HPA Solarium

HB 971/A

Service
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Sunmobile 4S

Domestic Appliances and Personal Care

Service Manual

TECHNICAL DATA

Input voltage	: 230V - 50Hz
Input consumption	: approx. 2175W
Fuse	: 16 A
UVA source	: 4x HPA Flexpower 400-600
Ballast	: 2x 400W
	: 2x 500W
	: 1x 100W
Starter	: integrated soft start system
Timer	: digital 30 mins
Cooling	: 1x fan floor part
	: 3x fan tanning part
Radiation area	: 190 x 70 cm
Output (min) UVX-36 meter	: 4.2 mW/cm^2 at 65 cm
Protecting goggles	: 2X HB072 - 4822 690 80147
Safety	: CENELEC insulation class 2
	: UV type 3
Weight	: approx. 42 kg

AS THE APPLIANCE IS HIGHLY SUSCEPTIBLE TO SCRATCHING, YOU SHOULD BE EXTRA CAREFUL DURING DISASSEMBLY.

TO PREVENT THE MULTI-CORE CABLES FROM GETTING DAMAGED AT THE HINGES, THEY MUST BE ASSEMBLED AND CLAMPED AT THE ORIGINAL PLACES.

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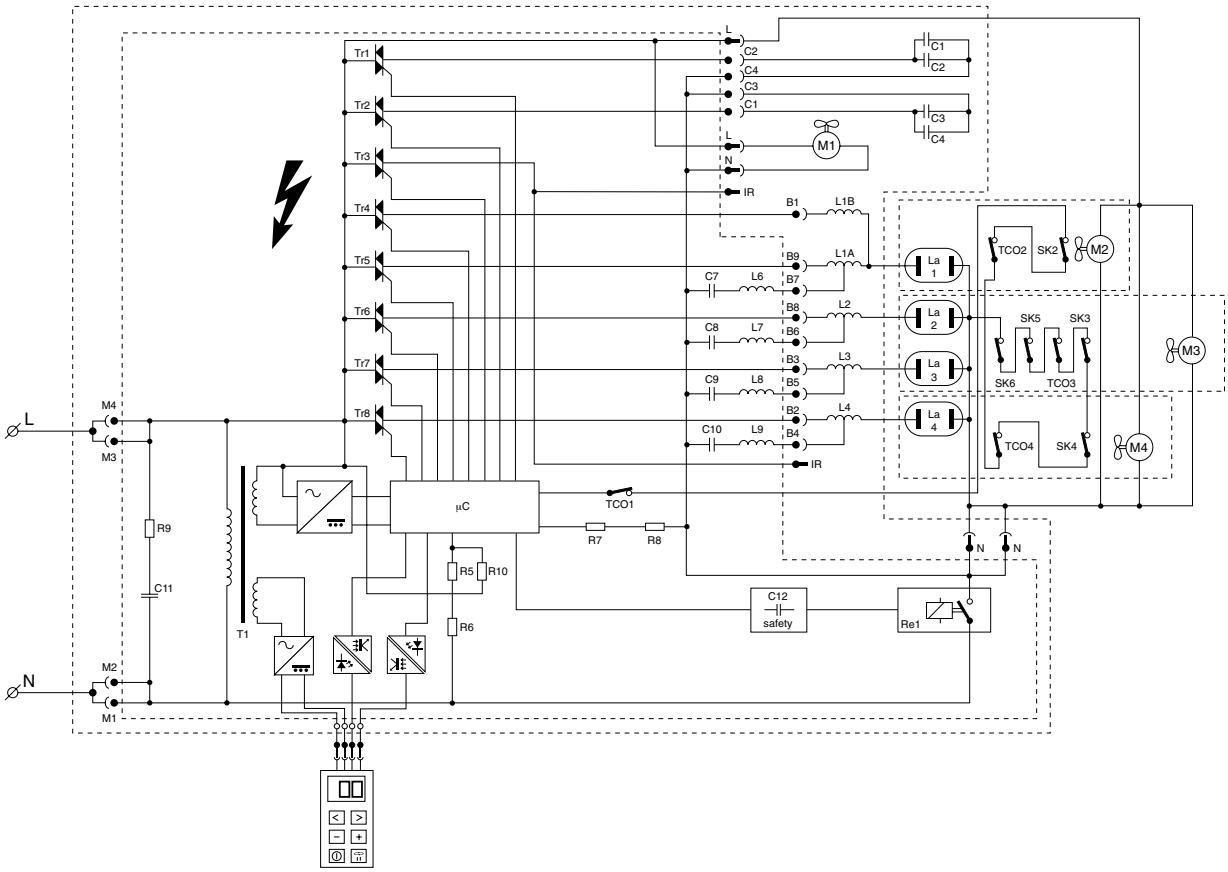


TECHNICAL INFORMATION

Tanning appliance HB971 is equipped with a universal power PCB.
This means that the specific characteristics of the appliance have to be programmed in a microcontroller to determine the way in which various components are activated.
When the mains plug is inserted into the wall socket, the display of the remote control will show all functions available to the user.
Including the various combinations, these functions are:

- time setting
- full body tanning
- full body + facial tanning
- half body + facial tanning
- half body tanning

The UV lamps may produce a humming sound just after start-up. This humming sound will stop as soon as the lamps burn properly, which is after about 20 seconds. At this point the light intensity clearly increases.

During the last minute of the session the beeper produces an intermittent signal to alert the user to the fact that a new session can be set.

After pressing the II key, the display showing and, the UV working hours will be shown. After 750 operating hours, an L will automatically appear on the display to indicate that the HPA lamps need to be replaced or the tanning time must be slightly increased.

The clock speed of the µ-controller is derived from the 50 Hz mains frequency.
This frequency is also used to control the 8 triacs that determine the switch-in point (soft start) of the cos φ capacitors and the HPA lamps.

The fans are switched via the safety relay.
This relay is part of the (one fault condition) timer circuit.
If the control of the triacs is disturbed due to a fault in the µ-controller, the UV lamps may not be switched off.
As the µ-controller also generates a pulsating direct voltage to power the relay, the relay will be de-energised in case of a fault, thereby interrupting the lamp circuit.
Conversely, the appliance will not start if the switch contacts of the relay are closed at that moment (sticking contacts).

The remote control is galvanically isolated from the mains, with power supply and control taking place via a 4-core cable.
The remote control only functions as input/output terminal.

DISASSEMBLY

1. FLOOR PART (item 37)
- Remove the cord holders (item 28) and detach the cord clamps at the back.
- Remove the covers (item 29 and 39). The cover on the flex side can only be removed last.

2. REMOTE CONTROL (item 41)
- Remove the cord holder and pull the connector loose.

3. WHEEL (item 49)
- Remove the covers (item 29,39).
- Remove the locking plate and the nearest frame screw.
- Push the shaft out of its clamping.

4. GAS SPRING (item 14)
- Remove the covers (item 29,39).
- Put the appliance in its highest operating position (to ensure that no pressure is excerted on the gas spring) and tighten the ornamental screw (item 26).
- Loosen the 8-core cable so that the cable can easely slide through the cable duct.
- Remove a retaining ring from the hinge shaft at A.
- Tilt the appliance carefully so that the radiation part rests on the floor.
- Support the floor part to remove the pressure from the hinge shaft.
- Remove the hinge shaft and lower the floor part onto the floor.
- Remove the 2 bearing bushes.
- Loosen the ornamental screw (item 26), slide the top part of the stand approx. 20 cm inwards and tighten the screw again.
- Remove the 2 screws from the upper part of the stand at B and pull this part loose from the hinge.
- After the shafts have been removed, the gas spring can be slid out of the stand.

5. HIGHT ADJUSTMENT (item 27)
- Loosen the lower attachment of the gas spring in the manner described under 4.
- Remove the cord with its clamping by pressing the snap clamping on the inside.
- Remove the outer tube.
- Remove the 2 guide blocks and slide the clamping block from the inner tube.

6. HINGE WITH GAS SPRING (item 12)
- Remove the stand part in the manner described under 4 and 5.
- Remove the upper ornamental strips from the hinge part.
- Remove the cover (item 17) from the radiation part.
- Remove the cover from the connector compartment.
- Detach the 8-core cable.
- Remove the retaining ring from the locking shaft at C and push the shaft out of the stand.
- Remove the hinge part.

7. HPA LAMP (item 23)
- Remove the glass filter from the lamp unit in question.
  The lamp unit will continue to cling to the upper part.
- Remove the reflector clamps.
- Remove the reflector and take the lamp from the holder.

NB: When checking or replacing HPA lamps, pay attention to the following:

a. HPA lamps only start burning when they have cooled down sufficiently.
b. Never touch a lamp with your fingers. Clean the lamp with a cloth moistened with alcohol, if necessary.
c. After assembly the glass filter should be free from finger prints and dust. Clean the glass filter with a cloth moistened with alcohol, if necessary.

8. COVER OUTER SECTION (item 19)
- Remove the cover (item 17) and the cover of the connector compartment.
- Detach the wires of the outer section.
- Support this section and remove the 3 fixing screws at D.

9. COVER INNER SECTION (item 1)
- Disassembly of the cover is not advisable, since the non-visible parts of the pivot can only be fitted with special tools.
  For this reason, the cover is supplied as a whole with grip plate and wiring.
- Remove the centre glass filter and assemble it onto the new cover.
- Remove the outer sections (see under 8) and attach them to the inner section.
- Detach the wiring that runs through the tube of the stand.
- Remove the upper ornamental strips.
- Remove the retaining ring from the locking shaft at C and push the shaft out of the stand.
- Pull the inner section out of the stand.

10. POWER PCB (item 30)
- Pull the mains plug out of the wall socket.
- Remove the cover (item 29, see under .1)
- Replace the power PCB and connect all connectors.
- Place the cover on the base. The display of the remote control will now show error code E06 or E05.
- This indicates that the power PCB still needs to be programmed (code A08) for use in the HB971 according to the input in the table.

The following fault codes have been defined:

E01 - Safety circuit interrupted
This code will appear on the display for 5 seconds, while the beeper produces a loud beep.
Check whether the lamp units are in the correct position, whether all fans work or whether any UV filter is missing, broken or damaged.

E02 - Safety relay does not work according to specification
Replace the power module (item 30).

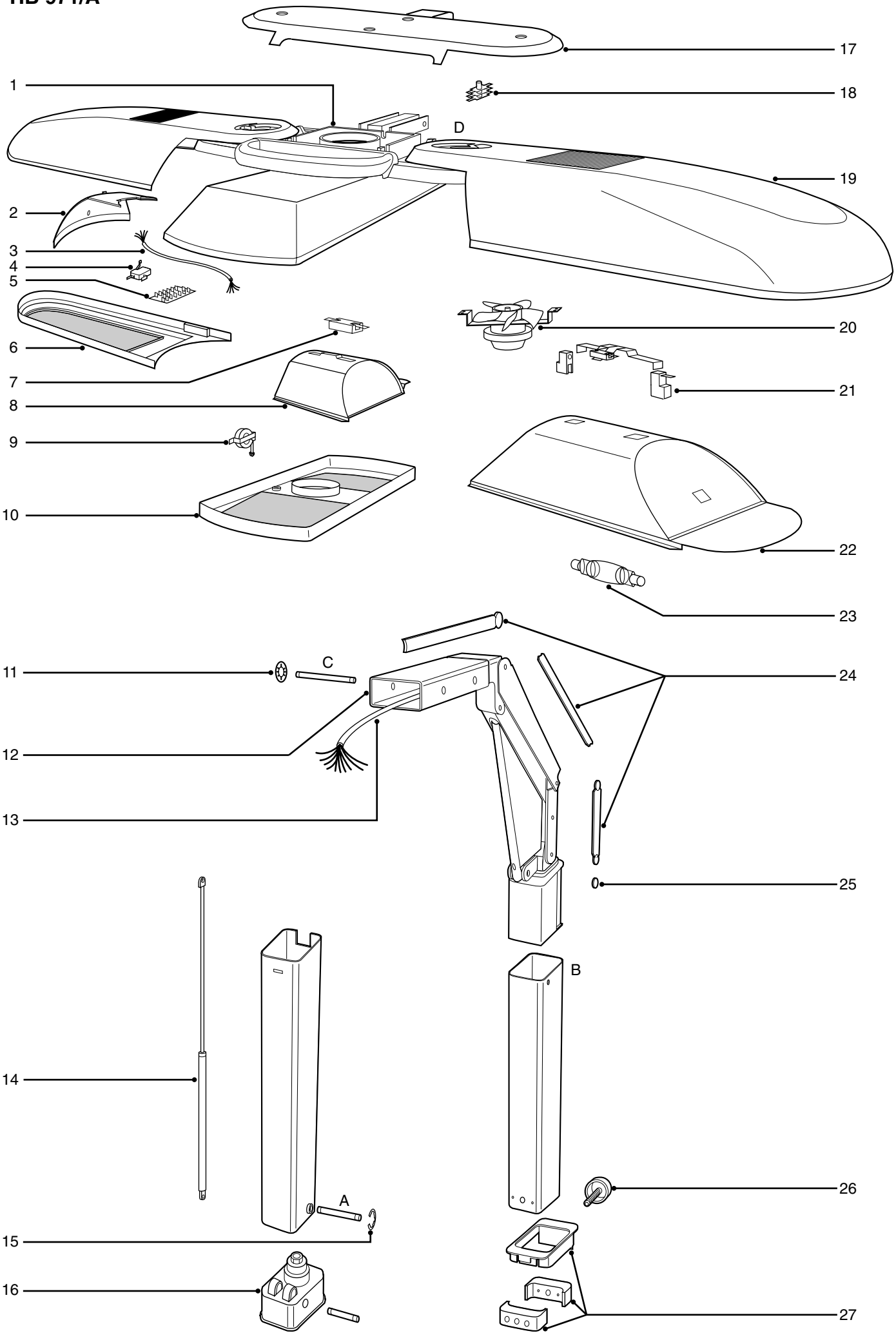
E03 / E04 - Fault in microprocessor
Replace the power module (item 30).

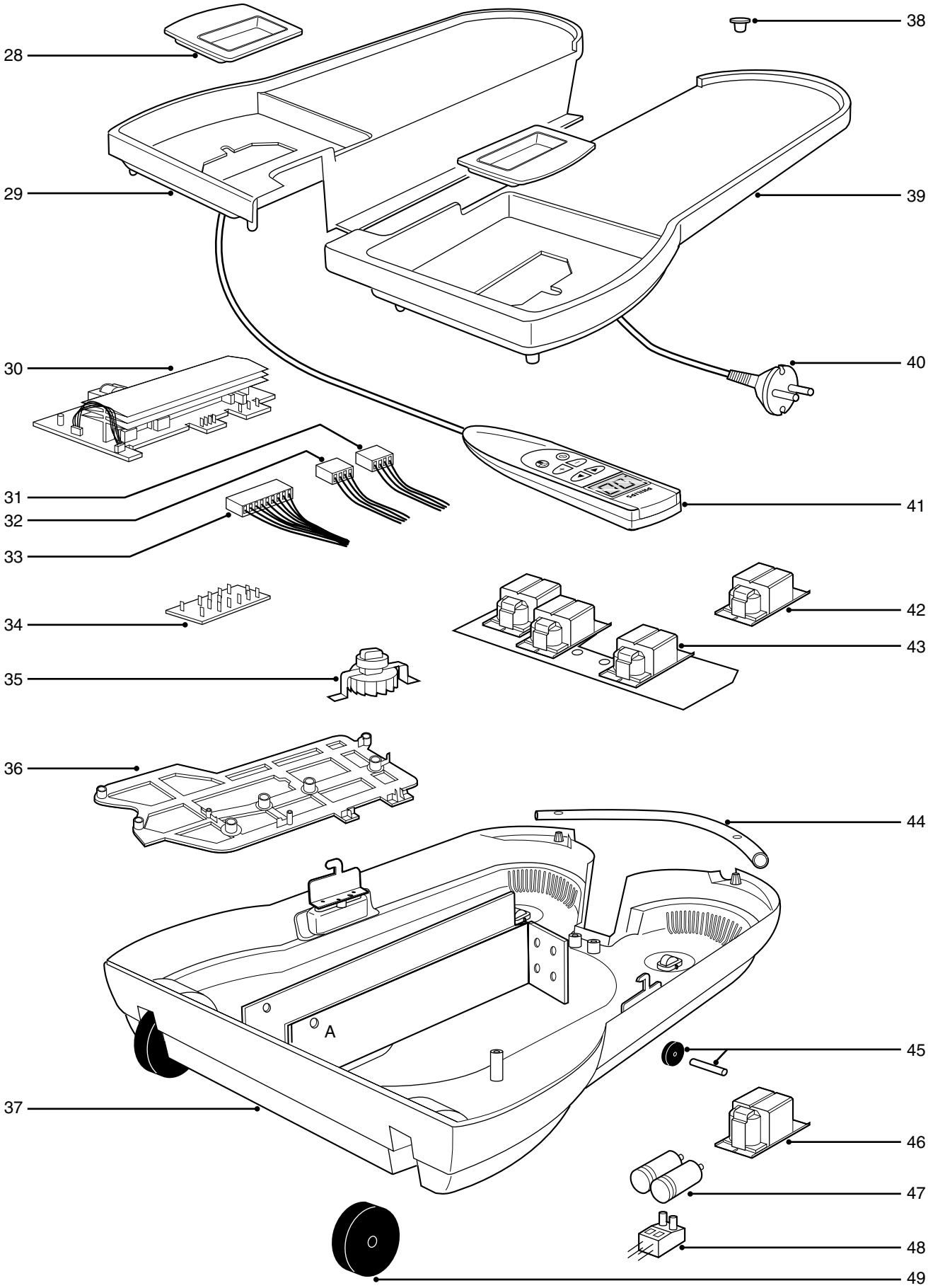
E05 / E06 - Application code not programmed
This only occurs in case of a new power module supplied by Service. Program the application code, beginning at line 1, step 3.

0	1	2	3	4	5	6	7	8	9	10	11
1	Open Service Mode	E5 E6	Press	+ 1x	+ 1x	+ 1x	+ 1x	+ 1x	+ 1x	C00	
2	Set Application Code	2x	C02	1x	A00	8x	A08	1x	C02	2x	C00
3	Close Service Mode	1x	00								

1	4222 062 94880	housing with grip
2	4822 442 01238	end cover
3	4822 321 11397	flex L/R 5c
4	4822 271 30619	micro switch
5	4822 214 12662	14-tabs pcb
6	4222 062 94800	lamphousing L(facial)
	4222 062 94990	lamphousing R
7	4822 252 11236	automatic cutout 120C
8	4822 380 10228	reflector M
9	4822 450 10449	distance indicator
10	4222 062 94790	lamphousing M
11	4822 530 70444	spring washer
12	4222 062 94760	hinge complete
13	4822 321 11396	flex in stand 8c
14	4822 529 10401	gasspring
15	4822 530 70126	retaining ring
16	4822 401 11733	flex clamping
17	4822 498 10689	grip cover
18	4822 265 11215	tab connector
19	4222 062 94830	cover L(facial)
	4222 062 95000	cover R
20	4822 361 11042	fan complete M
	4222 062 94840	fan complete L
	4222 062 94810	fan complete R
21	4822 325 20102	lampholder
22	4222 062 94820	reflector L(facial)
	4822 380 10229	reflector R
23	4822 134 30032	HPA lamp
24	4222 062 94770	orn. strips (2x3)
25	4222 062 94780	orn. caps (4x)
26	4222 062 94750	adj. knob
27	4822 401 11732	clamping unit
28	4822 256 10435	flexholder L/R
29	4822 442 01236	cover R.C.-side
30	4222 062 94720	power module
31	4222 062 94860	4-s connector mains
32	4222 062 94870	4-s connector capacitors
33	4222 062 94850	9-s connector ballasts
34	= 5	
35	4222 062 94730	fan complete
36	4222 062 95010	pcb frame
37	4822 441 12109	housing floorpart
38	4822 462 11021	orn. prop (4x)
39	4822 442 01235	cover flex-side
40	4822 321 11395	mains flex
41	4222 062 94710	remote control
42	4822 146 10935	ballast 500W/230V
43	4222 062 94330	ballast 400W/230V
44	4222 062 94740	bar grip
45	4822 528 70519	wheel small
46	4222 062 94890	ballast 100W/230V
47	4222 062 94600	capacitor 50µF/250V
48	4822 265 20234	connecting block mains
49	4822 528 11215	wheel large

HB 971/A




28
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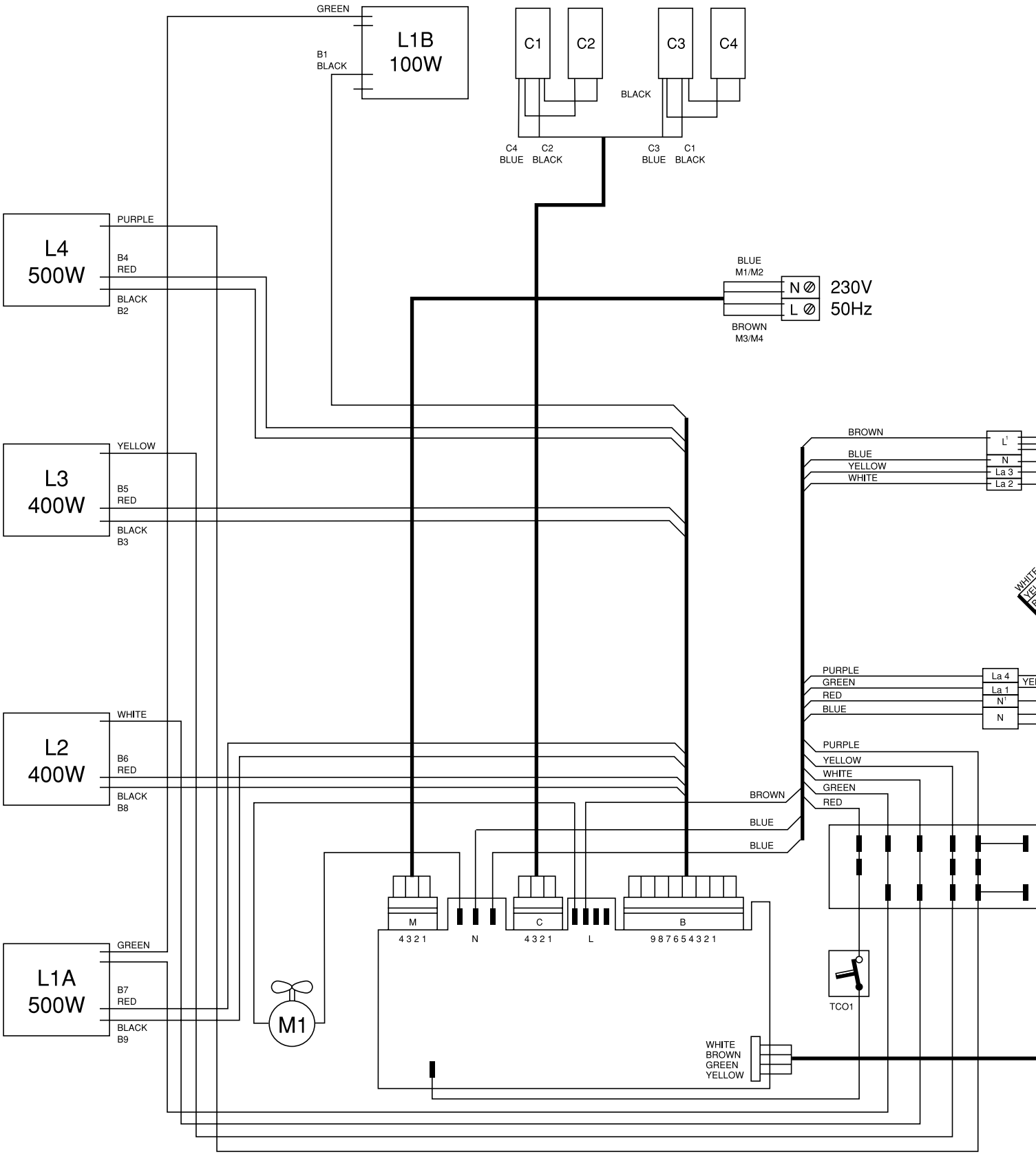
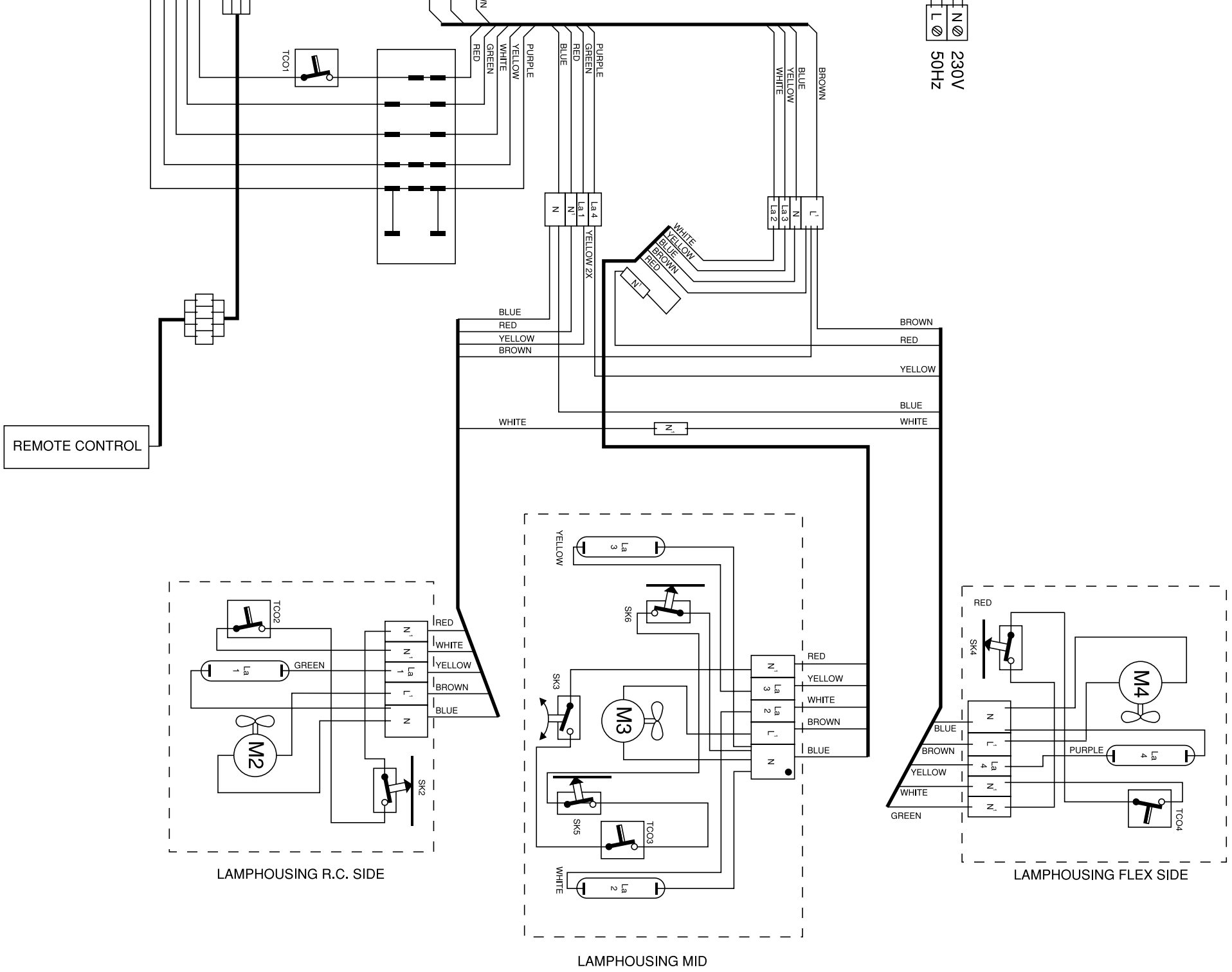

GREEN
L1B
100W
B1
BLACK
C1
C2
C3
C4
BLACK
C4 C2
BLUE BLACK
C3 C1
BLUE BLACK
L4
500W
PURPLE
B4
RED
BLACK
B2
BLUE
M1/M2
N
L
230V
50Hz
BROWN
M3/M4
L3
400W
YELLOW
B5
RED
BLACK
B3
BROWN
BLUE
YELLOW
WHITE
L'
N
La 3
La 2
L2
400W
WHITE
B6
RED
BLACK
B8
PURPLE
GREEN
RED
BLUE
La 4
La 1
N'
N
PURPLE
YELLOW
WHITE
GREEN
RED
BROWN
BLUE
BLUE
M
4321
N
C
4321
L
B
987654321
L1A
500W
GREEN
B7
RED
BLACK
B9
M1
TCO1
WHITE
BROWN
GREEN
YELLOW


230V
50Hz
L
N
TCO1
RED
GREEN
WHITE
YELLOW
PURPLE
BLUE
RED
GREEN
PURPLE
WHITE
YELLOW
BLUE
BROWN
N
N'
La 1
La 4
La 2
La 3
L'
YELLOW 2X
WHITE
YELLOW
BLUE
BROWN
RED
N'
REMOTE CONTROL
BLUE
RED
YELLOW
BROWN
BROWN
RED
YELLOW
BLUE
WHITE
WHITE
N'
TCO2
M2
GREEN
RED
WHITE
YELLOW
BROWN
BLUE
SK2
LAMPHOUSING R.C. SIDE
YELLOW
SK6
SK3
M3
SK5
TCO3
WHITE
RED
YELLOW
WHITE
BROWN
BLUE
LAMPHOUSING MID
RED
SK4
M4
BLUE
BROWN
YELLOW
WHITE
GREEN
PURPLE
TCO4
LAMPHOUSING FLEX SIDE