



Mianyang Weibo Electronic Co.,Ltd

*Designing, Manufacturing and Supplying WB Series Electric Isolated Sensor and Digital
Electrical Transducer since 1989*

USER MANUAL

WB1876B05 harmonic analyzing module

RS485 MODBUS RTU



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ISO9001 ISO14000 ISO18000

Certified

Quality Warranty

Any quality problem found in WB series products, we offer

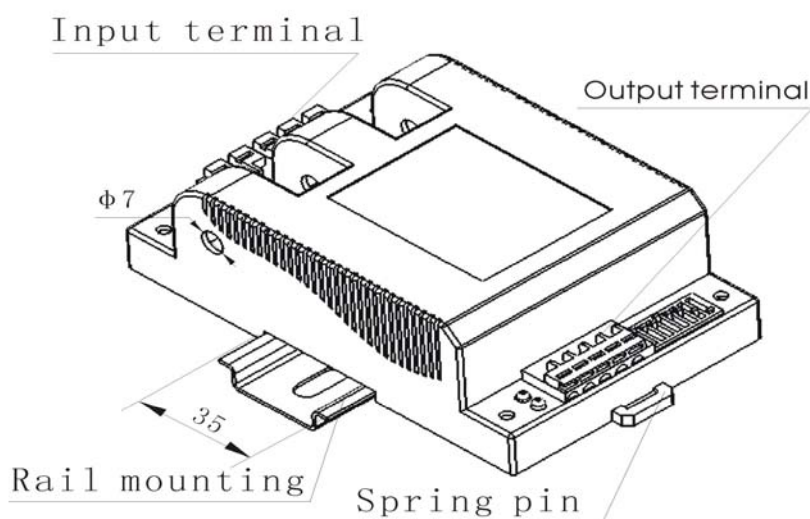
Three years free charge of repair the products, and six months guaranteed free charge of change and return the products.

WB1876B05 multifunction transducer

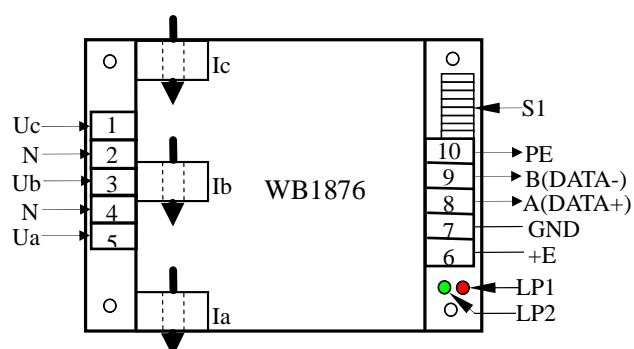
Product Description and Application

WB1876B05 has been adopted electromagnetic isolation principle, professional MCU controller for isolate and measurement of full electric quantities from three-phase four-wired system. Measured electric parameters are neutral-to-phase voltage, phase to phase voltage, current, active/reactive power, apparent power, power factor, frequency, energy, etc. the output is RS485 communication port. The product has certain advantages of total galvanic isolation between input/output and auxiliary power, high accuracy, compact and small, low drifting by temperature, and wide temperature bearable range, and cost effective.

Product Dimensional Drawing (unit: mm)



Product Terminal Identification Drawing



In the drawing:

- (1) AC voltage: U_c , U_b , U_a input wire connected by terminals; N—neutral; AC current I_c , I_b , I_a input connected by pass window;
- (2) +E—auxiliary power positive end; GND—ground for auxiliary power;
- (3) A (DATA+), B (DATA-)—terminals for RS485 communicate port;
- (4) LP1—power indicated LED, LP2—communication indicated led;

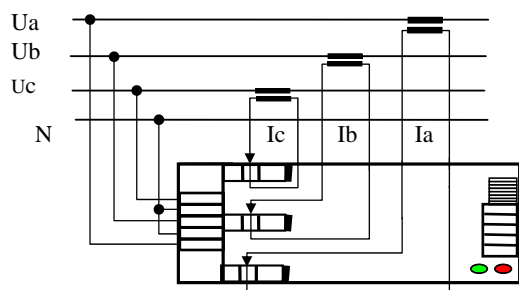
(5) PE—ground for communication port, connected with control cabinet or earth;

(6) S1— 8 bit DIP switches (k1,k2,k3,k4,k5,k6,k7,k8) ;

Terminal definition table

1	Uc	6	+E
2	N	7	GND
3	Ub	8	A(DATA+)
4	N	9	B(DATA-)
5	Ua	10	PE

Wiring



Key Technical Data:

1. Three-phase four-wired system;
2. Input:
 - Current: 0-5A
 - Voltage: 0-270V
3. Accuracy : 0.5%
 - I,U,F, S (apparent power): 0.2%
 - P,Q,PF (cos ϕ): 0.5%
4. Linear Range: Voltage :10%-120% of nominal input
 - Current: 1%-120% of nominal input
 - Frequency: 45Hz~55Hz
 - Power Factor (cos ϕ): 0.5 (lag) ~1.0~0.5 (lead)
5. Responding Time: 300mS
6. Over Load Capacity:
 - 2 \times of nominal input voltage, for 1 second, interval 10 seconds, can repeat about 10 times;
 - 20 \times of nominal input voltage, for 1 second, interval 300 seconds, can repeat about 5 times;
7. Bus Protection: can be endured 400W transient pulse voltage; automatic cut off under powered condition, and ESD protection;
8. static current: 30mA
9. Auxiliary Power:+24V,dc

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10. Isolation Voltage: Input/output, 2500Vdc, for 1 minute;
Input/auxiliary power, 2500Vdc, for 1 minute;
Auxiliary power/output, 2500Vdc, for 1 minute;
 11. Means of communication: half-duplex;
 12. Communication Protocol: RS485 MODBUS RTU;
 13. Baud Rate : $\leq 19.2\text{KBPS}$ (default 9600BPS);
 14. Communication Node and distance: 64 nodes, 1200m;
 15. Means of Data Transmitting: start 1 bit, data 8 bit, stop 2 bit, non parity;
 16. Drifting by Temperature: $2.0 \times 10^{-4}/^{\circ}\text{C}$
 17. Ambient Temperature: $0^{\circ}\text{C} \sim +50^{\circ}\text{C}$
 18. Mounting : DIN Rail 35mm Mounting