

Dear clients, thanks for choosing IBEST DPF Series frequency-tacho-linespeed meter! Before installing and operating the products, please read this instruction manual carefully. For any questions, please contact our sales people immediately.

PREREAD INSTRUCTIONS

SAFETY CAUTIONS:

- Make sure the power is at "OFF" status before connecting the wires to avoid electric shock and strictly follow the connection diagram given out by the factory.
- Make sure the power OFF when cleaning the product.
- Working beyond the stated power supply (90-250V AC) is prohibited so as to avoid damage to the product or cause fire.
- Make sure the OUTPUT RELAY is used at the rated load and electrical life, if the contact of the output reply works against the electrical life, it may melt or burned or even cause fire.
- Install power switches and circuit breaker for power safety.

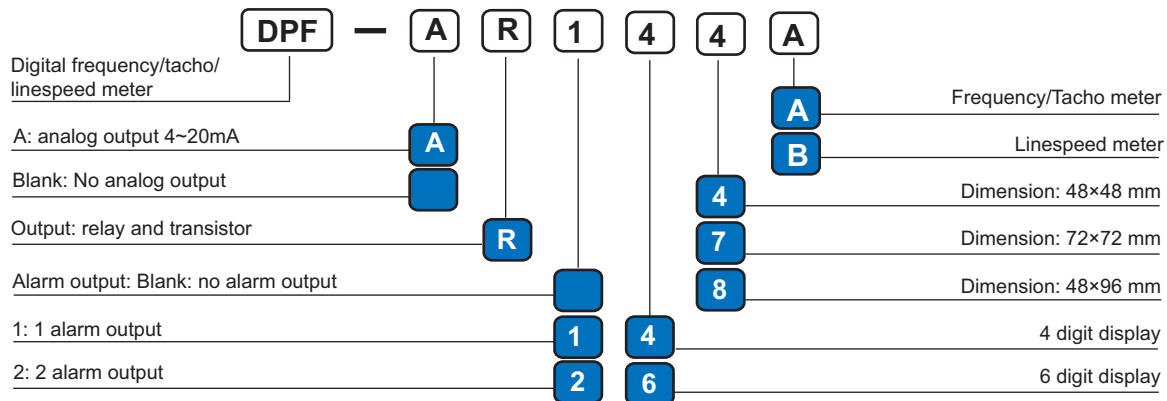
STOCK AND MAINTAINENCE NOTICE:

- Try to avoid interfere headstream, input signals cable should not be too long, better to use twisted-pair shielded cable, shielded layer connected with singals low end.
- Prevent from violent vibration, shock and incursion of heavy dust.
- Stock long terms at 0~50 °C , under 35~85%RH environment.
- When instrument power supply has noises, paticularly when inductive voltage caused by relay or contact devices switch ONand OFF result in serious interference, must configure filter or rheostat or noises absorber.

1.FEATURES

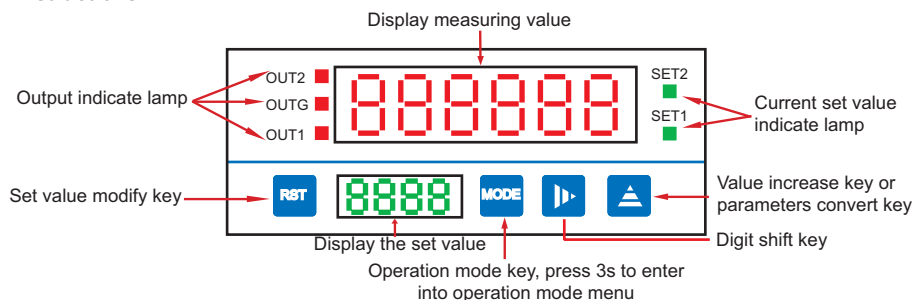
- Measuring object: frequency and tacho or linespeed.
- Red LED display, 14.2 mm high.
- Soft buttons, easily operate.
- Measuring range: max.9999(4 digit), 999999(6 digit).
- Measuring frequency is selectable: 1KHz / 10KHz.
- Decimal point and modulus can be set freely;
- Refresh time and zero-return time can be set within 0~9s.
- Power fail holing function, up to 10 years.
- With or without analog output:0~20mA or 4~20mA
- Relay and transistor output at the same time (to drive solid state relay)

2.ORDERING CODE



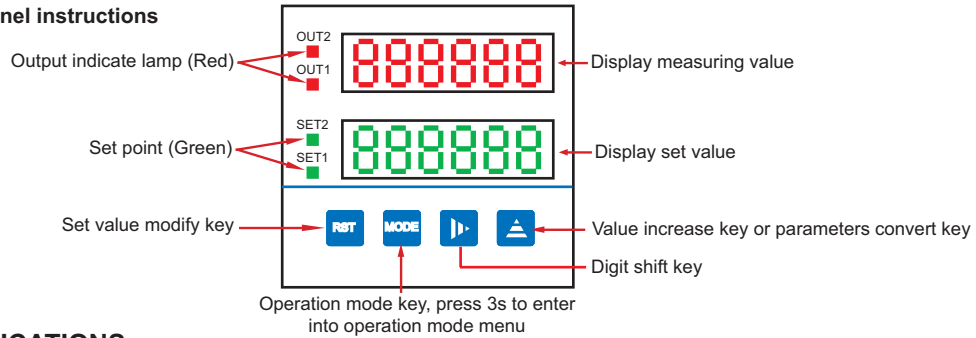
3.PANEL INSTRUCTIONS

a. 48×96mm panel instructions



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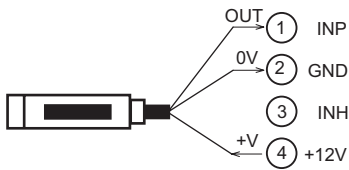
b. 48x48mm / 72x72mm panel instructions



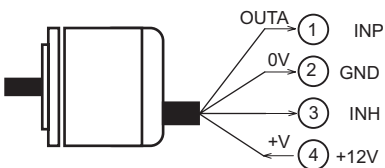
4. TECHNICAL SPECIFICATIONS

Power supply:	90~250V AC 50/60HZ
Power consumption:	≤ 5VA
Transmitter supply	12V DC ±10% max.50mA
Measuring range	When measuring range=1KHz: 0.11~1KHz When measuring range=10KHz: 0.11~10KHz
Input signals:	Contact input, volate input, transducer input Input signals low voltage: 0~2V, high voltage: 4~30V, input resistance: 5KΩ
Sampling speed:	0.5~9s, sampling speed auto-adjust with input pulse width
Refresh time:	Refresh after sampling finishes or manual set refresh time from 1s to 9s.
Display range:	0~9999 (4 digit) / 0~999999 (6 digit)
Over flow indication	" - - - - " (4 digit) / " - - - - - - " (6 digit)
Output restrain:	When terminal end INH input high voltage, all outputs are restrained.
Insulation strength	100MΩ/min (use 500V DC MΩ meter to measure)
Withstand voltage	AC 2000V, 50/60 Hz (1m)
Ambient temperature	0~50°C 35~85%(RH)

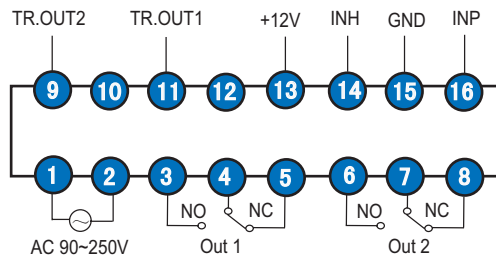
5. ELECTRICAL CONNECTION DRAWING



Single Proximity/Photoelectric sensor



Rotary encoder



Note:

- INP is signal input terminal
- INH: output restrain signals input terminal
- TR. OUT and TR.OUT2 are the 1st and 2nd transistor or open collector output terminal
- OUT1 and OUT2 are the 1st and 2nd relay output terminal
- If the connection drawing doesn't correspond to the drawing on the product, please according to the drawing on the product.

6. OPERATION INSTRUCTIONS

a. 1 set stage operation instructions:

- ENTER SET VALUE PROGRAM:** press "RST" key once to inter into modifying set value program, highest digit is flashing (note: when LOCK=KP-2 or LOCK=KP-3, set value program is locked and can't enter).
- SET/MODITY SET VALUE:** press "▶" key to shift digit, press "▲" key to increase value.
- ESCAPE SET VALUE PROGRAM:** set or modified value can be automatically saved in the instrument. To escape the menu, press "RST" key or no operaiton after 10s can quit the menu and return to mesuring estate.

b. 2 stage counter operation instructions:

1. CONVERT DISPLAY OF CURRENT SET VALUE : "SET2" lamp ON: current display is high limit set value; "SET1" lamp ON: current low limit set value, by pressing "▲" key to convert current display of high and low limit set value.
2. MODIFY HIGH LIMIT SET VALUE: first to convert high limit set value to current display value; next to modify value method same as 1 stage.
3. MODIFY LOW LIMIT SET VALUE: first to convert low limit set value to current display value, next to modify value method same as 1 stage.
4. Modified value can be automatically saved in the instrument. To escape the menu, press "RST" key or no operation after 10s can quit the menu and return to measuring estate. (Note: when "LOCK parameter="KP-1" or "KP-3", the parameters are locked and read only)

c. Comparator output:

1. High limit output: measuring value \geq high limit set value, relay OUT2 or transistor open collector TR.OUT2 output, OUT2 lamp (or HI) lamp ON (1 stage has only high limit output).
2. Low limit output: measuring value \leq low limit set value, relay OUT1 or transistor open collector TR.OUT1 output, OUT1 lamp (or LO) lamp ON .
3. Relay contact output: AC 250V 3A resistance load.
4. Open collector output: 30V DC max.100mA max.

d. Update time:

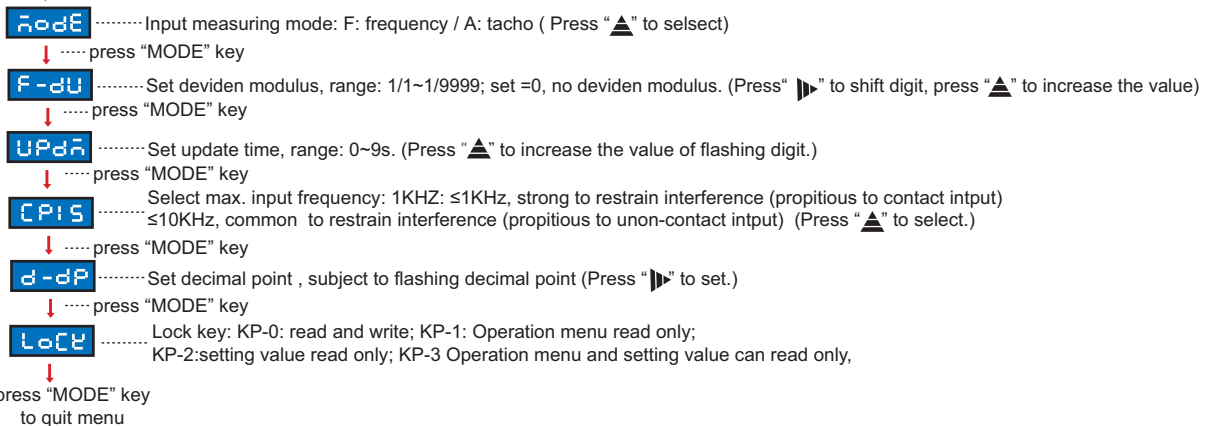
1. Update means is time interval of displaying measuring value. Displaying value and comparator output refresh meantime, refresh time can be set by parameter "UPDA" in operation menu, range: 0~9S. When UPDA=0, instrument refresh displaying value and comparator output status immediately after system finishes sampling .
2. Update time can be set according to needs of system, e.g.: a system request to return to "0" immediately after stopping input signals, user can set small update time to comply with system; another example of measuring non-average speed equipments, request displaying value not to change quickly, in this case, to set bigger update time, system will automatically increase filter modulus.
3. Note: for low speed equipments, in particular when input signals frequency ≤ 1 Hz, better to set update time(UPDA)=0; if set quick update, possibly cause update cycle<sampling cycle and displaying value bicker between measuring value and "0".

e. Operation parameters menu for frequency and tacho meter:

1. Press "MODE" key for 3s to enter into operation parameters menu, higher line display parameters, lower line displays parameters set value, press "MODE" key to move to next parameter. By pressing "▶" and "▲" key can modify parameters value, modified value automatically saved in instrument. To escape menu, by pressing "RET" key or no operation in 10s. (Note: when LOCK=KP-1 and LOCK=KP-3, except LOCK, other parameters are locked and read only.)

2.Parameters value and operation method:

Press "MODE" key for 3s



3. Example of tacho meter:

On the roller equipments, to use a rotary encoder to measure roller tacho, rotary encoder pulse=10 P/R, and request tacho meter to display direct roller tacho, method refer to below:

- a. Connect all necessary wires of tacho meter according to connection drawin on product, power ON.
- b. Enter into operation parameters menu, set input measuring mode=A(tacho).
- c. Set deviden modulus=10 (other parameters value set by user's needs)

f. Operation parameters menu for linespeed meter:

1. Press "MODE" key for 3s to enter into operation parameters menu, higher line display parameters, lower line displays parameters set value, press "MODE" key to move to next parameter. By pressing "▶" and "▲" key can modify parameters value, modified value automatically saved in instrument. To escape menu, by pressing "RET" key or no operation in 10s. (Note: when LOCK=KP-1 and LOCK=KP-3, except LOCK, other parameters are locked and read only.)
- 2.Parameters value and operation method: (refer to next page)

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Press "MODE" key for 3s

- SCAL** Set multiplication modulus, range: 0.001~9999; set =0, no modulus. (Press "▶" to shift digit, press "▲" to increase the value)
↓ press "MODE" key
- F-dU** Set deviden modulus, range: 1/1~1/9999; set =0, no deviden modulus. (Press "▶" to shift digit, press "▲" to increase the value)
↓ press "MODE" key
- UPdA** Set update time, range: 0~9s. (Press "▲" to increase the value of flashing digit.)
↓ press "MODE" key
- CPIS** Select max. input frequency: 1KHZ: ≤1KHZ, strong to restrain interference (propitious to contact input) ≤10KHZ, common to restrain interference (propitious to unon-contact input) (Press "▲" to select.)
↓ press "MODE" key
- d-dP** Set decimal point , subject to flashing decimal point (Press "▶" to set.)
↓ press "MODE" key
- LoCK** Lock key: KP-0: read and write; KP-1: Operation menu read only; KP-2:setting value read only; KP-3 Operation menu and setting value can read only.
↓
press "MODE" key to quit menu

3. Example of linespeed meter:

On the roller spelt equipments, roll circle C=0.5m, to use a rotary encoder to measure roller linespeed, rotary encoder pulse=10 P/R, and request tacho meter to display direct roller linespeed, method refer to below:

- a. Connect all necessary wires of tacho meter according to connection drawin on product, power ON.
- b. Enter into operation parameters menu, set multiplication modulus=0.5 and deviden modulus=10, unit: X m/s. (other parameters value set by user's needs)

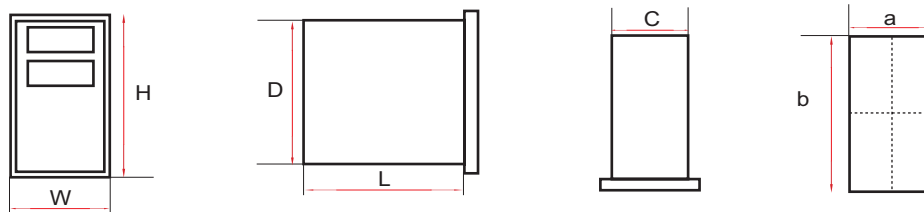
g. Analog output adjustment:

Set analog high and low limit value according to analog output, optic isolated.

Analog output current: 4~20mA, load≤600Ω; or Analog output voltage: 0~10V, load≥10KΩ, accuracy: ±0.5%F.S

- LoCK** Lock key: KP-0: read and write; KP-1: Operation menu read only; KP-2:setting value read only; KP-3 Operation menu and setting value can read only.
↓ press "MODE" key
- AO-H** Set analog high limit value, press "▶" key to shift digit, press "▲" key to increase value.
↓ press "MODE" key
- AO-L** Set analog low limit value, press "▶" key to shift digit, press "▲" key to increase value.
↓
press "MODE" key to quit menu

7.DIMENSION AND INSTALLATION HOLE DIMENSION(unit: mm)



MODE	DIMENSION		INSTALLATION HOLE DIMENSION a × b (mm)
	W × H(mm)	C × D × L(mm)	
DPF-□R□□4□	48 × 48	44 × 44 × 80	(45) × (45)
DPF-□R□□7□	72 × 72	67 × 67 × 112	(68) × (68)
DPF-□R□□8□	48 × 96	43 × 91 × 112	(44) × (92)

8. PACKAGING NOITICE

- a, Compleete packaging includes: instrument, instrument supports brackets and screws, instrument user manual, product label, connection drawing label, QC label.
- b, Guarantee peroid: 12 months from date of shipping.