

Smartgen®

HAT240

Automatic Transfer Switch Control Module

OPERATING MANUAL



Smartgen Electronics

Software Version

Version	Date	Note
1.0	2010-03-30	Original release.

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HAT240 is an **Automatic Transfer Switch Control Module**. The module features 8-Bit microprocessor control. The module is used to monitor two single-phase AC supply. Once I# AC supply failure is detected (under voltage, over voltage), The module Automatically transfer the switch to II# AC supply, and control generator to start.

● FEATURES

- ★ Micro-processor based design;
- ★ Meter two single-phase AC Voltages;
- ★ Configurable priority of supply Able to Set I# supply priority or II# supply priority or NONE supply priority;
- ★ Set AUTO or MANUAL via PUSHBOTTON mounted on the front panel;
- ★ Two isolable N designed;
- ★ 6 LEDs display the status;
- ★ Operational timers can be altered by the customer;
- ★ Control generator to Start.

● SPECIFICATION

- ◇ **AC supply:** 180 to 260 V (50/60Hz) 1.5VA
- ◇ **Under voltage:** 265 ± 5 V, **Under voltage:** 172 ± 5 V.
- ◇ **DC supply:** 9 to 35V(1.5VA)
- ◇ **Relay output:**
 - Relay of close I&II: 16A 250VAC
 - Relay of start genset: 10A 250VAC
- ◇ **Delay timers:**
 - Normal delay time: 0~60s
 - Abnormal delay time: 0~60s
 - Start generator time:
 - 0~90s(after road I is abnormal)
 - Stop generator time:
 - 0~90s(after road I is normal)
- ◇ **Operating Temperature Range:**
 - 20 to +70°C

● DISPLAY SYMBOL



→ Auto Mode



→ Manual Mode



→ gens start time



→ delay time



→ Road I shut button



→ Road II shut button



→ Auto & Manual change button

● OPERATION

SET TIMER

- ◇ “I# AC supply normal timer” potentiometer, Set I# AC supply normal delay time;
- ◇ “II# AC supply normal timer” potentiometer, Set II# AC supply normal delay time;
- ◇ “Genset start timer” potentiometer, Set Genset start delay time when I# AC supply failure.
- ◇ “I# AC supply abnormal timer”, “II# AC supply abnormal timer”, “Genset stop timer” timer configuration:

- 1、 Press both the and button mounted on front panel, then power on, the module enter into timer configuration, while “I# power LED” ,”AUTO LED” ,”II# power LED” is lighted.
 - I# AC supply abnormal timer: Adjust “I# AC supply normal timer” potentiometer;
 - II# AC supply abnormal timer: Adjust “II# AC supply normal timer” potentiometer;
 - Genset stop timer: Adjust “Genset start timer” potentiometer.
- 2、 When completed, pressing the button will save the current settings, and the “I#power LED” ,”AUTO LED” ,”II#power LED” is lighted.
- 3、 If press button, the factory value is restored.
- 4、 Turn off the power supply.

Note:

The factory value:

I#,II#AC supply abnormal timer is 5 second.
genset stop timer is 90 second.

AUTO / MANUAL SETTING:

When the module is working, pressing the button can set the module into **automatic** or **manual** mode (AUTO LED or MANUAL LED will light). In the manual mode, press the button, transfer switch to I# AC supply, press the button, transfer switch to II# AC supply.

SET PRIORITY:

- 1、 While the and and button is pressed at the same

time,power on, the module enter into priority configuration, and the “I# power LED” ,”AUTO LED” ,”II# power LED” is lighted.

- **“I# AC supply priority”**: pressing the **I** button, I# power LED is lighted, II# power LED is put out;
- **“II# AC supply priority”**: **again** pressing the **I** button,II# power LED is lighted, I# power LED is put out;
- **No priority**: **again** pressing the **I** button,I# power LED is lighted, II# power LED is lighted.

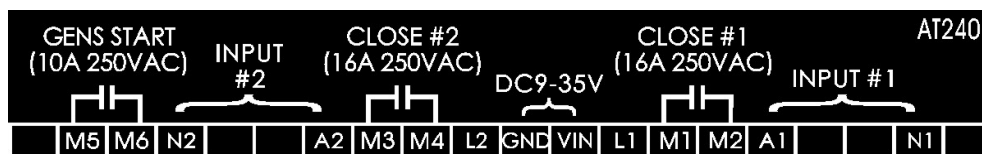
2、 When completed, pressing the **II** button will save the current settings and the “I# power LED” , ”AUTO LED” , ”II# power LED” is lighted.

3、 Turn off the power supply.

NOTE: During the module power on, the I#/II# AC supply priority can be judged.

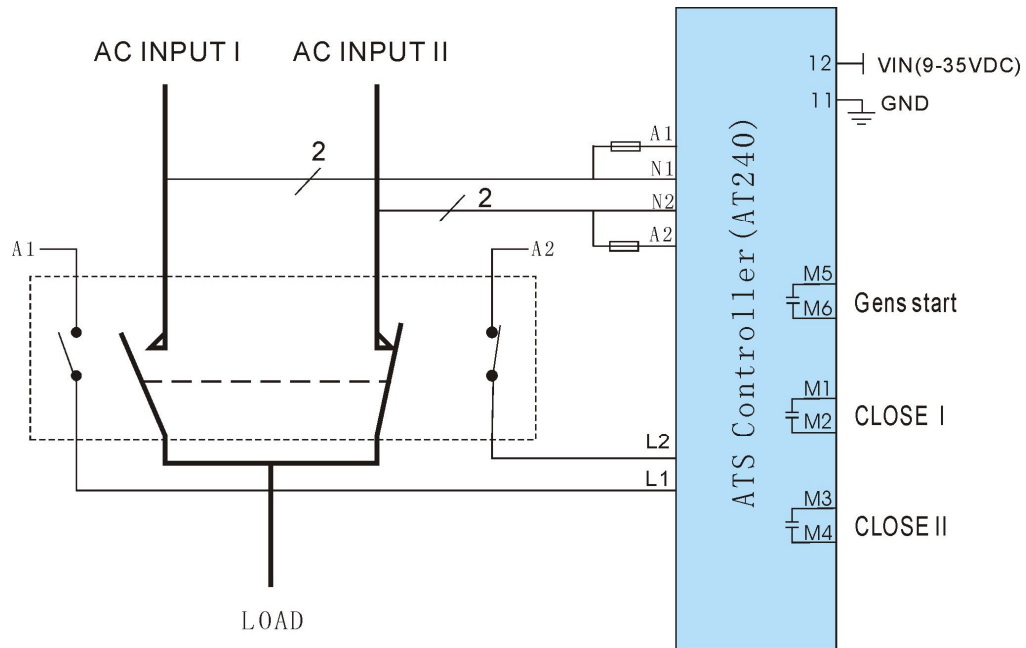
1. **I# power LED flashing for 3 times indicate I# AC supply priority.**
2. **II# power LED flashing for 3 times ndicate II# AC supply priority.**
3. **I# /II# power LED flashing for 3 times indicate No priority.**

Terminal is as follows:



- ◆ A1, N1 connect to I# AC supply A, N1.
- ◆ A2, N2 connect to II# AC supply A, N.
- ◆ L1: I# AC supply closed auxiliary input(AC220V active).
- ◆ L2: II#AC supply closed auxiliary input(AC220V active).
- ◆ VIN,GND: DC positive input,DC negative input, it must be connected when starting generator.
- ◆ M1,M2: I# AC supply relay output(volts free, rated at 16A 220VAC/16A 28VDC).
- ◆ M3,M4: II# AC supply relay output(volts free, rated at 16A 220VAC/16A 28VDC).
- ◆ M5,M6: Genset start relay output(volts free, rated at 10A 220VAC/10A 28VDC).
- ◆

● TYPICAL CONNECTIONS



● CASE DIMENSIONS

