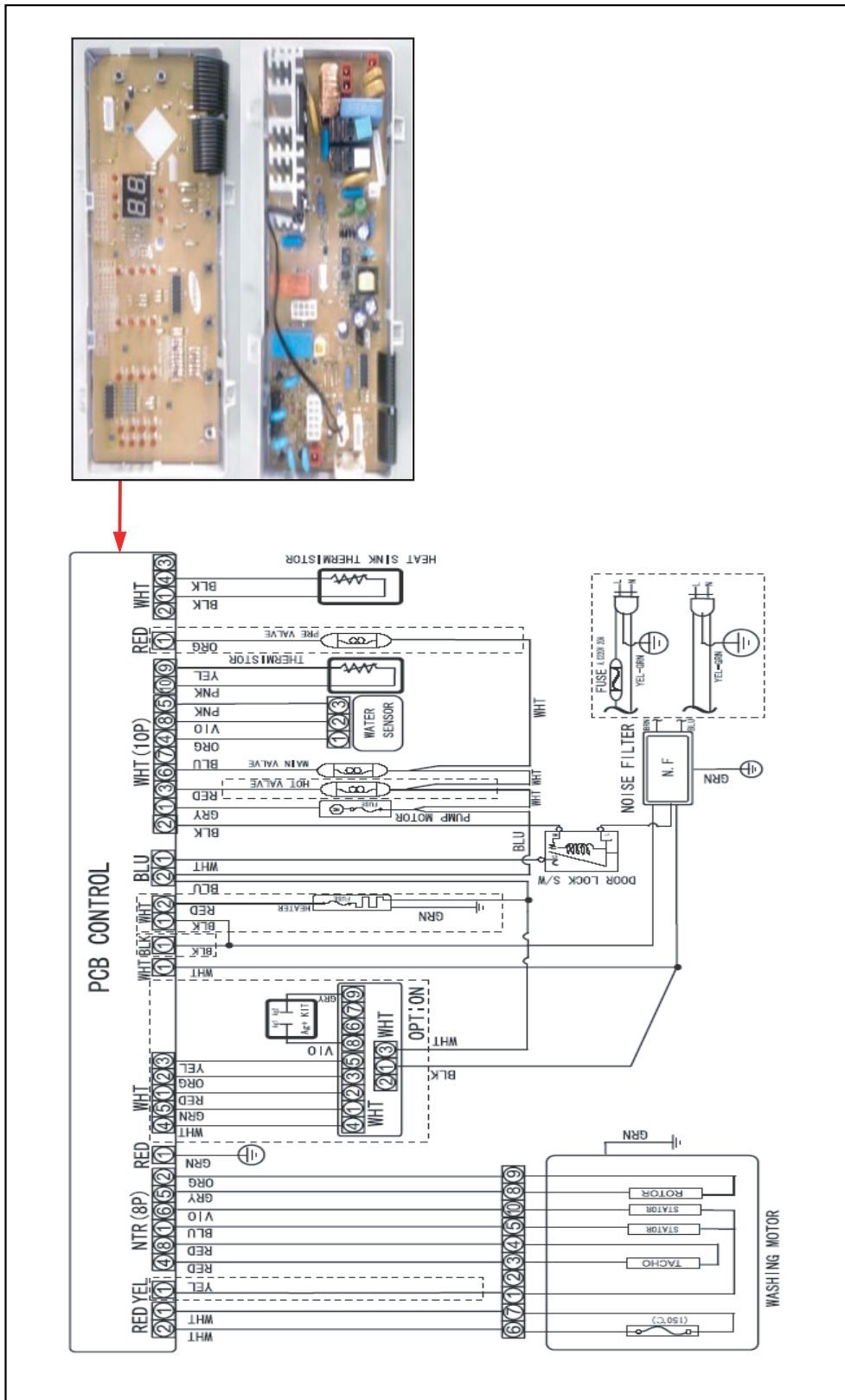
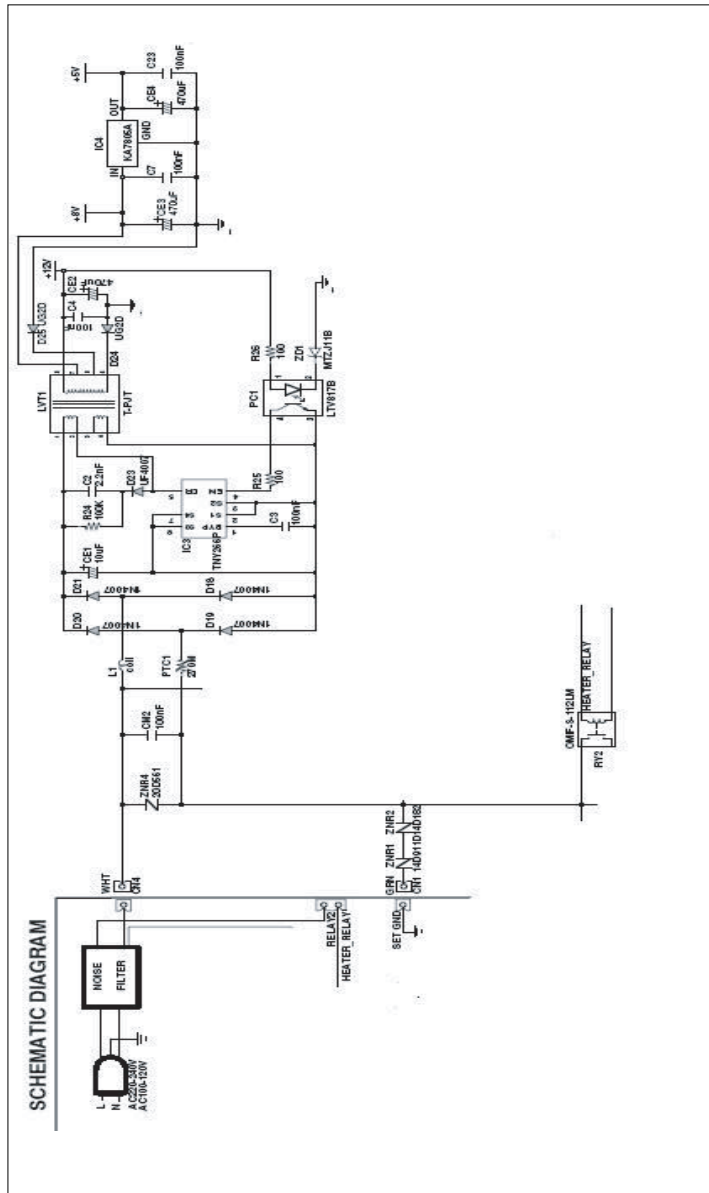


# 12. CIRCUIT DESCRIPTION

## 12-1.OVERALL SYSTEM



## 12-2.AC INPUT & POWER CIRCUIT



### ► Function

Generates a required DC power of 12V or 5V in case of supplied or disconnected AC power.

### ► Description

- When AC 220V is applied to D18~D21 it to DC 300V
- When DC 300V is applied to IC3 LVT1 to dc 12V. and dc 8v
- The 8v is transformed to DC 5V through IC4(KA7805).

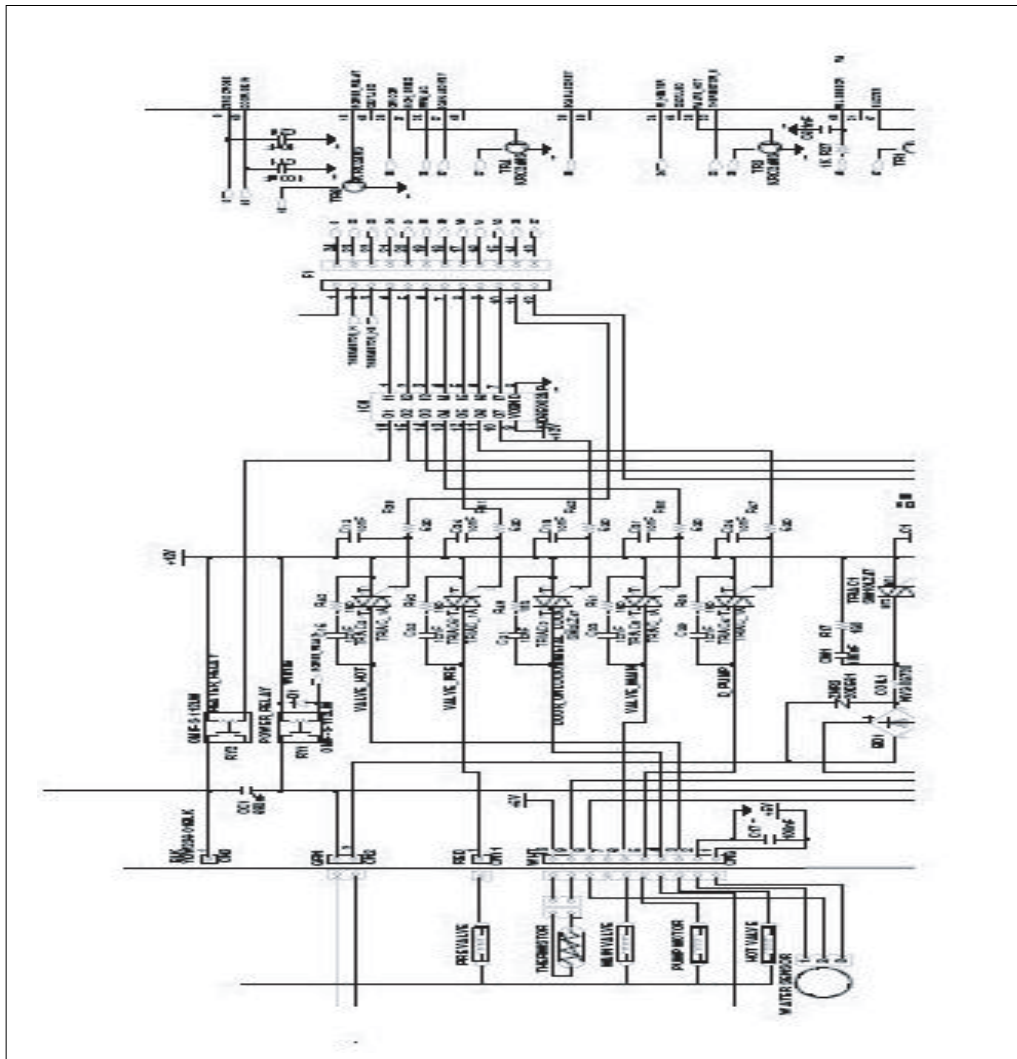
## 12-3.DRIVING SYSTEM CIRCUIT

### ► Function

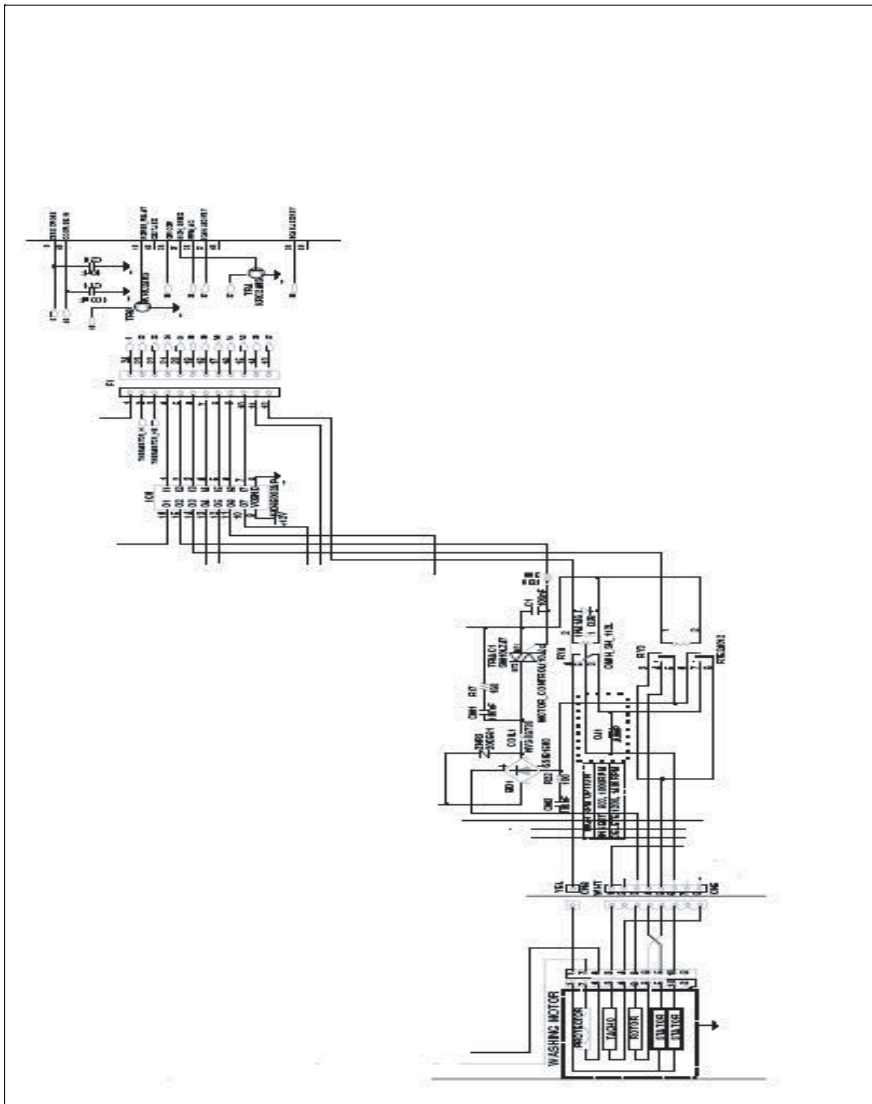
Controls each driving system (VALVE, DOOR SW, DRAIN-MOTOR) by turning RELAY or TRIAC on/off.

### ► Description

- MICOM outputs a high signal of 5V from pin # 29,30,31,32,34 of micom.
- Then, IC6 pin10~16 are electrically grounded (0V).
- When pin # 10 to 16 are grounded, and the TR14,15 are grounded this creates an electric potential difference from the 12V that turns on RELAY 1,2,3,4 and TRIAC1,2,3,4,5,6
- The operating parts (VALVE, DRAIN-MOTOR, DOOR SW) connected to CN6 turn on if they are supplied with power.



- ▶ **Function**  
Supplies power to the motor and turns it CW/CCW (Right / Reverse direction).
- ▶ **Description**
  - The operation of TRIAC1 is the same as that of the driving system.
  - If the electric potential of R39 is grounded (0V), TRIAC1 turns on.
  - CN1 detects if the door is locked or unlocked. If unlocked, it does not apply power to the motor even if TRIAC1 turns on.
  - If the door is unlocked and TRIAC1 turns on, the motor connected to CN4 is supplied with power and drives CW (right direction).
  - Under such conditions, turning RELAY3 on will drive the motor CCW (reverse) as the wiring is switched to CCW.
  - Turning RELAY4 on will switch the winding of the motor to one for higher driving.



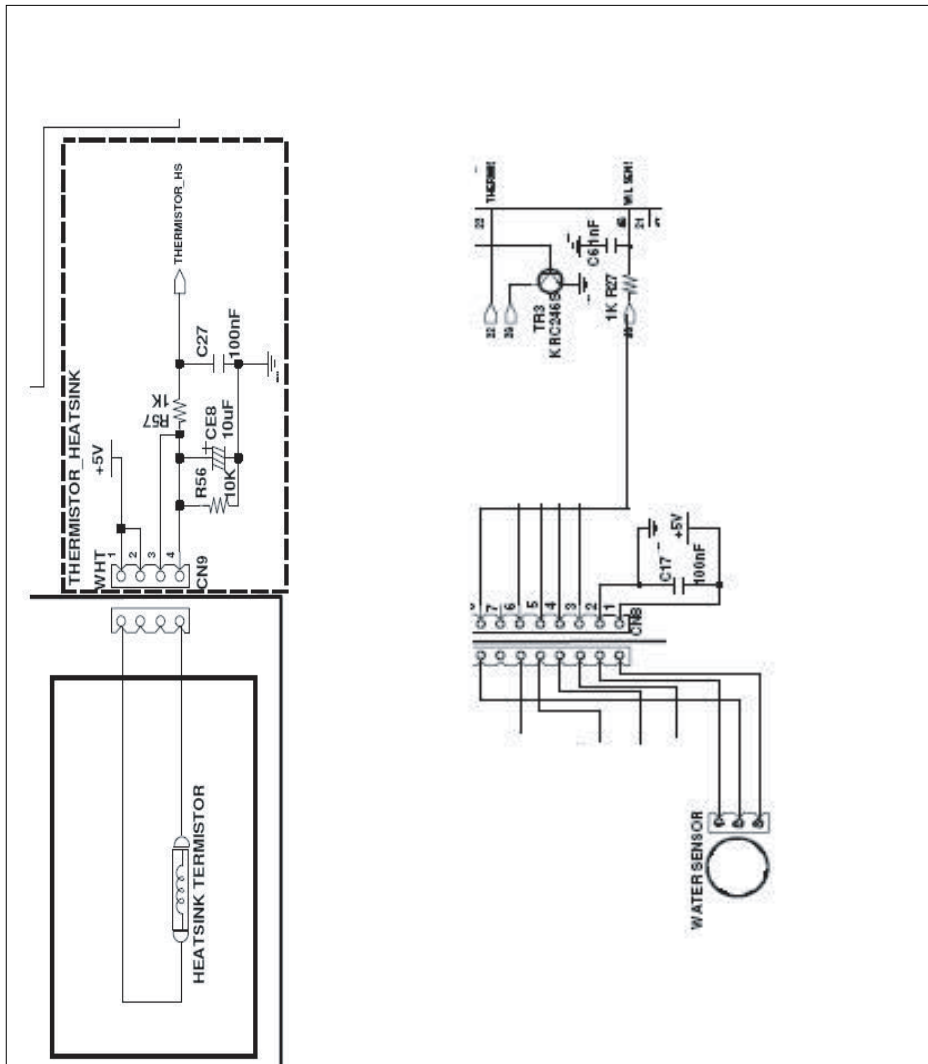
## 12-5.SENSOR DETECTION CIRCUIT

### ► Function

Detects signals from the sensor and controls the current system.

### ► Description

- The water level sensor is connected to pin 8 of CN6.
- The frequency of the level sensor changes according to the water amount in the tub.
- Then, the frequency is input to MICOM pin 48 for detecting the water amount.
- The DHSEH sensor is connected to CN9 ;
- The resistance of the temp. sensor changes according to the ambient temperature. The changed resistance is applied to R56 and R57.
- The voltage applied to R56 and R57 is decided according to the temp. MICOM stores the value.
- When voltage is applied to MICOM pins 23, MICOM compares it to the pre-defined one before detecting the current temp.



## 12-6.MOTOR TACHO INPUT SYSTEM

### ► Function

Detects the current RPM of the motor and controls the output.

### ► Description

- The motor TACHO sensor is connected to pin 1 of the CN5.
- According to the current RPM of the motor, a square wave is applied to pin 1.
- The square wave that is input to TR5 BASE turns the motor on if high (5V), and turns it off if low (0V). And this operation will be inverted to TACHO NET for a clear wave with no noise.
- The signal is applied to MICOM pin 13. Then MICOM counts the frequency of the input signal and detects the current RPM of the motor.

