



FAMA Integrated Adaptive Traffic Controller

Introduction





FAMA Integrated Adaptive intelligent traffic signal controller is an intelligent networking coordination device that is used for traffic signal control on roads and crossings. The device can be used for T-junctions, crossroads, multi-road sections, and traffic signal control on ramps.

It is designed and manufactured in accordance with the GB25280-2016 standard and complies with the GB/T20999-2007 intelligent traffic signal control machine and host computer data communication protocol.

1.1.1 Control Mode

This adaptive controller can run a variety of different control modes and can perform intelligent switching among various control modes. When the semaphore has an unrecoverable fault, it can also perform a degraded operation according to the priority level. In a signaled state with networking, when the network status is abnormal or the center is abnormal, the degraded operation of the specified control mode can also be automatically performed according to the parameters.

It can support the following different control methods:

- * Light off
- * Flash
- * All Red
- * Induction control
- * Single point optimization
- * Master-slave line control
- * System optimization
- * Intervention line control

1.1.2 Signal Control

This controller has a powerful traffic signal control function.

1. Provides up to 96 traffic signal outputs, each with a maximum drive current of 3A; the standard configuration is 48 outputs;
2. The signal traffic signal output adopts phase system;
3. Provide a hardware yellow flash mechanism, output to the signal lamp when the main control unit works abnormally;
4. Detect the short-circuit or dis-connection of the signal lights, and the signal lamp failure can be detected stably, and the failure phenomenon and failure time can be recorded. At the same time, the degradation can be performed according to a predetermined scheme.



5. Provide manual control, step control, all-red, yellow flash, light off, the next phase, the next direction switch, can be directly controlled by the switch to the appropriate state;
6. Support wireless manual control, manual control of all functions within 200 meters;
7. Support GPS timing, positioning information, and can achieve cableless coordination through GPS timing;
8. The signal machine has 8 pedestrian button inputs, with a pedestrian self-help mode, and can achieve a crossing and secondary street functions;
9. Multi-level lightning protection (power and signal output);
10. The signal machine has multi-period signal control function, with a variety of different time period priorities, including holidays and weekends;
11. The signal machine has a sensor control function, which can adjust the traffic signal output through the vehicle signal input by the detector and is divided into semi-induction and full induction;
12. The signal machine has no cable coordination function, can automatically adjust the phase time according to the phase difference (green wave band coordination);
13. Signals have adaptive control function, according to a certain algorithm, the signal green signal ratio adjustment and optimization;
14. Signals have active countdown data output function, output through 485 interface;
15. The controller has a networking function and is capable of downgrading.
16. Signals have traffic detection and storage capabilities, providing up to 64 vehicle detection inputs;
17. Support coil speed function;
18. Supports data storage and printing via USB;

1.1.3 Technical Parameter



The main performance parameters are as follows:

1. Signal output adopts phase system;
2. The signal machine adopts embedded structure 32-bit processor, running embedded LINUX operating system, no need for cooling fan;
3. Maximum 96-channel (32-phase) traffic signal output, standard 48 (16 phase);
4. Maximum 48-channel detection signal input, standard 16-way inductive coil input; can be connected to 16-32 switch output vehicle detector or 16-32 ground coil; can expand 16 serial port type detector input;
5. Has a 10/100M adaptive Ethernet interface that can be used for configuration and networking;
6. Has an RS232 interface, can be used for configuration and networking;
7. With 1 channel RS485 signal output, can be used for countdown data communication;
8. With local manual control function, can achieve local stepping, four red, yellow flash function;
9. With perpetual calendar time, the time error is less than 2s/day;
10. Provides no less than 8 pedestrian button input interfaces;
11. Has a variety of time period priorities, a total of 32 kinds of time base configuration;
12. Have no less than 24 times daily configuration;
13. Optional vehicle traffic statistics period, can store not less than 15 days of traffic data;
14. Stage configuration with no less than 16 stages;
15. With manual operation log, can store not less than 1000 manual operation records;
16. Voltage detection error <math><5V</math>, resolution 1V;
17. Temperature detection error <math><3</math> degrees Celsius, resolution 1 degree Celsius;
18. Rated working voltage: AC (110/220 \pm 20%) V, 50Hz \pm 2Hz;
19. Operating temperature: -40 °C - +75 °C;
20. Relative humidity: 45% - 90% RH;
21. signal insulation resistance > 100M Ω ; 1500V50Hz does not breakdown in one minute;
22. Total power consumption <math><30W</math> (without external load, heater does not start)

1.1.4 Supplementary functions

1. With temperature and humidity monitoring function;
2. With alarm output function, provide a 12V sound and light alarm to alarm, can cancel the alarm through the button, and can record and upload alarm information;
3. With heating and cooling system, according to the signal cabinet internal temperature automatically controls the heating and cooling system work or not, and can record and upload work status

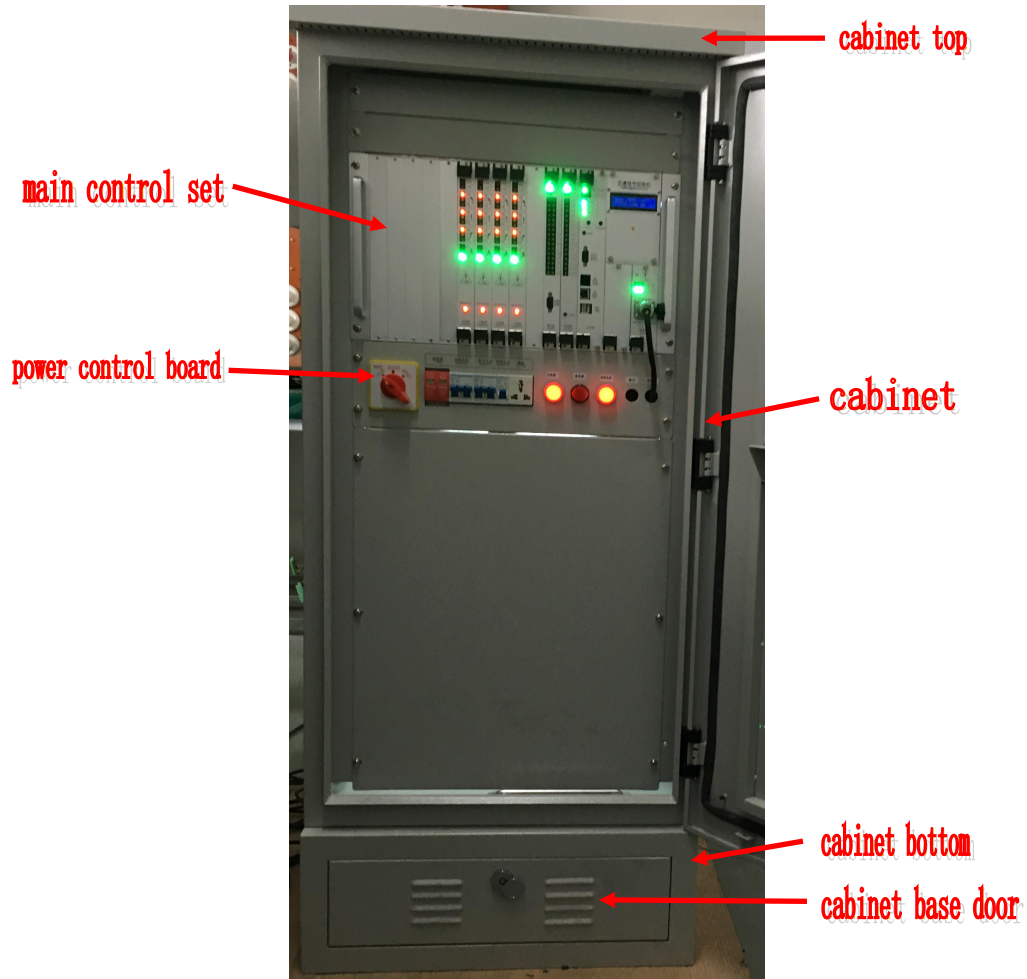


information;

4. With main power and standby power switching function;
5. With power filter and isolation function;
6. The interior of the cabinet has lighting fixtures;
7. The signal generator has a voltage detection function, and can directly indicate the voltage status on the panel, and can record and upload the voltage status information, and perform the high and low voltage protection at the same time;
8. The signal panel has its own LCD screen, which can display the current time, the IP address of the machine, the voltage status, the temperature and humidity status, the current control mode and the current running program number.
9. The mobile phone module can be integrated inside the device, and the internal state and common alarms of the signal machine can be inquired through SMS or GPRS.
10. The device integrates multiple IO control ports for remote device control (relay control).

1.1.5 Other features

1. The internal data bus of the device adopts the CAN bus mode, which makes the communication between the signal boards more stable and reliable, high speed, and convenient for later expansion;
2. The power supply of the box insertion part of the device is considered to use dual power supply redundancy configuration to provide the reliability of the machine and record the power failure time and status;
3. Supports dual-system hot backup of the main control board. When one main control board fails, another main control board takes effect and takes over the signal control.



Rear Side of the controller:

