RPM DPSV=--.---: 0.000～99.999Hz（3decimal point） 0.000～99.999 RPM	-----.-
GAT	Measured period	GAT=0.5: 500mS(Measured one tims);GAT=1: 1second(Measured one tims); GAT=5: 5second(Measured one tims); GAT=10: 10second(Measured one tims);	1
HY	alarm hystersis	the parameter can not be modify when the meter be ues with display only	000.0
OUL	low transmission	the parameter can be modify when the meter be provided with transmission	0000.0
OUH	high transmission	the parameter can be modify when the meter be provided with transmission	1000.0
ADR	communication address	the parameter can be modify when the meter be provided with communication	00
BOT	communication baud rate	the parameter can be modify when the meter be provided with communication	9600
LCK	lock parameter	LCK=0000, all the parameter can be modify; LCK=0001, all the parameter can not be modify but "LCK SV1 SV2"; LCK=else, all the parameter can not be modify but "LCK ";	0000

GAT(Measured period)	Measured range
0.5second	2～5000Hz(cymometer) 120～999999RPM(tachometer)
1second	1～5000Hz(cymometer) 60～999999RPM(tachometer)
5second	0.2～5000Hz(cymometer) 12～999999RPM(tachometer)
10second	0.1～5000Hz(cymometer) 6～999999RPM(tachometer)

Attached picture : output method logic relationship