

The power supply socket module with safety switch and breaker switch is a power supply disconnection appliance.

The anti-electric shock was used and it is realised by connecting of the steel construction with the external protective grounding system. Additionally the access to the interior of the appliance is limited to trained person and can be done only by using a key. The connectors, which are connected to the power supply socket, are equipped with a safety cover, which protects against accidental touch. The voltage lower than 25V of the effective alternating current and 60V of direct current supplies all the electrical equipment of the appliance behind the transformer.

Four fuses are used:

- 3,15A fast – transformer supply,
- 6,3A time delay – halogen lamps supply circuit,
- 10A time delay – electromagnet supply circuit,
- 3,15A fast – control electronics supply circuit.

The transformer has got safety certificates. The interference eliminator is used.

Separate transformer windings are used to supply electromagnet, halogen lamps and the control electronics.

Electromagnet power supply cable:

- long lasting current carrying capacity 10A,
- diameter of the cable 1mm².

Halogen lamps power supply cable:

- long lasting current carrying capacity 5A,
- diameter of the cable 1mm².

Bulbs power supply cable:

- long lasting current carrying capacity 100mA,
- diameter of the cable 1mm².

The control electronics and displays are connected with the cable system by proper connectors, which exclude accidental mistake during assembly or service activities. The cables to electromagnet and halogen lamps are led through cable ducts. The cables to the sensors and the START button also are led in cable ducts but separate from cables to halogen lamps and electromagnet. The safety cable is in green-yellow colour. The cables, which are not in the cable ducts, are short and ended with proper connectors.

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1. Introduction

The BOXER machine is an entertainment appliance assigned for playing in bars, cinemas, places of entertainment, amusement parks, festivities, etc. The machine is a profit-making appliance, which does not pay money-prizes. The appliance allows choosing from three modes: the punch strength measurement, the punch speed measurement and the tournament mode, which allows to realise automatic game for few people at the same time.

The machine was designed and built from the best materials and parts, which can be found on the market. All the construction components of the appliance meet the safety requirements what is confirmed by the CE certificate.

2. Technical data

Height :	
– without top cover	215 cm
– with top cover	230 cm
Width:	
– without top cover	70 cm
– with top cover	80 cm
Length:	
– without top cover	114 cm
– with top cover	129 cm
Total weight	115 kg
Power supply	~230 V
Maximal power consumption	150 W
Average power consumption	30 W

10. Operational remarks

1) the mechanism adjustment:

The punch ball and its lowering mechanism are based on the lever construction. The punch ball is one arm of the lever. The second arm is loaded with a spring as a counterbalance. It considerably reduces wear of the lifting mechanism. If the punch ball is not lowered it means that the mechanism must be adjusted by tightening or loosening the nut which changes the tension of the spring. Additionally all the elements of the mechanism can be sprinkled with WD40.

2) cleaning:

Bigger scratches and defects can be removed by i.e. "Tempo" abrasive compound. The standard cleaning can be carried out by using "Pronto" furniture cleanser.

3) transport:

The appliance is equipped with built-in wheels, which considerably makes machine moving easy.

11. The PN-EN 60204-1 conformity analysis

The safety of the machines. Electrical equipment of the machines.

The appliance is supplied by 230V $\pm 10\%$, 50Hz $\pm 0,01\%$ alternating current. The power supply socket with interference eliminator, safety cut-out switch and breaker switch was installed. The appliance works properly in temperatures from +5°C to +40°C. The appliance passed tests in humidity 50% and temperature +40°C. If the humidity is very high or the appliance was flooded small adjustments as well as sprinkling of the electronics with any aerosol, which displaces moisture i.e., Kontakt 40 from Kontakt Chemie co. have to be done. The appliance is protected against accidental flooding.

The control module was installed on rubber washers. The electronic elements are soldered on double-sided circuits what considerably increases mechanical resistance against shocks and strokes.

The appliance is equipped with one power supply socket, which is directly connected to 150W/2*12V transformer. The transformer supplies all the electrical equipment of the appliance. The transformer passed proper tests and has got proper certificates (in the attachment).

The external protective grounding system clamp is led out from the power supply socket. In the machine near the power supply socket a clamp connected to the steel construction of the machine is located and is signed by PE letters and a sign



**** The change of the credits**

Number on the elucidate board	110	120	125	134	150	175	1	2	3	...	28	29	30	40	50	60	70	80	90
Number of the credits	0,1	0,2	0,25	0,34	0,5	0,75	1	2	3	...	28	29	30	40	50	60	70	80	90
Number of the credits	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{3}$	$\frac{1}{2}$	$\frac{3}{4}$	1	2	3	...	28	29	30	40	50	60	70	80	90

Example :

For credit on channel number 1 (number 11) give 0,5 credit for each insert coin, STRENGTH or SPEED button you must go to number "11" on elucidate board (bottom one). After that, START button you must go to number "150" on elucidate board (middle one).

***** Counters – how many on the counter after each point is insert**

Example :

For counter on channel number 1 (number 14) show "2" for each insert coin, STRENGTH or SPEED button you must go to number "14" on elucidate board (bottom one). After that, START button you must go to number 2 on elucidate board (middle one).

****** The amount of tickets = [(score – x):y]*z**

Example :

If you want for machine to give tickets after 300 points : for each 50 points score by the player, machine will give 1 ticket.

If a player will score 760 points, then :

X=300

Y=50

Z=1

$[(760-300):50]*1=460:50 = 9,2$ – machine will give 9 tickets

9. Volume control

The volume control can be realised by the assembly potentiometer, which is located on the electronic board. The setting knob, which makes the control easy, is mounted on the potentiometer.

3. The punch strength measurement 0-999

The punch strength measurement mode is active when the lamp shines over the STRENGTH button. In the other case the STRENGTH button has to be pressed. Every punch costs the player 1 credit. After inserting the coin the player pushes START button. At this moment the punch ball is automatically lowered. The halogen lamps at both sides of the punch ball light the punch field. Then the machine measures used punch strength. Then the sound and light presentation begins. Its sequence depends on the strength of the punch. Beating the record is rewarded by additional sound and light sequences as well as adding one extra credit. The best result in STRENGTH mode is 999.

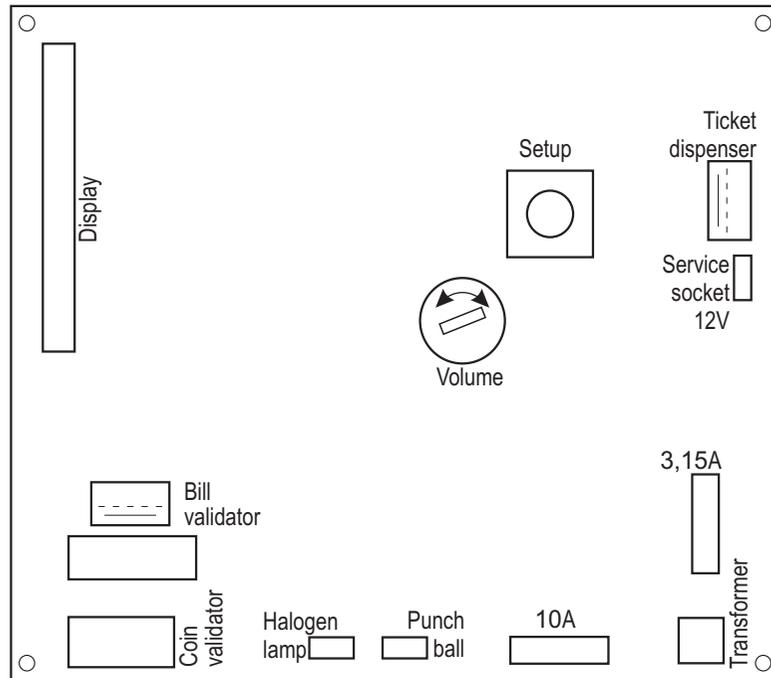
4. The punch speed measurement 999-0

The punch speed measurement mode is active when the lamp shines over the SPEED button. In the other case the SPEED button has to be pressed. Every punch costs the player 1 credit. After inserting the coin the player pushes START button. At this moment the punch ball is automatically lowered. The halogen lamps at both sides of the punch ball light the punch field. Then the machine measures the punch speed. Then the sound and light presentation begins. Its sequence depends on the strength of the punch. Beating the record is rewarded by additional sound and light sequences as well as adding one extra credit. The best result in SPEED mode is 0.

5. The tournament mode 0-999

To begin the TOURNAMENT mode the STRENGTH and SPEED button must be pushed together. The machine informs us about the mode choice and that more information about the game will be given after pushing of the START button. Every player who inserts amount of money set by operator is welcomed by the machine. 2 to 9 people can take part in the TOURNAMENT. The tournament begins after pushing of the START button. The machine automatically goes into the game. The excess of the money is automatically transferred to STRENGTH or SPEED mode. The game begins on the practice round. The punches in this round are not taken into the final results classification. Every player is informed about beginning of the new round and which player should execute the punch. After every punch its strength is measured and then the sound and light presentation is reproduced according to the strength of the punch. After the first round the players are informed whose result is the best. After the second round the information about the best result in second round is presented as well as information about the leading player after two rounds (the sum of the points from two punches is counted). After the third round the final results are announced which means a presentation of the first three places (the sum of the points from three rounds) and the best punch in the tournament result. The best result in the TOURNAMENT mode in one round is 999.

6. Programming and changing of the BOXER parameters



Pic. 1. The electronics board from the sockets side

7. Functional switch SETUP

The functional switch allows changing the further BOXER functioning. There is also a possibility of checking electronic counters of the coins, punches, tests, records and resets of those counters as well as power and speed characteristics off-set change.

8. Commands

ATTENTION! To enter options of BOXER you should press functional switch. After that, you will hear special sound, that's mean you can setup options.

OPTIONS

The change of the programme	– the STRENGTH and SPEED Buttons
The confirmation:	– the START Button
The elucidate board (bottom one)	– number of the programme
The elucidate board (middle one)	– option of parameters

The number of a programme on the credits display:

- 00 – Exit
- *01 – Standard configuration
- 02 – The amount of money accumulated from the beginning of the machine's functioning
- 03 – The amount of money – the current meter
- 04 – Erase the current meter
- 05 – Display the number of the best scores
- 06 – Erase the number of the best scores
- 07 – Erase the top scores
- 08 – Erase credits
- 09 – Free play
- 10 – Repeat the demo every (5 minutes – 45 minutes)
- **11 – The change of the credits (channel number 1)
- **12 – The change of the credits (channel number 2)
- **13 – The change of the credits (channel number 3)
- ***14 – The counter (channel number 1)
- ***15 – The change of the credits (channel number 2)
- ***16 – The change of the credits (channel number 3)
- 17 – The number of credits for 1 player in TOURNAMENT option
- 18 – The offset of the feature strength (0-240)
- 19 – The offset of the feature speed (0-240)
- 21 – on-off of the ticket dispenser
- ****22 – x – starting line
- ****23 – y – how many each time (points equals ticket)
- ****24 – z – total of tickets giving by y
- 25 – password

* Standard configuration:

- repeat the demo every 15 minutes
- credits: channel number 1 – 1 credit, channel number 2 – 2 credits, channel number 3 – 4 credits,
- counters: channel number 1 – 1 for the counter, channel number 2 – 2 for the counter, channel number 3 – 4 for the counter,
- the feature strength – 120
- the feature speed – 120