GCWJ-01
MICROPROCESSOR MONITORING SYSTEM PRODUCT INSTRUCTION

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GCWJ-01 Microprocessor Monitoring System Production INSTRUCTION

A. General

GCWJ-01 microprocessor monitoring system is mainly used for measure, calculation, graphic display, out of limit alarm, record etc. of heat engineering parameter. Host computer of this device adopts industrial computer which has independent intellectual property of Guangcai, the system has passed CCS's inspection and legalize, complete set software runs under the condition of WIN2000. The software adopts latest edition of PCAuto5.0 which is developed by Beijing Sunwayland Control Technology Co.,Ltd. , so the host computer has characteristics as operational efficiency, rapid reaction ,timely display and alarm.

B. Main function and characteristic

1. Host computer software runs under the condition of WIN2000;
2. Adopting running mode of computer duplex redundancy, standby host computer will put into service when host computer appears failure;
3. Having watchdog function,may restrict random operation by laypeople;
4. Having display function for polychrome graphics(according to customer's requirements,may be drawn specially);
5. Having display function of analogue instrument;
6. Having display function of alarm list;
7. Having display function of filing content for alarm ;
8. Having print function;
9. Alarm detection parameter is saved in electronic memory

automatically, memory's capacity may be adjusted properly according to quantity of detection parameter, can't be less than 2G;

10. Content displayed may be freely defined on the spot according to customer's requirements;
11. No matter what content displayed on LCD / CRT, alarm quick display window will pop up automatically and send out acoustic alarm in time once a new alarm given.
12. According to parameter which is set,acoustic alarm will be sent out when parameter is out of limit, meanwhile entire current parameter of check point will be saved in electronic memory automatically, which is for inquiring;
13. Having function of inquiry for historical alarm ;
14. Having extension function of alarm information (continue to WH/C, chief engineer room etc.);
15. Having VDR extension alarm interface, may transmit all information collected to VDR through NMEA - 0183 data format in time.
16. Anti-jamming ability is strong,frees from disturbance of ambient harmonic, it also won't send out harmonic to disturbance other equipment.

C. Technical Specification

1. Power Supply: AC220V / DC24V (ripple factor ≤±5%, voltage fluctuation ≤±20%);

Two routes power supply may be switched over automatically.

2. Working Temperature:-10℃~+55℃;
3. Other conditions as:incline, wobbling, vibration, damp air, salt mist, oil mist and mycete are all conform with marine request;
4. Power: host computer each set 150W

LCD / CRT display 17" 120W, 17" 220W

Printer 150W

5. Accuracy Of Measurement ±0.5% (sensor, transducer are not included);

6. Applied sensor, transducer(ordinary user select by themselves, #_ is optimum specification)

(1) Hot Resistance

* Platinum Resister:#_Pt100, PT10
* Copper Resister:Gu50, CU100

(2) Thermocouple

* Nickel Chromium Triangle-Nisiloy #_K
* Nickel Chromium Triangle- Constantan #_E
* Copper- Constantan T
* Platinum Rhodium 10 - Platinum S
* Platinum Rhodium 30-platinum Rhodium B
* Platinum Rhodium 13-platinum R
* Iron- Constantan J

(3) Pressure, liquid level, current, voltage, power etc. transducer (sensor)

*Resister Signal

* Current Signal:#_4-20mA,0-20mA,0-10mA
* Voltage Alarm:0-5V,1-5V,0-10V

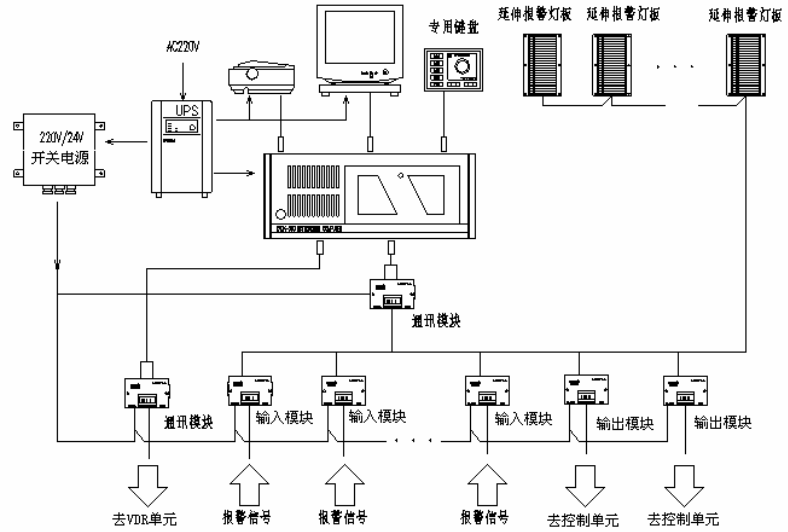
(4) Binary Sensor

* Contact signal uncharged (dry contact signal) #
* Contact signal with volts D.C. (active contact signal)

(5) Tacho-generator

* magnetoelectric type sensor

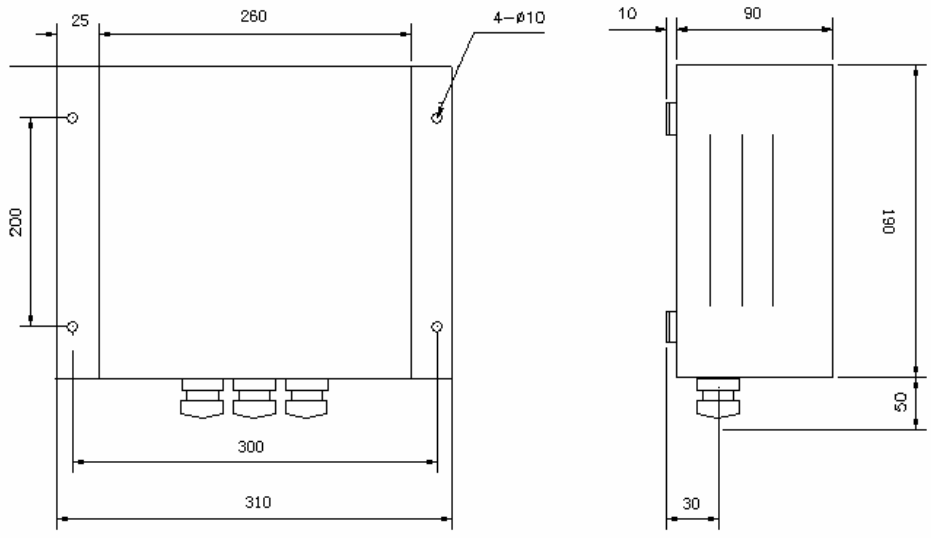
D. Composition



1. Industrial control computer system is "heart" of the device, its function is calculating the signals sent by acquisition module, controlling each display unit display unit(for instance display etc.), output unit and operating orders sent by operating keyboard.

Both power supply and input, output interface of industrial control computer system adopt standard interface form, which is simple for connection and maintain.

Specific dimension is referred in following drawing;

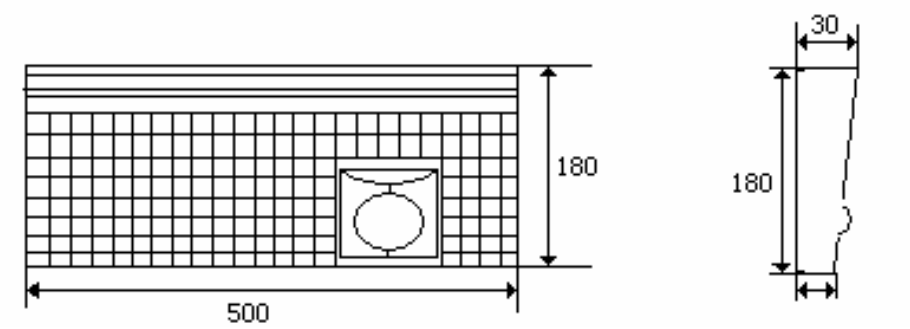


2. Operating Unit

Trackball and standard keyboard are arranged on operating unit, its operation is convenient and reliable just like normally using

computer.

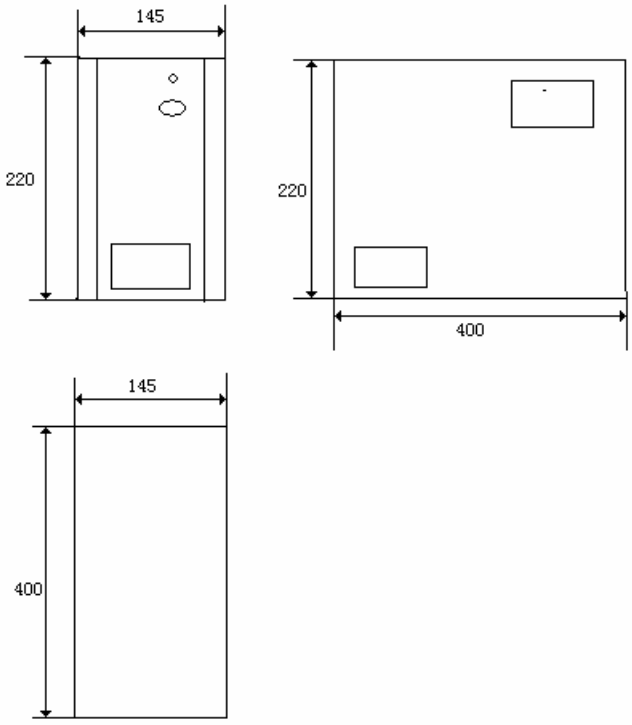
Specific dimension is referred in following drawing:



Dimensional Drawing of Operating Unit

3. UPS Power Supple Unit

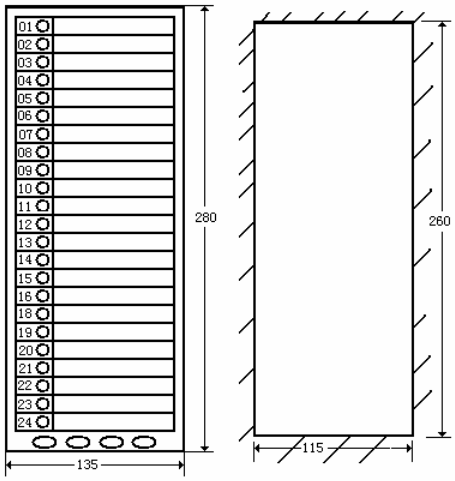
When AC220V main power works normally, UPS(1000W) is being charged, and when main power blacks out, UPS acts as output power. This makes the maintainers have enough time to normally shut off or betimes maintain the alarm system according to actual conditions, until main power restores working. Specific dimension is referred to above.



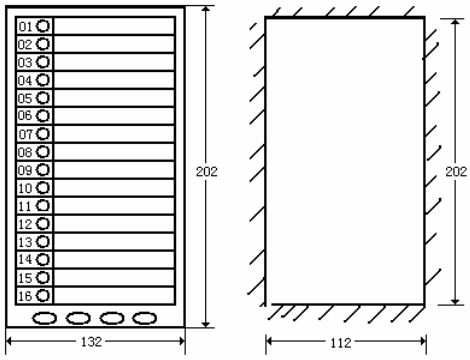
When main power is normally cut off, UPS must be shut, or UPS may spoil as no power.

4. Extension Alarm Lamp Panel(optional component)

Generally extension alarm lamp panel is set in important cabins as W/H, chief engineer room etc., for indicating come important alarm condition. When the point alarms, relative indicating lamp on alarm lamp panel will flash, together with alarm sound.



24-route extension alarm lamp box



16-route extension alarm light box

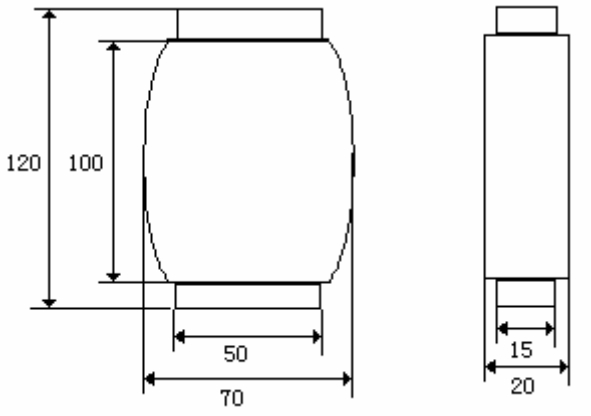
Extension alarm lamp panel matched to GCWJK - 06 alarm device adopts standard RS 485 communication mode, dimension of panel are divided into 2 forms (specific dimension referred to above), 16 points/ piece and 24 points/ piece. Selection of alarm lamp panel may be confirmed according to installation position of panel and number of alarm point.

5. Data Acquisition Module, Data Output Module and

Communication Module Data acquisition module, output module and communication module all adopt Yanhua R-8000 series or SCHPEIDER series products, the function of acquisition module is processing information of analog, binary which need be collected through interior data processing unit, and then transmit to data acquisition communication module in mode of standard RS - 485 which suits long range's data transmission, this guarantee the validity of data collected. The function of data acquisition communication communication module is changing over communication mode between RS - 232 and RS - 485.

VDR data communication module is communication conversion device between industrial control computer system and VDR device. It could send information needed by VDR through standard interface. Power input of module is DC24V.

Specific dimension referred in following drawing (dimensions of acquisition module, output module, communication modulue are same)

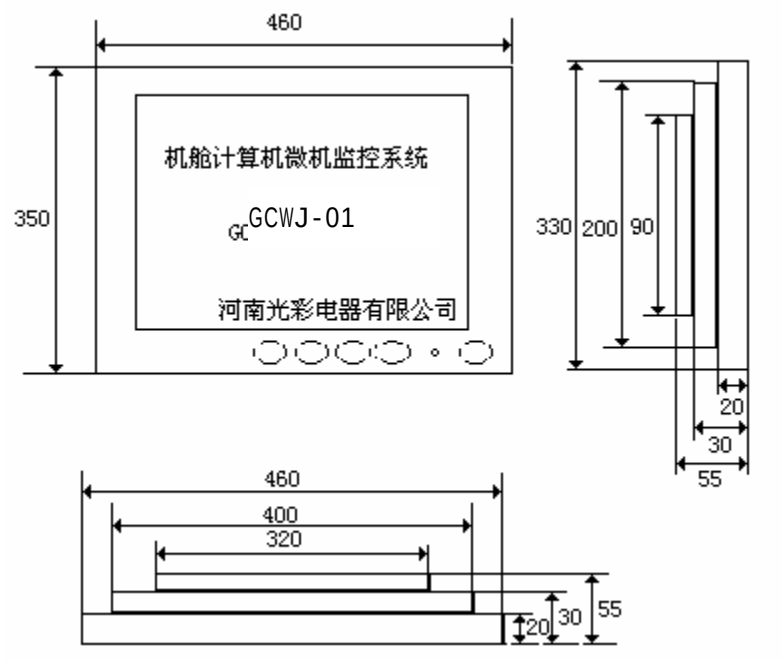


6. Other Component(display, printer etc.)

Both display and printer in the system adopt standard component, interface with working control engine is connected by random patch cord, construction work and servicing are very simple.

Display: LCD17" (or 15") display or CRT17"(or 15") display, physical system can be changed according to customer's requirements at the time of being configured.

Dimension of 17" LCD referred in following drawing:



Printer:adopting mini-type printer of Rongda series, using continuous forms paper, physical system can be changed at the time of being configured according to customer's requirements.

Specific dimension referred in following drawing: