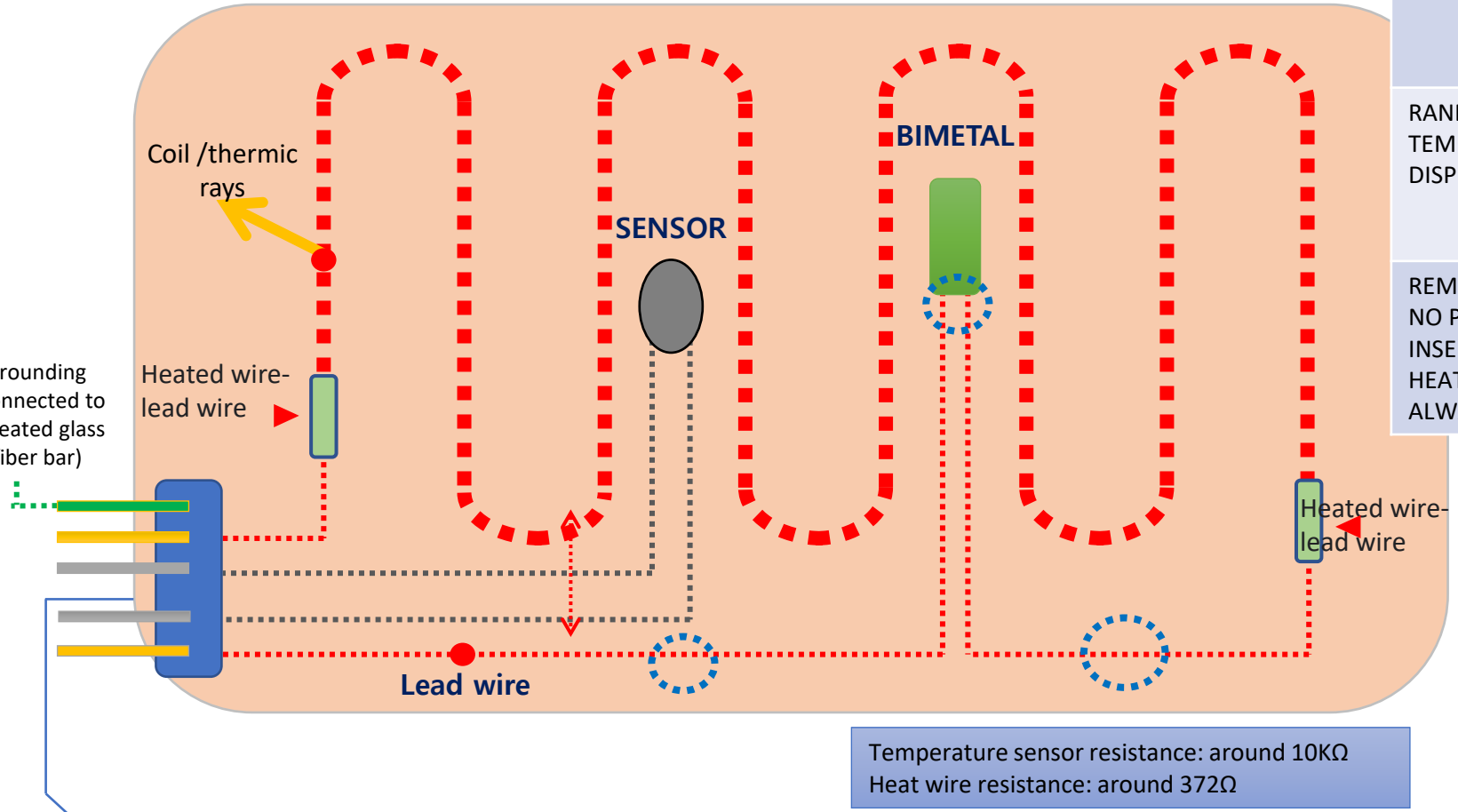
NUGA PRODUCT A/S GUIDE
SMALL PRODUCT

NM-80 / (TP80)

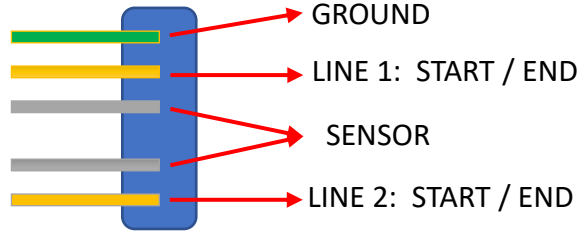
NM-80

HEATING WIRE ASSY / COIL ASSY

WIRE CONNECTION: SERIES TYPE



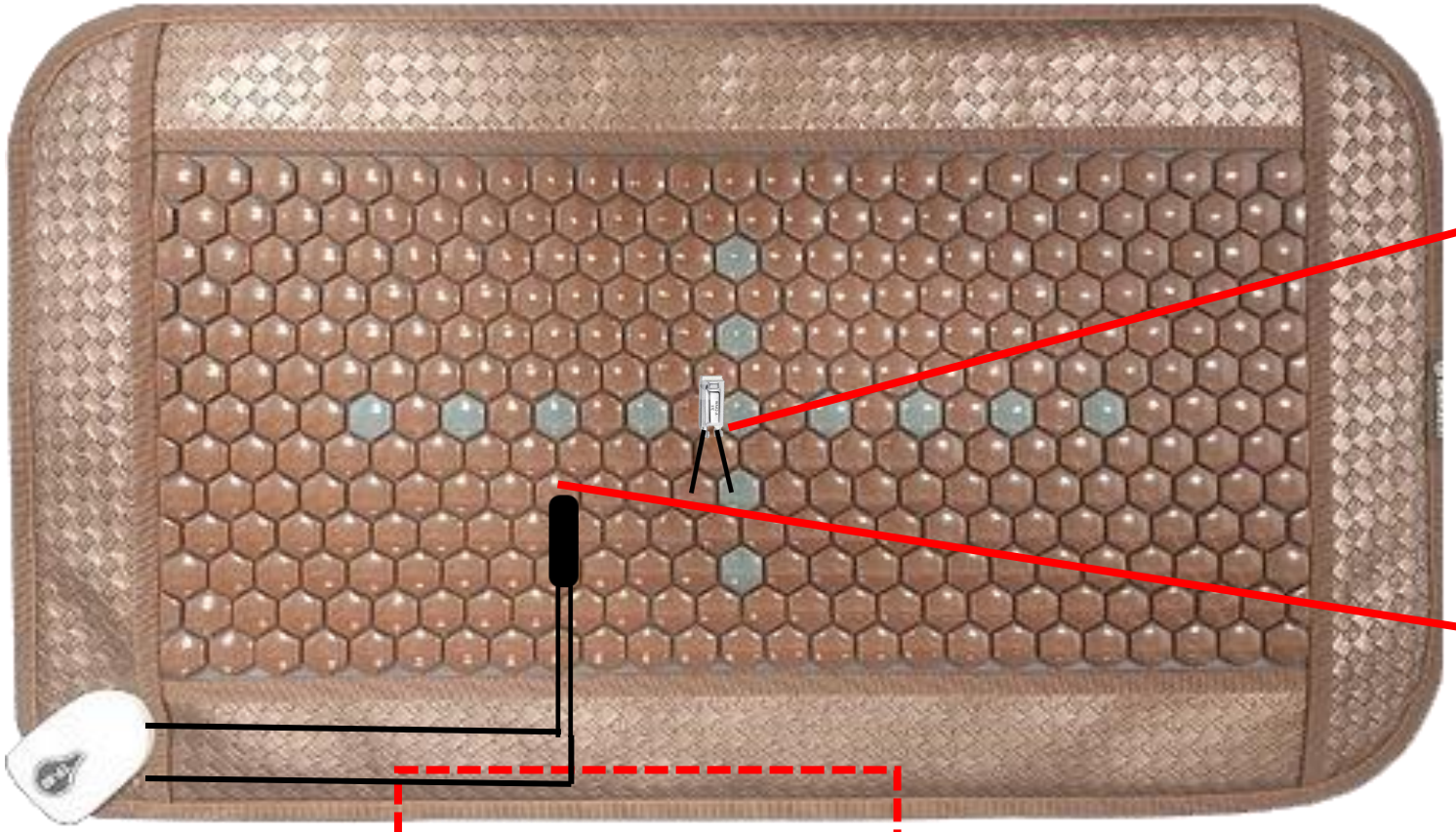
PROBLEM	PARTS	SOLUTION
NO HEAT	WIRE DISCONNECTION/ BIMETAL WIRE/SENSOR/ REMOTE PCB/HEATING WIRE ASSY	REPLACE/REPAIR
RANDOM TEMPERATURE DISPLAY	BROKEN SENSOR / DISCONNECT SENSOR WIRE	REPLACE SENSOR/ REPLACE POTENTIOMETER/VOLUME METER
REMOTE SUDDENLY NO POWER AFTER INSERTING TO HEATING MAT / FUSE ALWAYS EXPLODE	TERMINAL PIN	REPLACE TERMINAL PIN REPLACE FUSE



Temperature sensor resistance: around 10KΩ
Heat wire resistance: around 372Ω

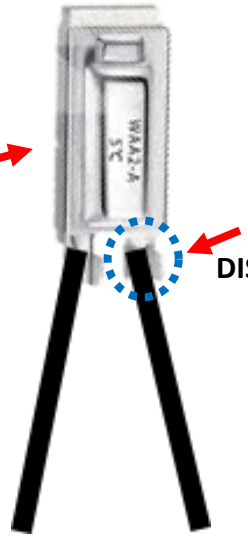
USUALLY DISCONNECTION OCCUR

OPENING THE BODY



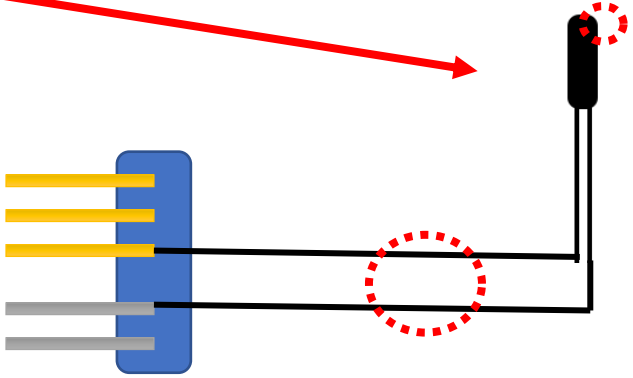
OPENING PART

BIMETAL



CHECK IF DISCONNECTED

SENSOR

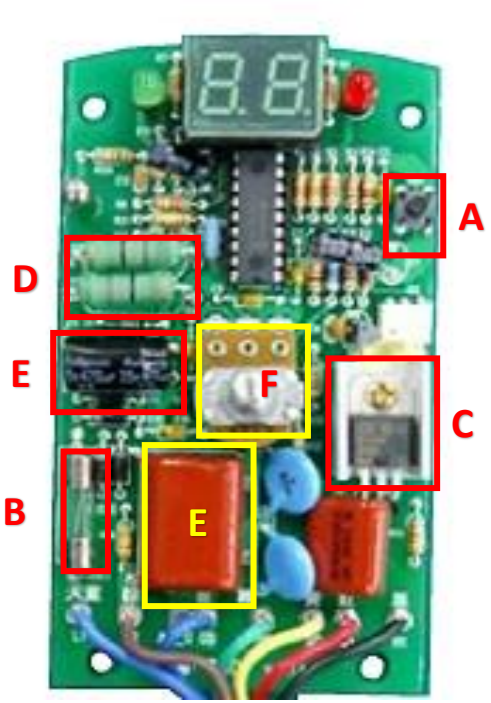


BLOATED

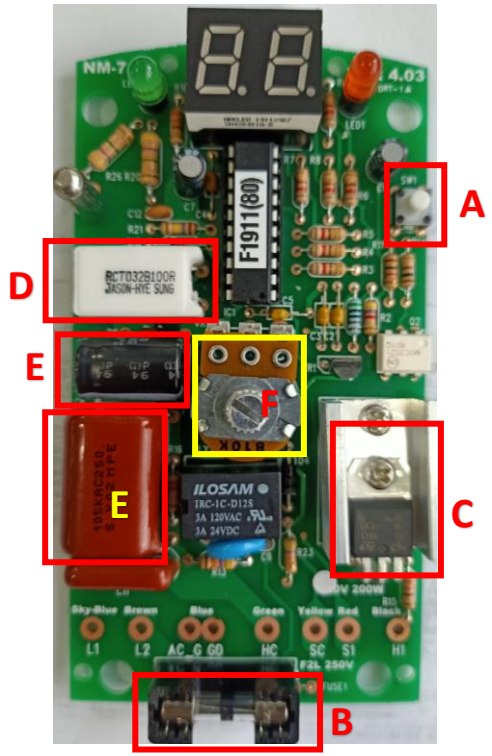
Sensor resistance Value is around 9Ω

NM-80

REMOTE CONTROL



OLD MODEL



NEW MODEL

DISPLAY ERROR

- TEMPERATURE SENSOR (DISCONNECT / BROKEN)

- TEMPERATURE SENSOR / REMOTE CONTROL PCB

REMOTE PCB PARTS
A – SWITCH
B – FUSE
C – TRANSISTOR
D – RESISTOR
E – CAPACITOR
F – POTENTIOMETER/VOLUME

PROBLEM	PARTS	SOLUTION
NO HEAT	REMOTE PCB/MAT	REPLACE PCB / SENSOR/ BIMETAL
NO POWER	REMOTE CABLE/FUSE/ SWITCH / CAPACITOR /RESISTOR	REPLACE REMOTE CABLE/FUSE/ SWITCH / CAPACITOR /RESISTOR / PROJECTOR CABLE
OVERHEAT	TRANSISTOR	REPLACE TRANSISTOR
DISPLAY RANDOM	POTENTIOMETER/VOLUME	REPLACE POTENTIOMETER / VOLUME / CHECK CONTACT TO PCB

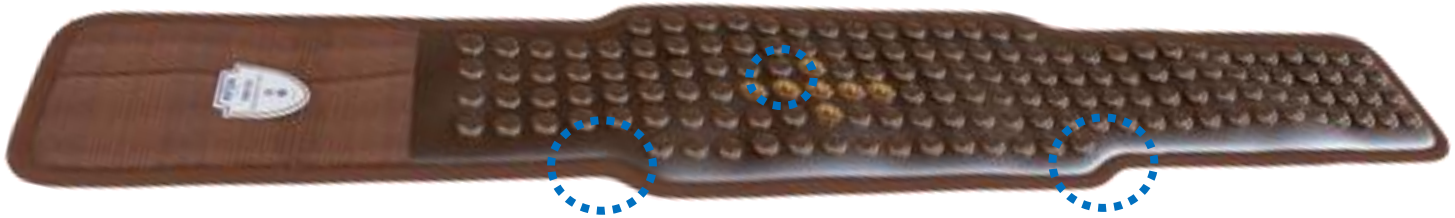
NM-90

NM-90

HEATING WIRE ASSY / COIL ASSY

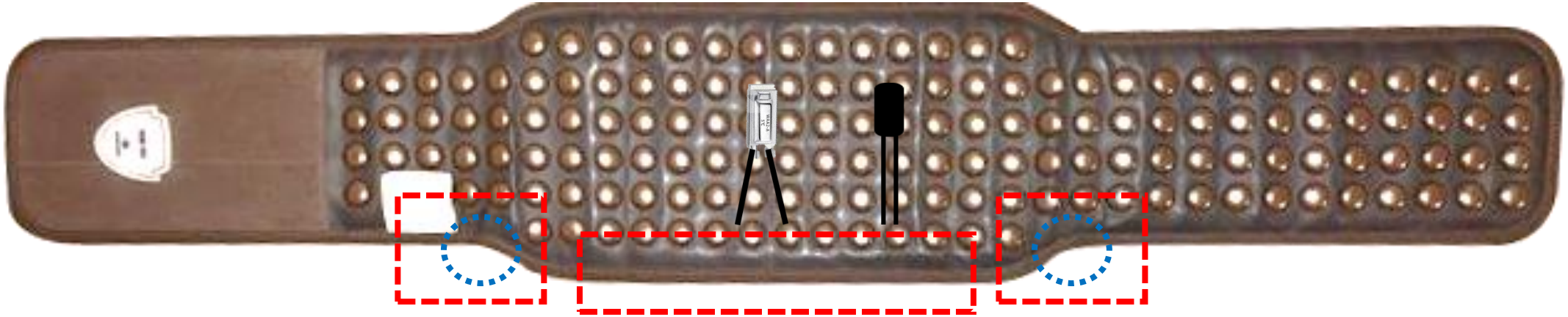
WIRE CONNECTION: SERIES TYPE

USUALLY DISCONNECTION OCCUR

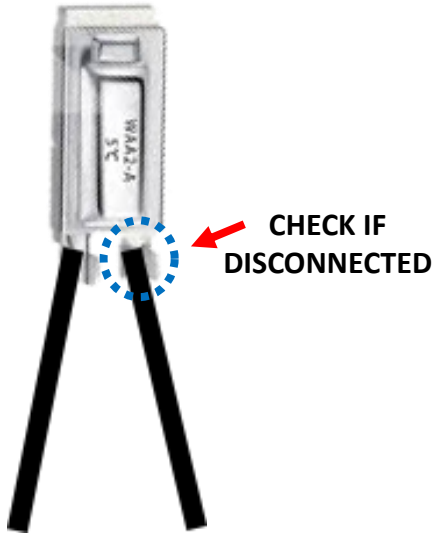


PROBLEM	PARTS	SOLUTION
NO HEAT	WIRE DISCONNECTION/ BIMETAL WIRE/SENSOR/ REMOTE PCB/HEATING WIRE ASSY	REPAIR WIRE DISCONNECTION. REPLACE BIMETAL WIRE/SENSOR/ REMOTE PCB/HEATING WIRE ASSY
RANDOM TEMPERATURE DISPLAY	BROKEN SENSOR / DISCONNECT SENSOR WIRE	REPLACE / RECONNECTION
REMOTE SUDDENLY NO POWER AFTER INSERTING TO HEATING MAT / FUSE ALWAYS EXPLODE	TERMINAL PIN	REPLACE TERMINAL PIN REPLACE FUSE

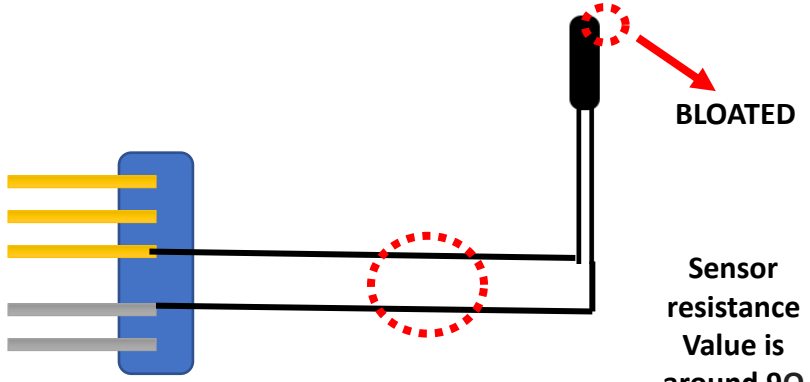
OPENING THE BODY



BIMETAL

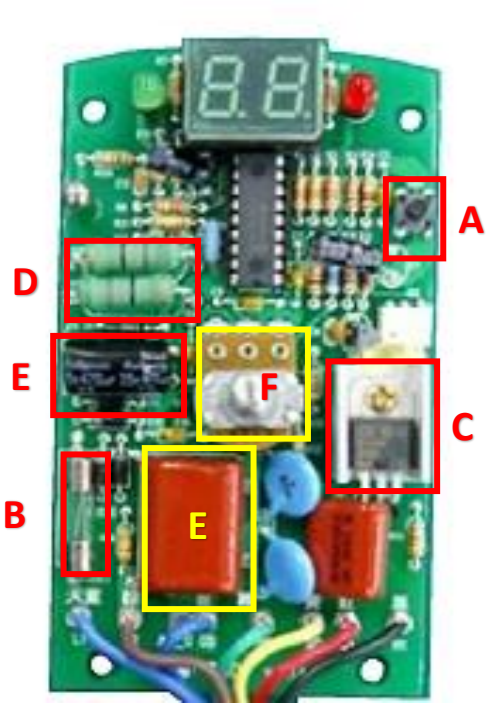


SENSOR

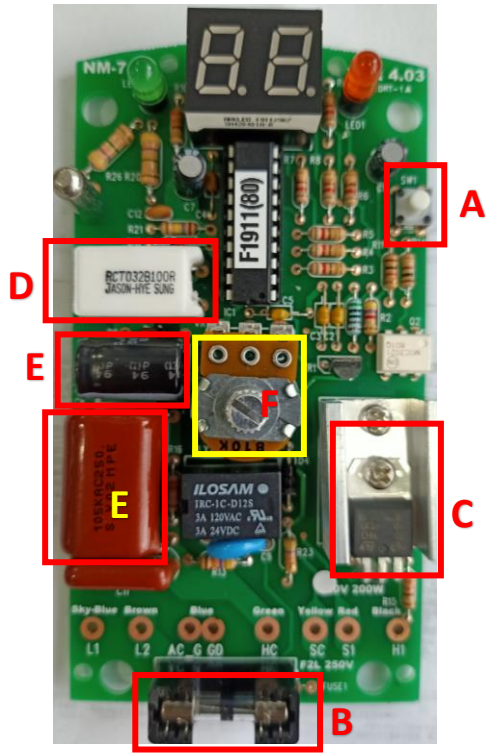


NM-90

REMOTE CONTROL



OLD MODEL



NEW MODEL

DISPLAY ERROR

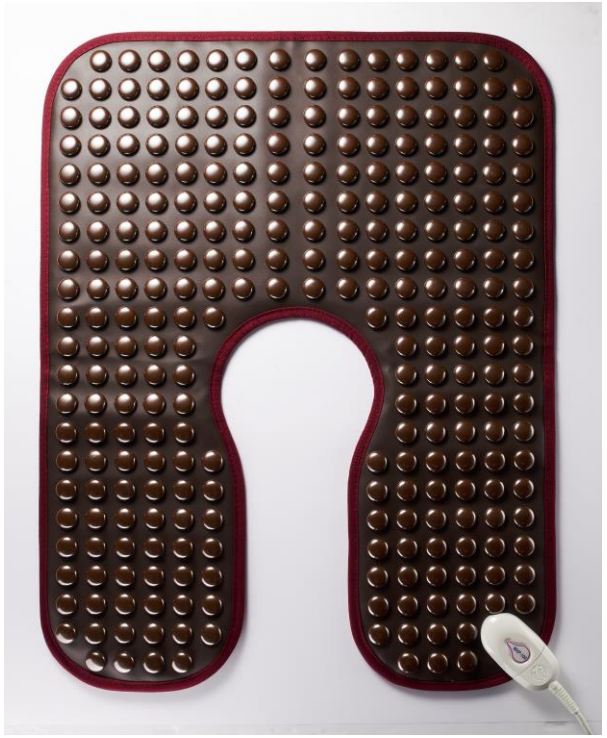
- TEMPERATURE SENSOR (DISCONNECT / BROKEN)

- TEMPERATURE SENSOR / REMOTE CONTROL PCB

REMOTE PCB PARTS
A – SWITCH
B – FUSE
C – TRANSISTOR
D – RESISTOR
E – CAPACITOR
F – POTENTIOMETER/VOLUME

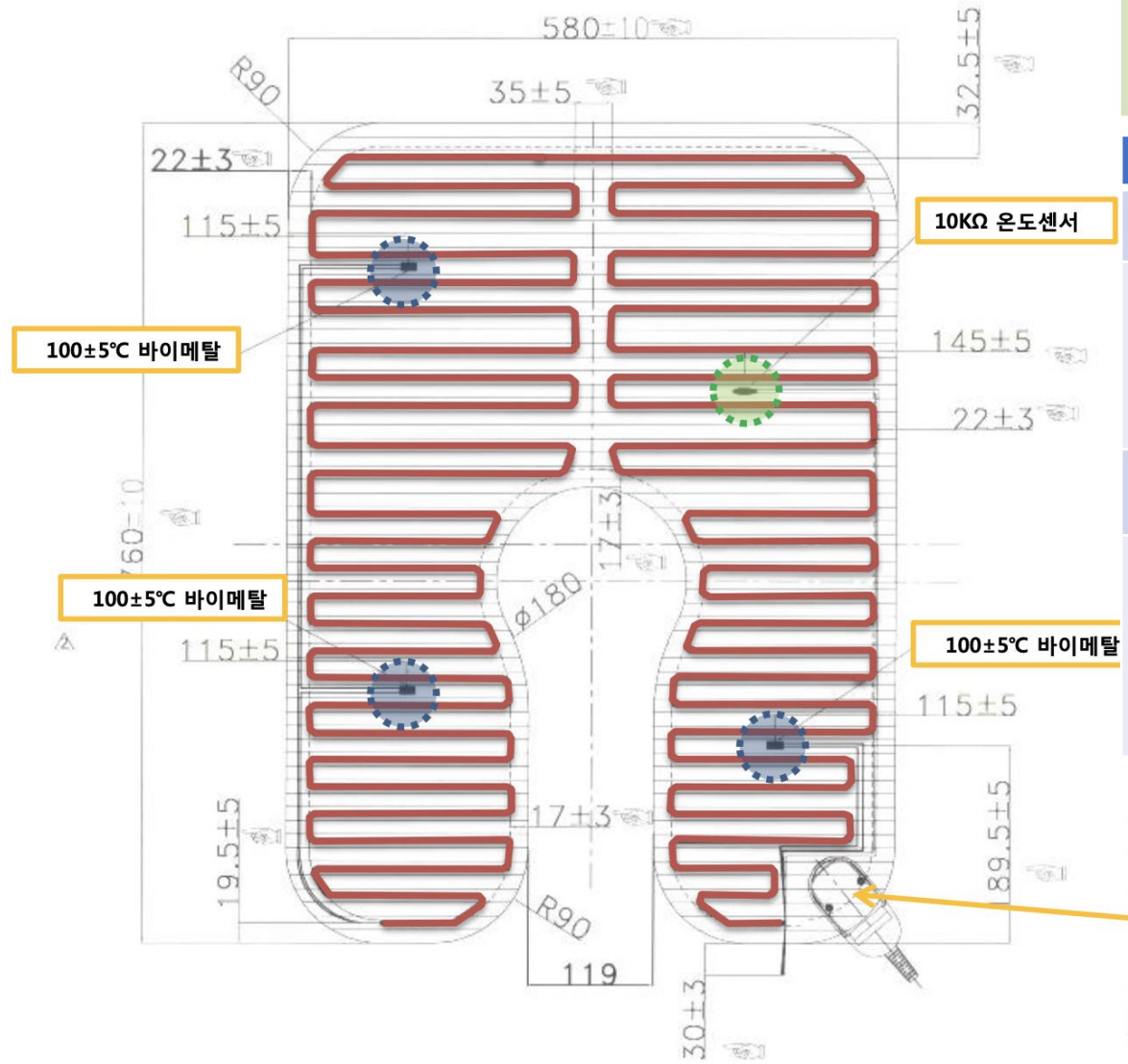
PROBLEM	PARTS	SOLUTION
NO HEAT	REMOTE PCB	REPLACE PCB / REMOTE ASSEMBLY
NO POWER	REMOTE CABLE/FUSE/ SWITCH / CAPACITOR /RESISTOR / PROJECTOR CABLE	REPLACE REMOTE CABLE/FUSE/ SWITCH / CAPACITOR /RESISTOR / PROJECTOR CABLE
OVERHEAT	TRANSISTOR	REPLACE TRANSISTOR
DISPLAY RANDOM	POTENTIOMETER/VOLUME	REPLACE POTENTIOMETER / VOLUME / CHECK CONTACT TO PCB

MHP-100



MHP-100

MHP100 열선, 온도센서, 바이메탈 배치도



1. Heating Wire : AC 220V
   150W ± 15%.
   297Ω ± 10%.
2. Protector : 100℃ ± 5%
3. Temperature Sensor : 10kΩ

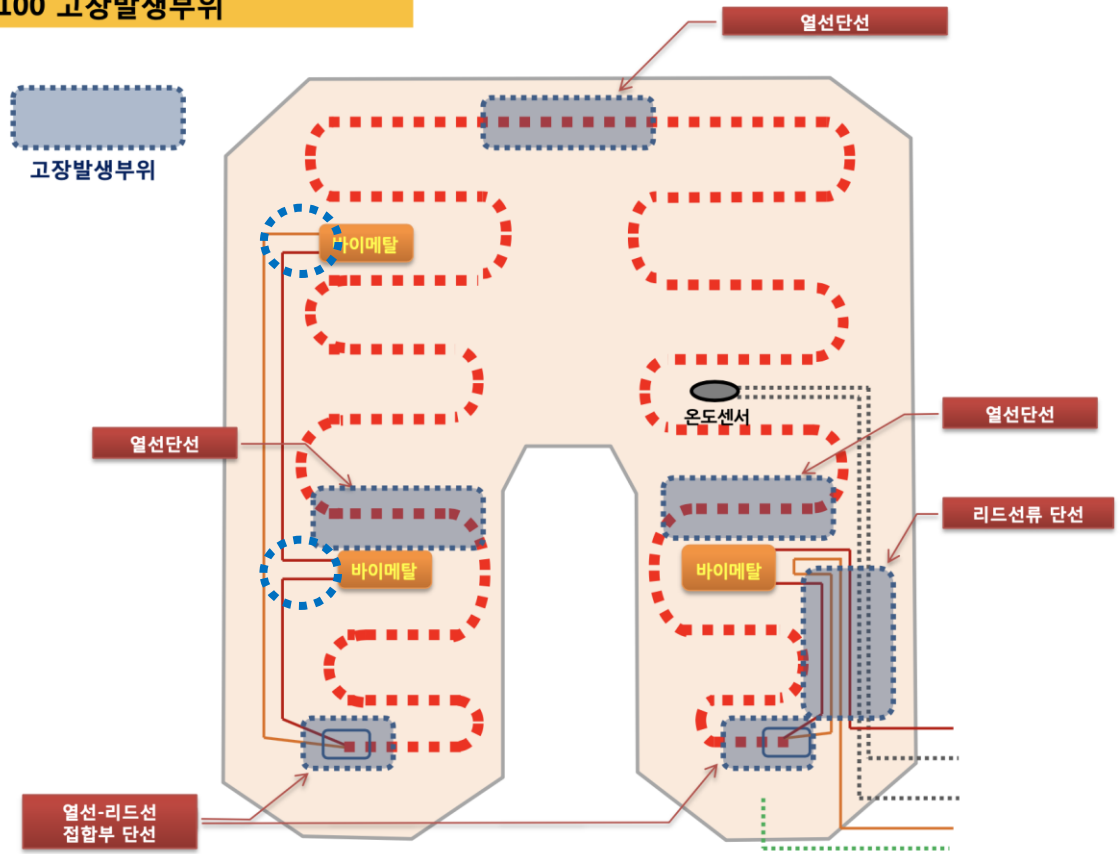
PROBLEM	PARTS	SOLUTION
NO HEAT	BIMETAL WIRE	RECONNECTION
NO HEAT / RANDOM TEMPERATURE DISPLAY	BROKEN SENSOR / DISCONNECT SENSOR WIRE	REPLACE / RECONNECTION
NO HEAT	COIL WIRE	RECONNECT / REPLACE WHOLE COIL ASSEMBLY
REMOTE SUDDEN NO POWER AFTER INSERTING TO HEATING MAT / FUSE ALWAYS EXPLODE	TERMINAL PIN	REPLACE TERMINAL PIN REPLACE FUSE

MHP-100

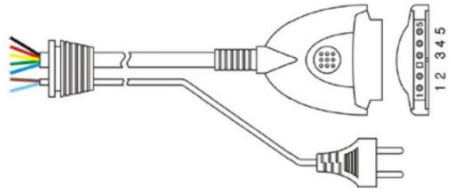
MOST DISCONNECT PART

SYMBOL

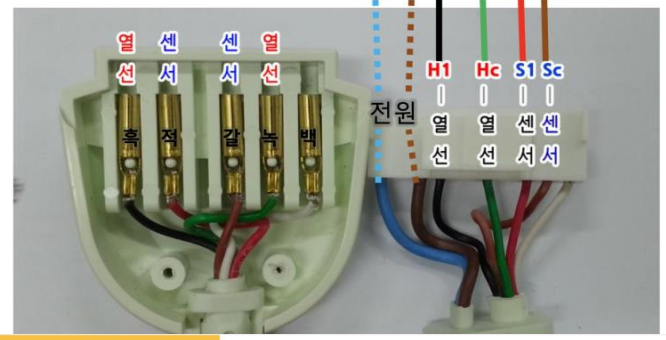
MHP100 고장발생부위



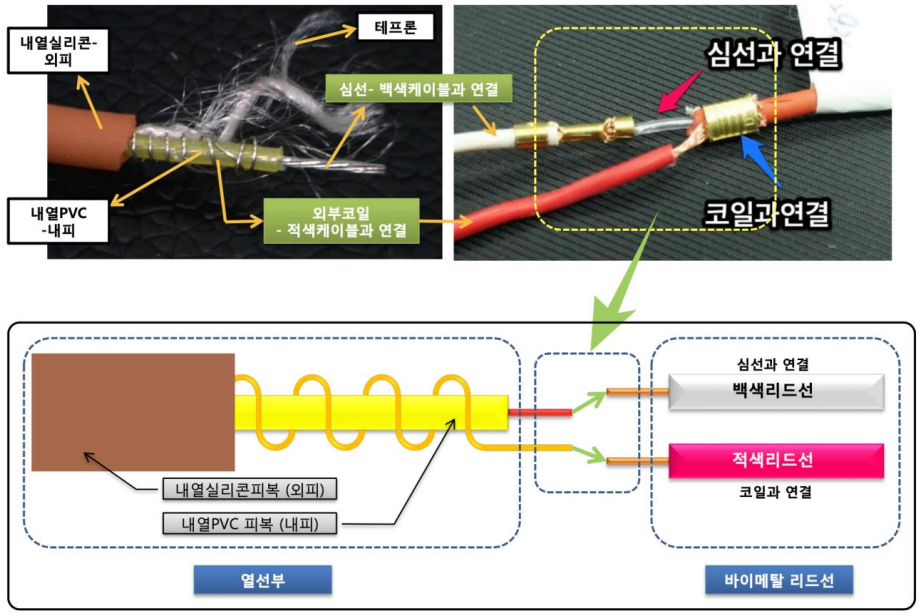
MHP100 조절기 단자 배치도



1	열선
2	온도센서
3	온도센서
4	열선
5	접지

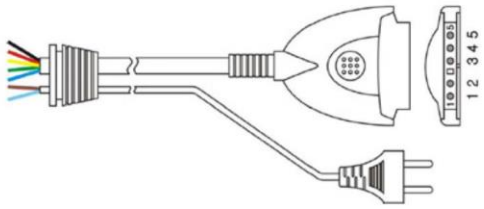


MHP100 열선& 바이메탈 리드선 결선 상세도

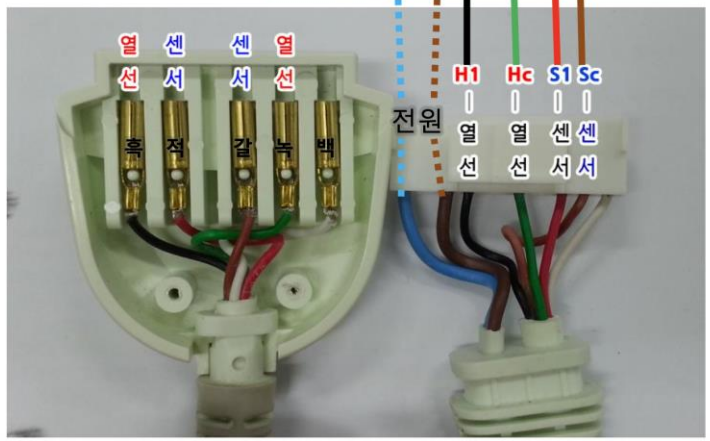


MHP-100

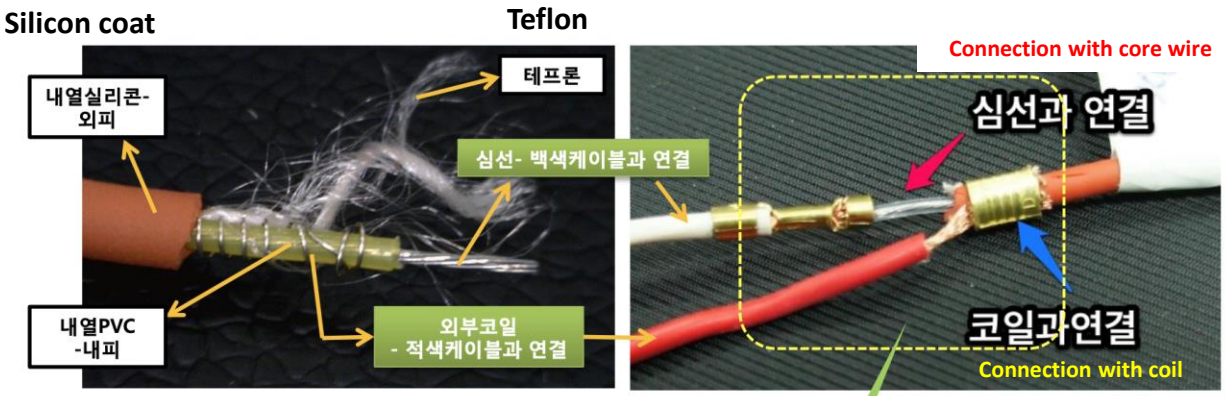
MHP100 조절기 단자 배치도

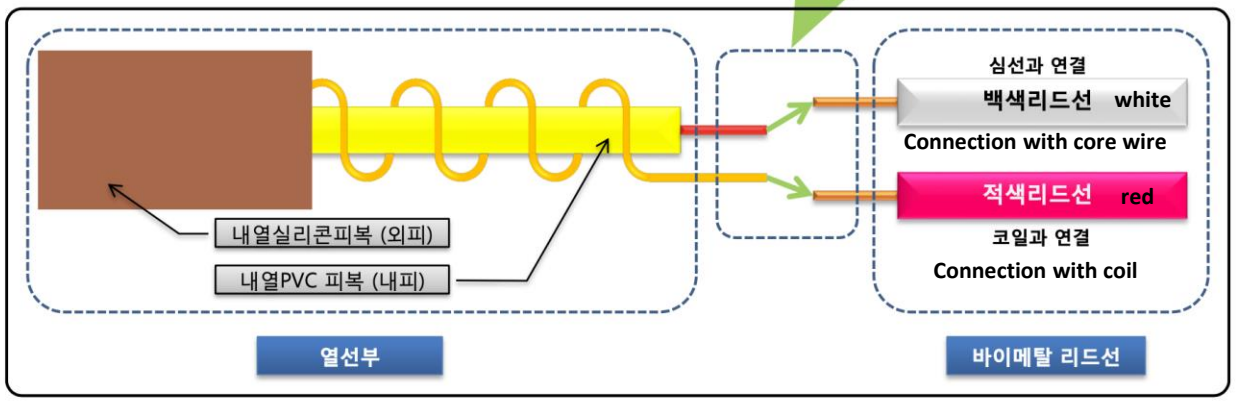


1	열선
2	온도센서
3	온도센서
4	열선
5	접지



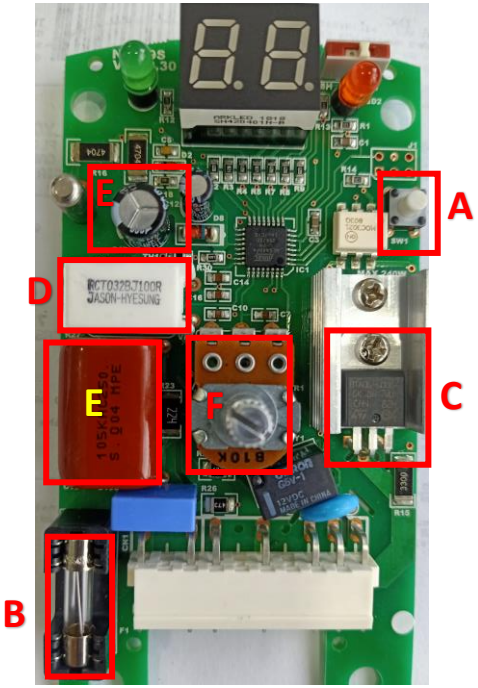
MHP100 열선& 바이메탈 리드선 결선 상세도





MHP-100

REMOTE CONTROL



REMOTE PCB PARTS
A – SWITCH
B – FUSE
C – TRANSISTOR
D – RESISTOR
E – CAPACITOR
F – POTENTIOMETER/VOLUME

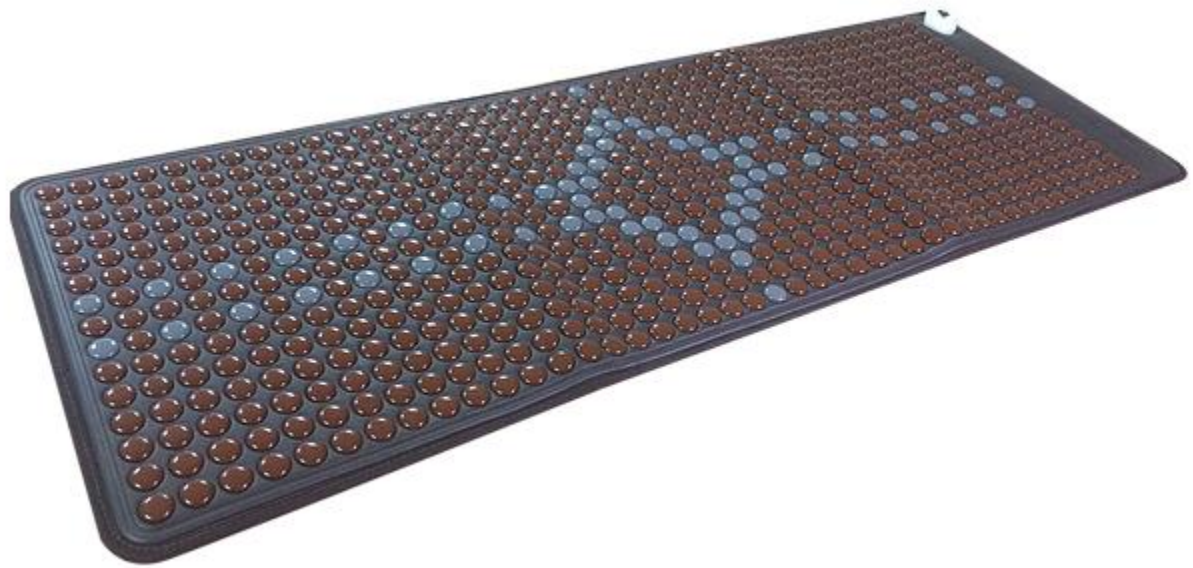
PROBLEM	PARTS	SOLUTION
NO HEAT	REMOTE PCB	REPLACE PCB / REMOTE ASSEMBLY
NO POWER	REMOTE CABLE/FUSE/ SWITCH / CAPACITOR /RESISTOR /	REPLACE REMOTE CABLE /FUSE/ SWITCH / CAPACITOR /RESISTOR /
OVERHEAT	TRANSISTOR	REPLACE TRANSISTOR
DISPLAY RANDOM	POTENTIOMETER/VOLUME	REPLACE POTENTIOMETER / VOLUME / CHECK CONTACT TO PCB

DISPLAY ERROR

- TEMPERATURE SENSOR (DISCONNECT / BROKEN)

- TEMPERATURE SENSOR / REMOTE CONTROL PCB

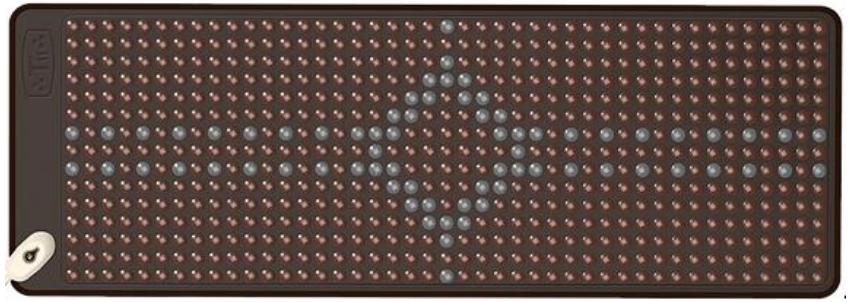
T11



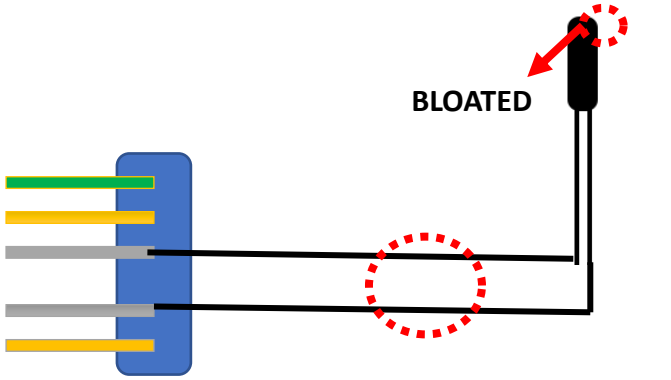
T11

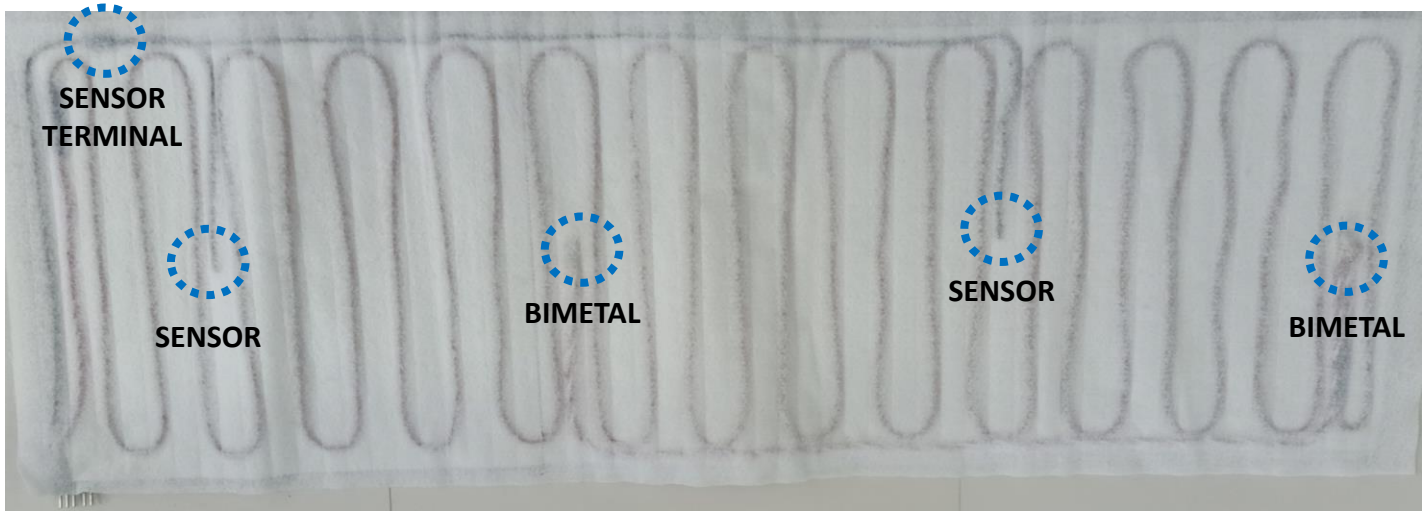
OLD ALUMINUM COIL

PROBLEM	PARTS	SOLUTION
NO HEAT	REMOTE PCB / ALUMINUM COIL / SENSOR / BIMETAL	REPLACE REMOTE PCB / ALUMINUM COIL / SENSOR / BIMETAL
NO POWER	CHECK REMOTE CABLE FUSE/ SWITCH / CAPACITOR /RESISTOR	REPLACE REMOTE CABLE / FUSE/ SWITCH / CAPACITOR /RESISTOR
OVERHEAT	TRANSISTOR	REPLACE TRANSISTOR
DISPLAY RANDOM	POTENTIOMETER/VOLUME	REPLACE POTENTIOMETER / VOLUME / CHECK CONTACT TO PCB



SENSOR



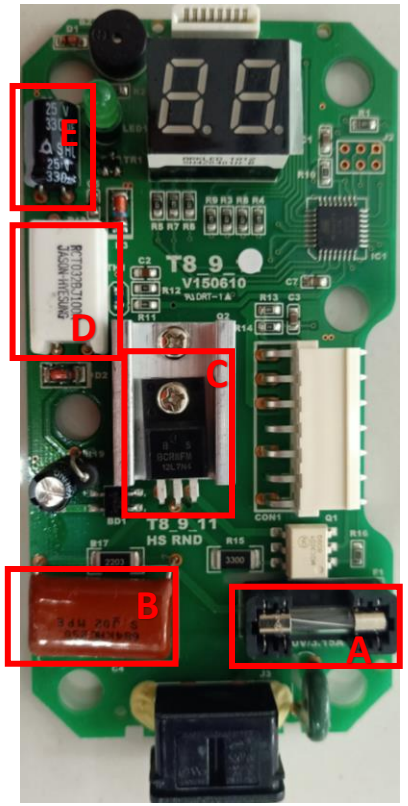


BIMETAL

T9

T9

MAIN PCB



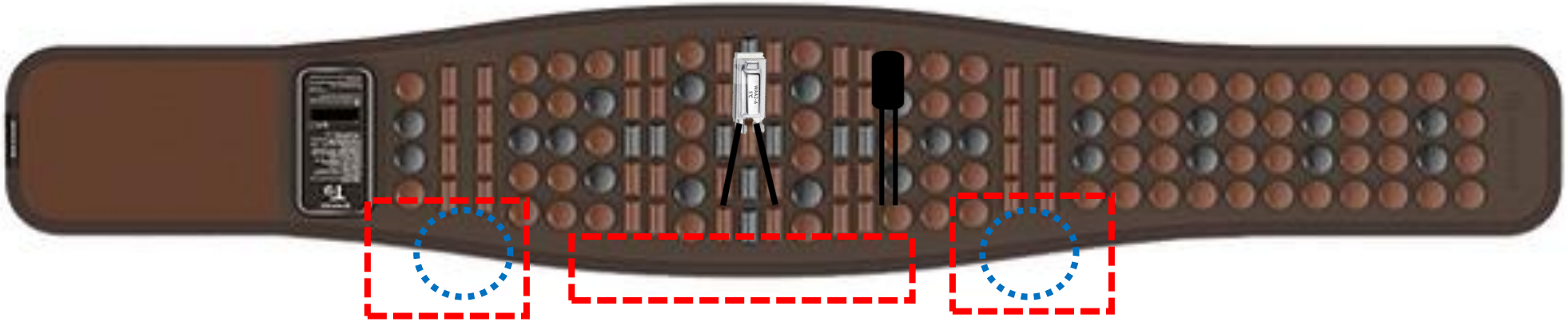
REMOTE PCB PARTS
A – FUSE
B – CAPACITOR (ORANGE)
C – TRANSISTOR
D – RESISTOR
E – CAPACITOR (BLACK)

PROBLEM	PARTS	SOLUTION
NO HEAT	REMOTE PCB / ALUMINUM COIL/SENSOR/BIMETAL	REPLACE PCB / REMOTE PCB / ALUMINUM COIL/SENSOR/BIMETAL
NO POWER	POWER CORD / FUSE/ SWITCH / CAPACITOR /RESISTOR / PROJECTOR CABLE /MEMBRANE PCB	REPLACE POWER CORD /FUSE/ SWITCH / CAPACITOR /RESISTOR / PROJECTOR CABLE /MEMBRANE PCB
OVERHEAT	TRANSISTOR	REPLACE TRANSISTOR

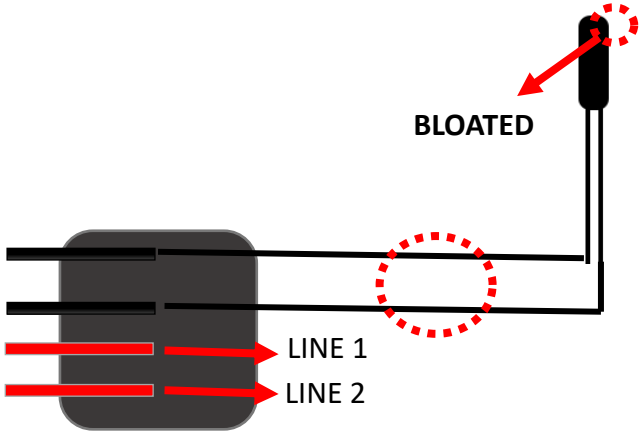
MEMBRANE PCB

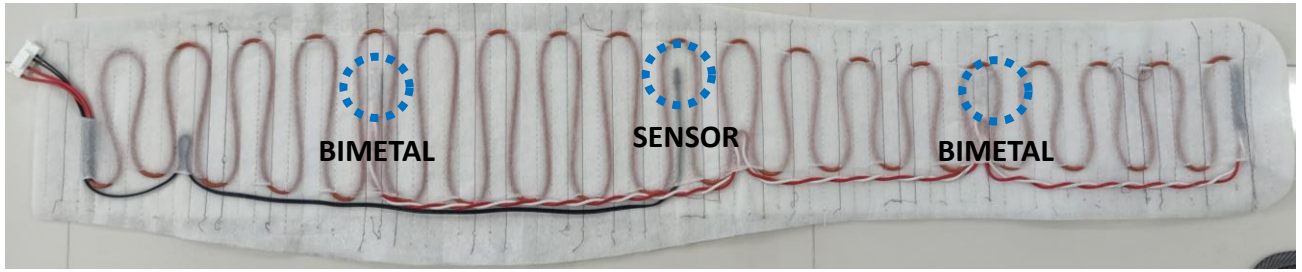
T9

OPENING THE BODY



SENSOR



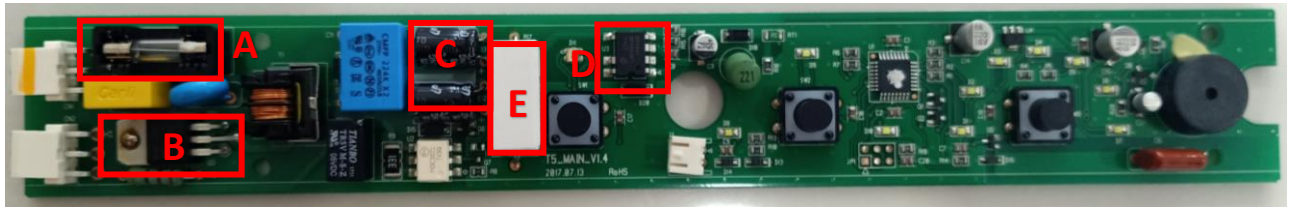


BIMETAL

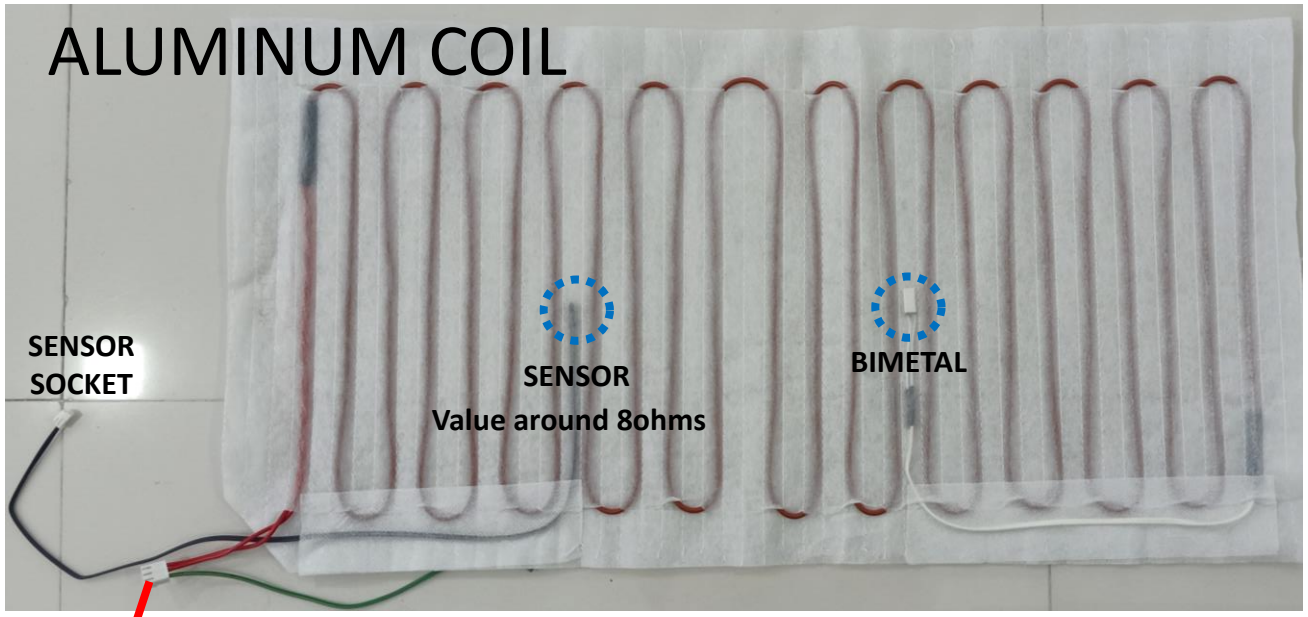
T5

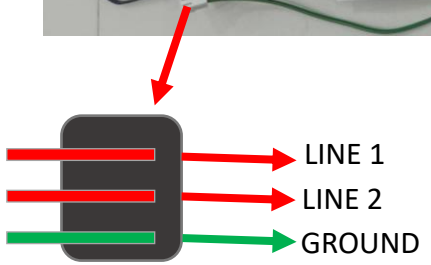
T5

MAIN PCB



MAIN PCB PARTS
A – FUSE
B – TRANSISTOR
C – CAPACITOR (BLACK)
D – IC
E- RESISTOR CERAMIC





PROBLEM	PARTS	SOLUTION
NO HEAT	REMOTE PCB / ALUMINUM COIL/SENSOR/BIMETAL	REPLACE PCB / REMOTE PCB / ALUMINUM COIL/SENSOR/BIMETAL
NO POWER	CHECK POWER CORD/FUSE/ SWITCH / CAPACITOR /RESISTOR CERAMIC /IC	REPLACE POWER CORD/FUSE/ SWITCH / CAPACITOR /RESISTOR CERAMIC /IC
OVERHEAT	TRANSISTOR	REPLACE TRANSISTOR

NM-200

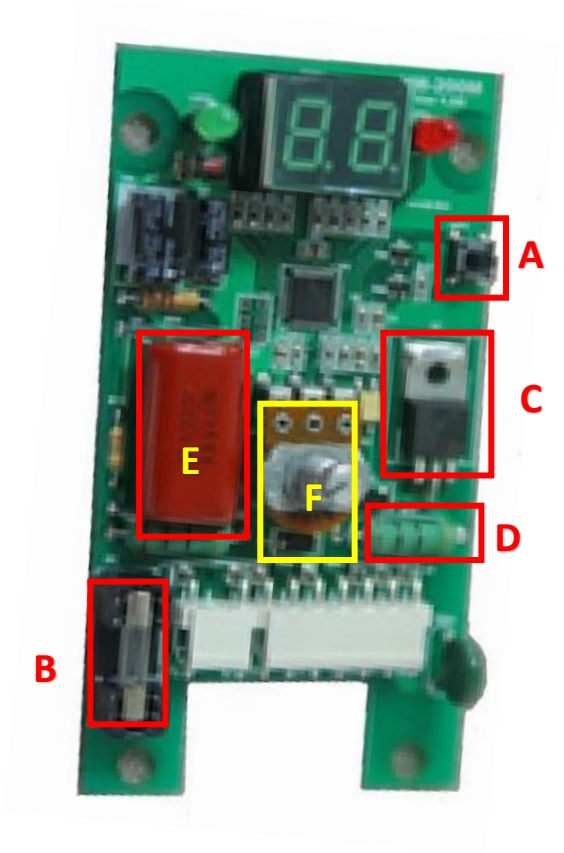
NM-200

ERROR CODE

Display	Descriptions	Display location
- -	Disconnection of temperature sensor	The temperature sensor is not detected
E1	Short circuit of temperature sensor	The temperature sensor is under the short circuit
E2	Disconnection of heating unit	The heating unit is disconnected or under the disconnection by the bimetal operation
E3	Overheating of heating unit	The temperature in the heating unit is increased more the 86°C.

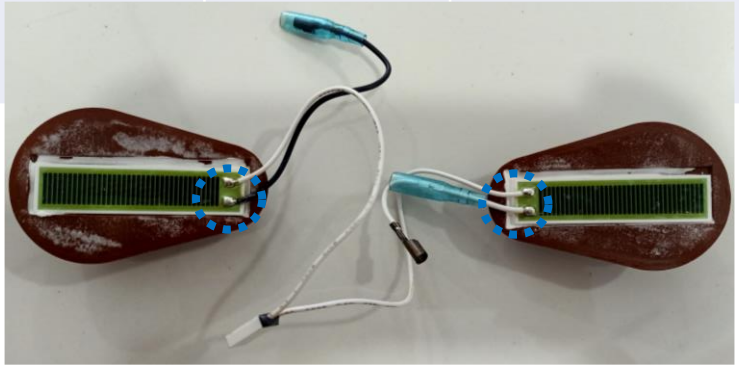
NM-200

REMOTE PCB

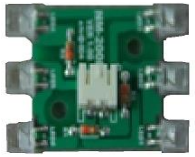


REMOTE PCB PARTS
A – SWITCH
B – FUSE
C – TRANSISTOR
D – RESISTOR
E – CAPACITOR
F – POTENTIOMETER/VOLUME

PROBLEM	PARTS	SOLUTION
NO HEAT	TOURMANIUM HEATER / PROJECTOR CABLE / REMOTE PCB	REPLACE / DISCONNECT BROKEN WIRE OF PROJECTOR CABLE
NO POWER	REMOTE PCB	REPLACE FUSE/ SWITCH / CAPACITOR /RESISTOR / PROJECTOR CABLE
OVERHEAT	REMOTE PCB	REPLACE TRANSISTOR
DISPLAY RANDOM	POTENTIOMETER /VOLUME	REPLACE / CHECK CONTACT TO PCB



LAMP PCB



TOURMANIUM HEATER

PROJECTOR CABLE

TYPES OF ERROR

MB2

MB2

MAIN PCB

BATTERY

ADAPTER/CHARGER

PROBLEM	PARTS	SOLUTION
NO POWER	SWITCH / BATTERY / MAIN PCB / CHARGER	REPLACE
NO FREQUENCY	MAIN PCB / PE CABLE	REPLACE

LF RUBBER SILICON (S)

LF RUBBER SILICON (B)

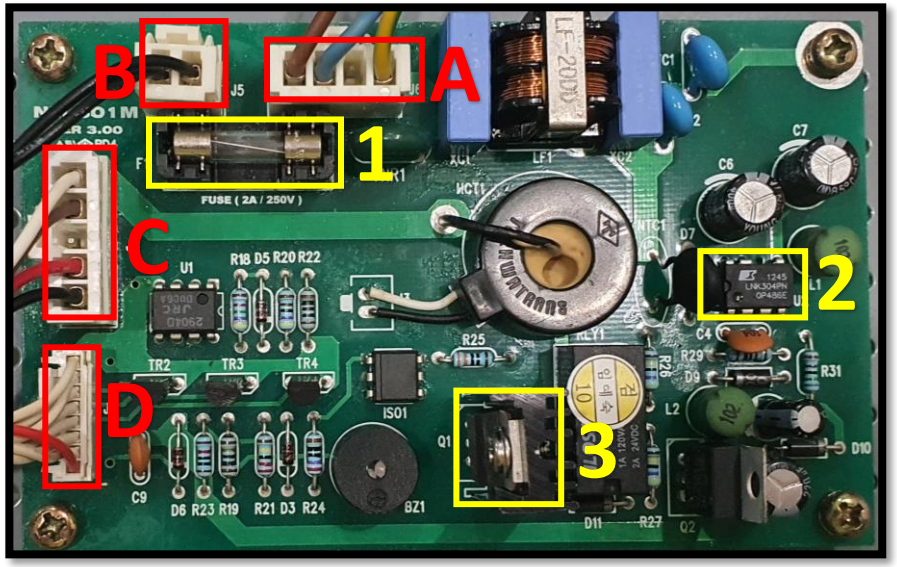
WASER

PE CABLE

NM300

NM300

MAIN PCB

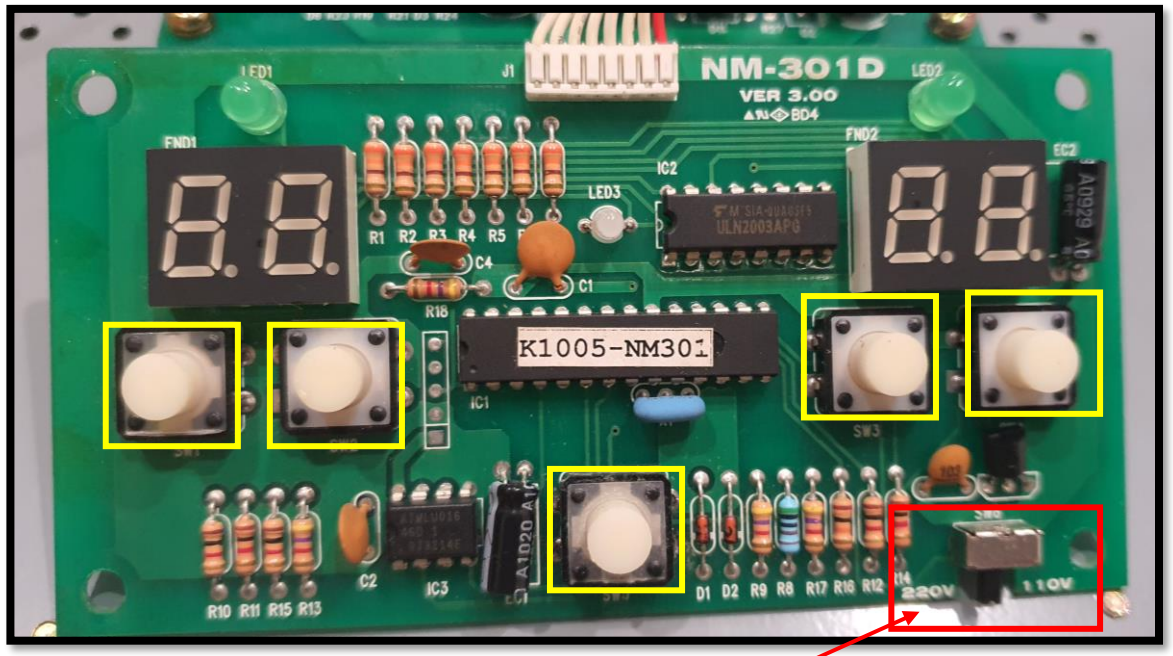


WIRE CONNECTION
A – POWER CORD
B – MAIN SWITCH
C – 9 BALL CABLE SOCKET
D – KEY PCB

PROBLEM	PARTS	NO.
NO POWER	FUSE	REPLACE 1
FUSE ALWAYS EXPLODE / ALL BULB EXPLODE EVEN NEW / NO POWER	ic	REPLACE 2
9 BALL TEMPERATURE OVERHEAT	TRANSISTOR	REPLACE 3

NM300

KEY PCB



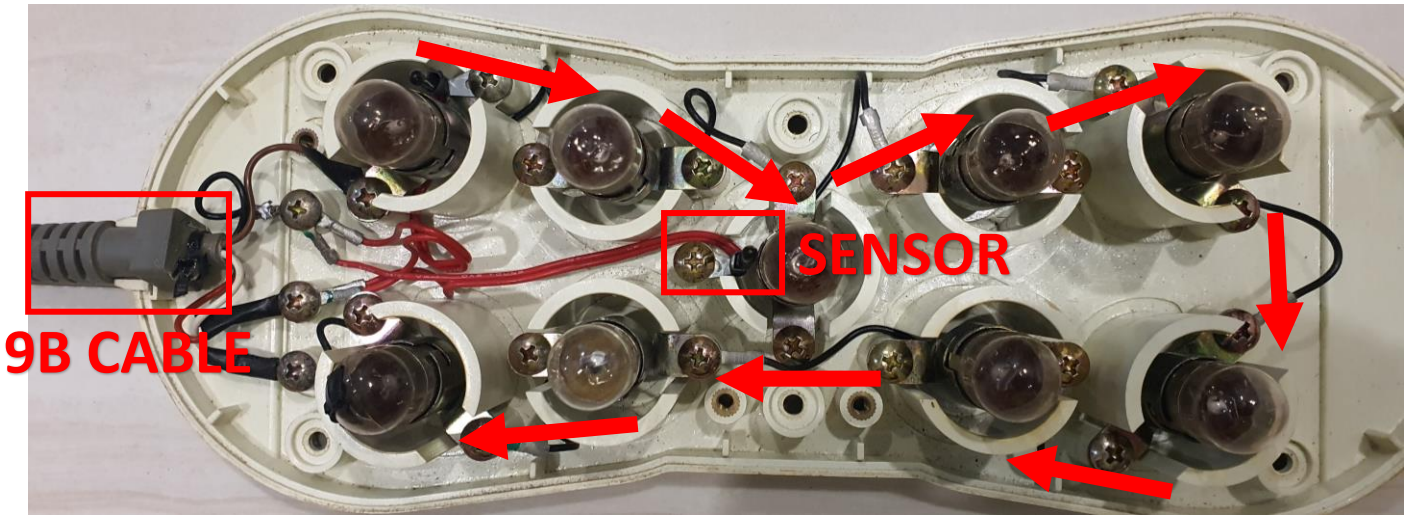
PROBLEM	PARTS	SOLUTION
NO RESPONSE	TACK SWITCH	REPLACE BROKEN TACK SWITCH

NOTE : ALWAYS CHECK THE VOLTS SWITCH BEFORE ASSEMBLY (MUST SET TO 220V)

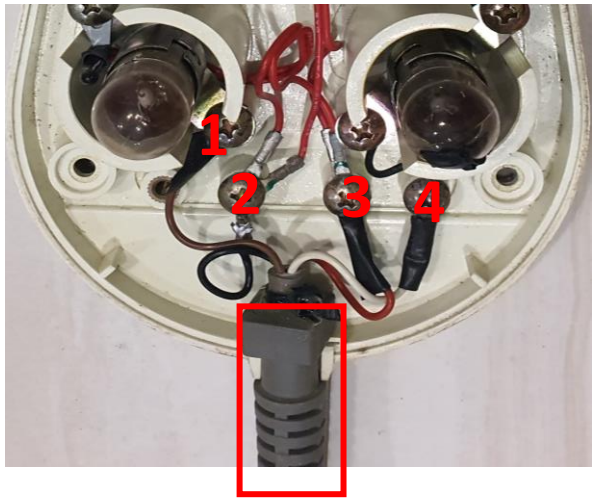
NM300

9 BALL PROJECTOR

WIRE CONNECTION: SERIES TYPE



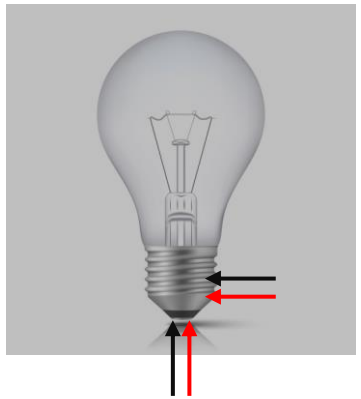
PROBLEM	PARTS	SOLUTION
03 / 0E	BULB	REPLACE BULB
ON/OFF LIGHTS WHEN MOVING CABLE	9 BALL CABLE	REPAIR / REPLACE CABLE
2E	SENSOR	REPLACE SENSOR



9B CABLE CONNECTION TO PROJECTOR

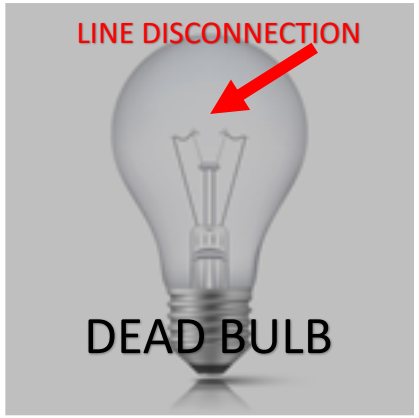
9B CABLE CONNECTION TO PROJECTOR
1 – BROWN & BULB
2 – BLACK & SENSOR
3 – RED & SENSOR
4 – WHITE & BULB

Test if Bulb is working or not



Good – tester response

Bad – tester no response



Lamp lifespan in color

New Good Bad

THANK YOU!