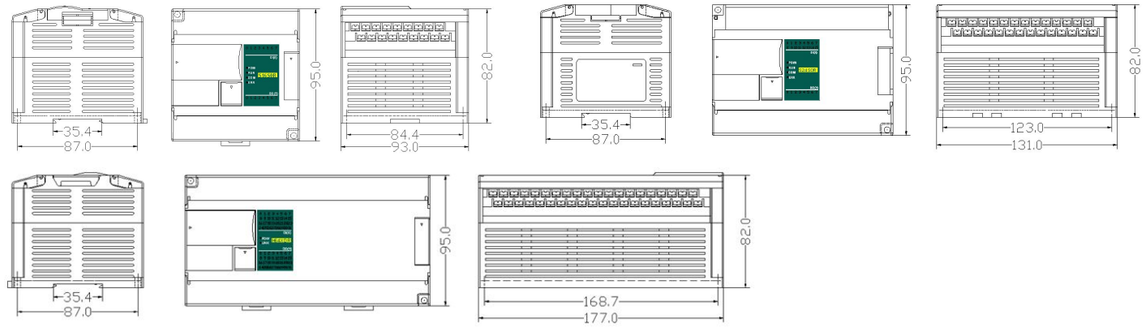
# Haiwell　User's manual of Haiwell C series MPU



## 1.Product Model List

| Model | Power Consumption (24VDC) | Model | Power Consumption (220VAC) | Dimension | Model | Power Consumption (24VDC) | Model | Power Consumption (220VAC) | Dimension |
|---|---|---|---|---|---|---|---|---|---|
| C10S0R | 1.5VA | C10S2R | 4VA | 93×95×82mm | C48S0R | 4VA | C48S2R | 6.5VA | 177×95×82mm |
| C10S0T | 2.5VA | C10S2T | 4.5VA | | C48S0T | 5VA | C48S2T | 7.5VA | |
| C16S0R | 2.5VA | C16S2R | 5VA | | C60S0R | 4.5VA | C60S2R | 7.5VA | |
| C16S0T | 3.5VA | C16S2T | 5.5VA | | C60S0T | 5.5VA | C60S2T | 8VA | |
| C24S0R | 3VA | C24S2R | 5.5VA | 131×95×82mm | | | | | |
| C24S0T | 4VA | C24S2T | 6.5VA | | | | | | |
| C32S0R | 3.5VA | C32S2R | 5.5VA | | | | | | |
| C32S0T | 4 VA | C32S2T | 6.5VA | | | | | | |




## 2.Indicator Description

① POW:Power indicator,green. Continuous ON - Power good; OFF - Power error.
② RUN:Running indicator,green. Continuous ON - PLC is in running state; OFF - PLC was shutdown.
③ COM:Communication indicator,green. Flickering - PLC is in communicating state, the flicker frequency indicates the speed of the communication; OFF - No communication.
④ ERR:Error indicator,red. Continuous ON - Hardware failure; Flickering - Software failure; OFF - Normal state.

According to the different states of the Error indicator, users are recommended to take the following actions:

| State of the Error Indicator | Indication Information | Actions to Take |
|---|---|---|
| OFF | No error | Nothing |
| Flicker as below:<br>0.5 second's on with 0.5 second's off | Firmware abnormal or program error, keep running　program is not recommended | Re-upgrade firmware or modify program |
| Continuous ON | Hardware failure, program is unable to run | Send the PLC back to us for repair |

## 3.Power Supply Specification

| Item | AC Power Supply | DC Power Supply |
|---|---|---|
| Power Supply Voltage | AC85~265V | DC24V　-15%~+20% |
| Power Supply Frequency | 50~60Hz | —— |
| Power Consumption | 25VA　MAX | —— |
| Instantaneous Surge | 20A 1.5ms MAX @220VAC | 20A 1.5ms MAX @24VDC |
| Power Loss Time | 20ms or less @220VAC | 10ms or less |
| Fuse | 2A, 250VAC | 2A, 250VAC |
| 5V Output Voltage (for CPU) | 5V, -2%~+2%, 1.2A MAX | 5V, -2%~+2%, 1.2A MAX |
| 24V Output Voltage (for output and extension) | 24V, -15%~+15%, 500mA MAX | 24V, -15%~+15%, 500mA MAX |
| 24V Output Voltage (for input and peripheral) | 24V, -15%~+15%, 300mA MAX | Use external 24VDC power supply |
| Insulation Type | Transformer isolation or optoelectronic isolation ,1500VAC/1 minute | No Electrical isolation |
| Power Protection | DC24V output over current | DC input power polarity reverse, over voltage |

## 4.Environmental specifications for Product

| Item | Environment Specification | |
|---|---|---|
| Temperature/Humidity | Operating temperature:0~+55℃　Storage temperature:-25~+70℃　Humidity: 5~95%RH, No condensation | |
| Vibration Resistance | 10~57 HZ, amplitude=0.075mm, 57HZ~150HZ acceleration=1G, 10 times each for X-axis, Y-axis and Z-axis | |
| Impact Resistance | 15G, duration=11ms, 6 times each for X-axis, Y-axis and Z-axis | |
| Interference Immunity | AC EFT:±2500V　Surge:±2500V | DC EFT:±2500V　Surge:±1000V |
| Over Voltage Resistance | 1500VAC/1min between AC terminal and PE terminal, 500VAC/1min between DC terminal and PE terminal | |
| Insulation Impedance | ≧5MΩbetween AC terminal and all input/output points to PE terminal @500VDC | |
| Ground | The third kind of grounding(Connecting to the ground of high voltage system is prohibited) | |
| Operating environment | Avoid dust, moisture, corrosion, electric shock and external shocks | |

## 5.Digital Input (DI)Specification

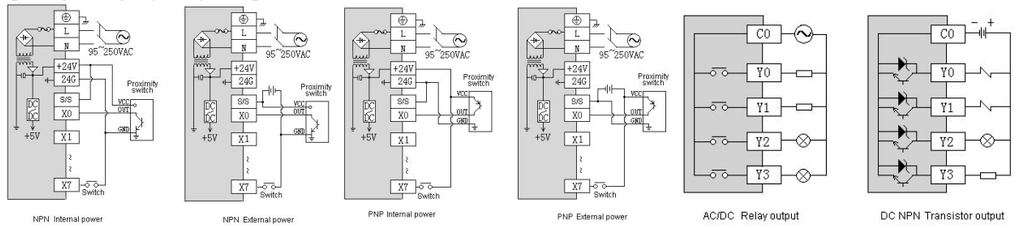
| Item | Digital Input (DI) |
|---|---|
| Input Signal | No voltage contact or NPN/PNP |
| Action driving | ON>3.5mA　OFF<1.5mA |
| Input Impedance | Input Impedance≈4.3KΩ |
| Maximum Input Current | 10mA |
| Reaction Time | 6.4ms DEFAULT, can be configured to 0.8~51.2ms |
| Insulation Type | Optoelectronic isolation for each channel |
| Input Indication | LED's lighting indicates ON, no light indicates OFF |
| Power supply | MPU internal power supply:DC power supply (SINK or SOURCE) 5.3mA@24VDC |

## 6.Digital Output (DO) Specification

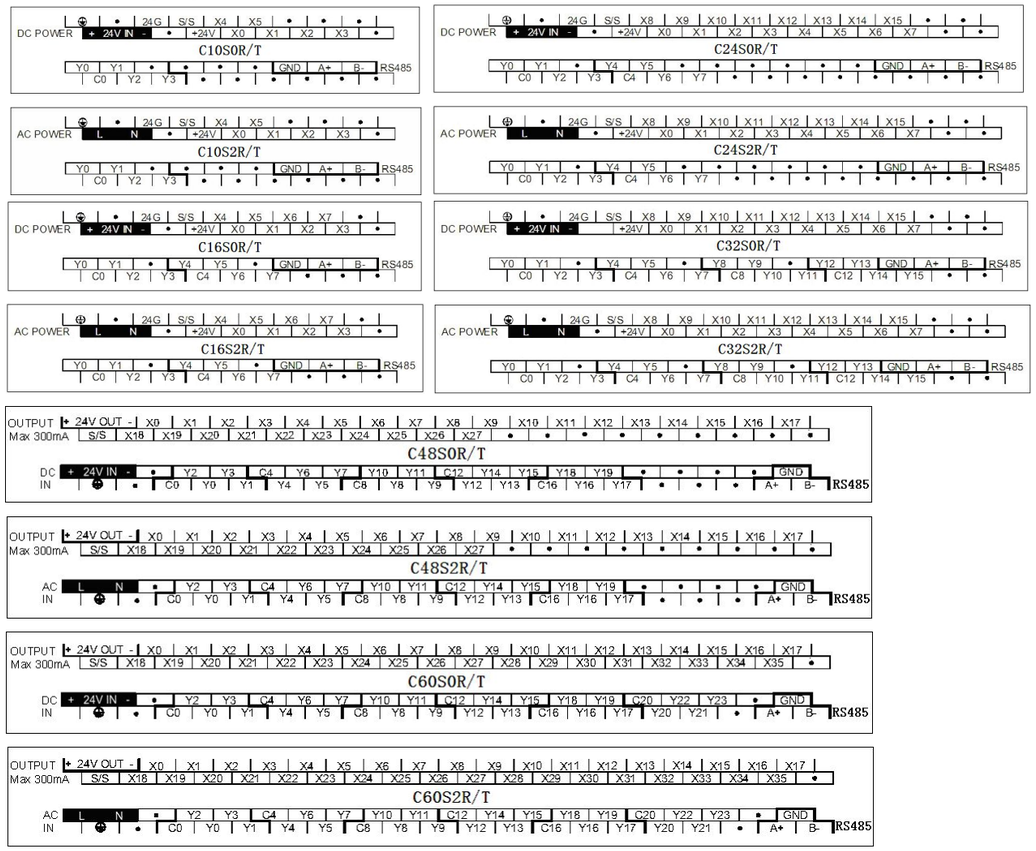
| Item | | Output point type : Relay - R | Output point type :Transistor - T |
|---|---|---|---|
| Maximum load | Resistive Load | 2A/1 point, 8A/4 points COM | 0.5A/1 point, 2A/4 points COM |
| | Inductive Load | 50VA | 5W/DC24V |
| | Lamp load | 100W | 12W/DC24V |
| Minimum Load | | 10mA | 2mA |
| Voltage Specification | | Below 250VAC, 30VDC | 30VDC |
| Drive Capability | | Maximum contact capacity: 5A/250VAC | 1A MAX, 10 seconds |
| Reaction Time | | Off→On 10ms, On→off 5ms | Off→On 10us, On→Off 120us |
| Insulation Type | | Mechanical isolation | Optoelectronic isolation for each channel |
| Output Indication | | LED's lighting indicates ON, no light indicates OFF | |

| Power Supply | MPU internal 24VDC power supply |
|---|---|

## 7.Digital Input/Output (DI/DO) Wiring




## 8.MPU Terminal Wiring Diagram




## 9.Mounting and installation

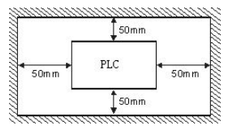
The PLC should be secured to an enclosed cabinet while mounting. For heat dissipation, make sure to provide a minimum clearance of 50mm between the unit and all sides of the cabinet. (See the figure.)

**Rail Mounting:** Use standard 35 mm rail.

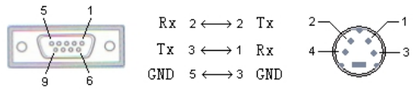
**Screw Mounting:** Each MPU or extension module has two positioning screw holes, the diameter of the hole is 4.5mm. Please refer to the dimension figure fo the location of the positioning holes and their spacing.

To avoid over temperature and for a better heat dissipation, do not mount PLC to a position near to the bottom/top of the cabinet. Do not mount PLC ir vertical direction.

**Extension Module Wiring:** Connections between extension modules and connections between module and MPU are achieved through bus.An extensior cable will be configured to every extension module, for the connection between two different modules.Connection methods: turn the right side of extendec interface(the last MPU or extension module) over, plug the extension cable in the extended interface, then press down the cover of the extended interface tc reset the interface, the extended interface at the right side of the module will be reserved for extension of the next module. Connect all extension modules in turn in the same way.




## 10.Programming Cable Wiring




Computer side (RS-232) DB9 female　　PLC side(COM1) 4 core S terminal male

## 11. Power Supply Wiring

There are two kinds of power supplies for PLC: AC input and DC input. Please pay particular attention to the following notes:

- AC input voltage is 85VAC~265VAC 50/60Hz unless otherwise stated. Connecting any one of the AC input wires to the terminal-L and terminal-N on the MPU will be OK, but for safety's sake, please connect the two wires (Live Wire & Neutral Wire) of AC input to terminal-L and terminal-N respectively.
- ⚠Any AC110V or AC220V connected to the +24V terminal or input points will permanently damage the PLC.
- Please use wires of 2.5mm or above for the grounding of the MPU.

Thanks for choosing Haiwell PLC, If you have any questions about our products or services, please let us know!
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