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The given document combines a data sheet and an instruction manual for the PSU-2 / PSU-4 / PSU-6 / PSU-8 power supply units with a built-in photocell (hereinafter referred to as PSU) and is meant for providing maintenance personnel carrying out mounting, setting up and running of the equipment with the necessary information about PS units device, operational principles, maintenance testing order.

PSU repairs should be effected by highly qualified specialists.

The present manual is valid for all follows-on.

1. DEVICE PURPOSE

The PSU is intended for applying in security systems (video surveillance systems) for supplying power to infrared illuminators and video cameras.

There are 2 (two) terminals in the PSU:

- the first one is run by a photocell and supplies voltage to an infrared illuminator at the illumination level of less than 10 lx.
- the second one is used for video camera power supplying and is not run by a photocell.

2. DELIVERY SET

The PSU delivery set contains:

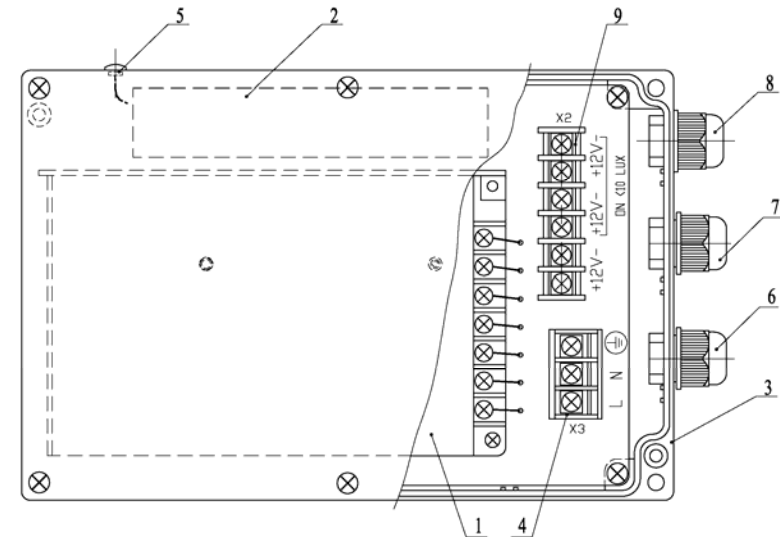
- | | |
|----------------------------------|-------|
| - power supply unit | 1 pc. |
| - package | 1 pc. |
| - plug fitting for a cable gland | 1 pc. |
| - documentation | 1 set |

10. ENCLOSURES

Appendix A – PSU assembly configuration

Appendix B – PSU overall and mounting dimensions

Appendix A PSU assembly configuration



1. a stabilized power supply
2. a photocell control circuit
3. a case
4. a terminal board for connecting network cable
5. a photocell
6. a cable gland for VAC 110-240 supply voltage cable
7. a cable gland for a video camera power supply cable
8. a cable gland for an IR illuminator power supply cable
9. a terminal board for connecting outer mains

If PSU is used for powering 2 (two) IR illuminators then their cables may be switched to a case through cable glands 7 and 8.

9. ACCEPTANCE CERTIFICATE

The Power Supply Unit

_____ (model designation)

Serial number

_____ passed the engineering control test and is considered to be in operational condition.

ECD(Engineering Control Department) Stamp

Acceptance Date

Trade organization

_____ (place for stamp)

Date of sale

Signature of the buyer

3. TECHNICAL PARAMETERS

Parameters	Value
Supply voltage, V AC	110-240
Power consumption, W, max:	
PSU-2	36
PSU-4	72
PSU-6	108
PSU-8	144
Output voltage, V DC	12 ± 2 %
Output channel quantity, pcs.	2
Channel-1	run by a photocell
Channel-2	not run by a photocell
Output current, max – in total for the both channels, A:	
PSU-2	2
PSU-4	4
PSU-6	6
PSU-8	8
Switch-on threshold for Channel-1, lx	10±5
Switch-off delay for Channel-1, sec	30±10
Operating temperature, ° C	- 20 - + 50
Weight, kg, max:	
PSU-2	1,25
PSU-4	1,37
PSU-6	1,42
PSU-8	1,6
Dimensions, mm	222-146-55
Protection Standard	IP66

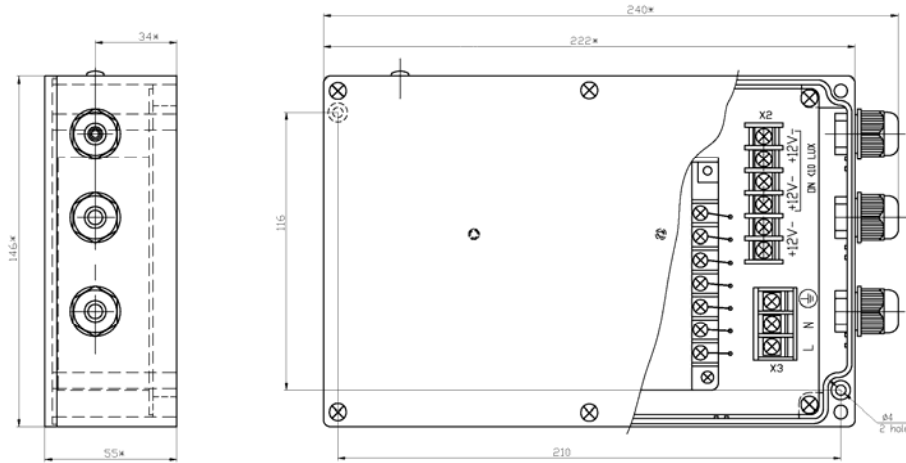
4. PSU DEVICE AND OPERATION

PSU construction can be found in **Appendix A**.

PSU consists of:

- a stabilized power supply (1)
- a photocell control circuit (2)
- a case (3)
- a terminal board for connecting network cable (4)
- a photocell (5)
- cable glands (6, 7, 8)
- a terminal board for connecting outer mains (9)

Appendix B
PSU overall and
mounting dimensions



**POWER SUPPLY UNIT
(with a built-in photocell)
PSU-2, PSU-4, PSU-6, PSU-8**

Data sheet & Instruction manual

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PSU operational principles

All the elements of the PSU electrical basic circuit are set on a circuit board.

Mains alternating voltage (110-240 V AC) is supplied to the stabilized power supply (1) through a terminal board for connecting network cable (4).

Stabilized output voltage (12 V DC, Channel 1) is supplied to a terminal board for connecting outer mains (9) through a photocell control circuit (2). Voltage is supplied at the illumination level of a photocell (5) less than 10 ± 5 lx. When the illumination level exceeds a threshold figure power supply (Channel 1) will switch off after a delay period (30 ± 10 sec). Thanks to this delay option momentary light flash (which falls onto the photocell (5)) in the night-time will not bring to IR illuminator's switching off.

The stabilized output voltage, 12 V DC (Channel 2), is given to a terminal board for connecting outer mains (9) on a constant base regardless of the illumination level and thus can be used for powering video cameras.

5. PSU CONNECTION AND MOUNTING

When mounting and connecting PS units it is essential to follow strictly all the clauses of the given instruction as well as the requirements of national, regional and special provisions on electrical safety. Non-observance of these provisions may result in PSU failures and electrical-shock hazards.

PSU should be fixed so that direct spurious flash lighting going onto the photocell (5) (for example, street lamp lighting) was excluded.

The PSU cover can be removed and the mains cables can be plugged in only when circuit voltage is disconnected and all measures providing safety against any chances of circuit voltage supply.

Circuit voltage (110-240 V) should be supplied through a double insulation three-wire round cable. The cable outside diameter is to be 4-8 mm for providing reliable pressurization in a cable gland.

Circuit voltage should be supplied to PSU through a residual current circuit-breaker.

Circuit voltage phase-shift cable should be plugged to the "L" terminal, neutral phase cable – to the "N" terminal and safety earth cable – to the board terminal (4) ("earth" sign in a circle).

An IR illuminator and a camera are to be connected to PSU with a double insulation paired round cable. The cable outside diameter is to be 4-8 mm for providing reliable pressurization in a cable gland.

An IR illuminator is to be switched to Channel 1, board terminals –12V and +12V (ON<10 LUX) (9) given that the polarity is observed. A camera is to be switched to Channel 2, board terminals –12V and +12V (9) given that the polarity is observed.

When closing the cover it is necessary to make sure that the compactor is solid and is in the right position. The cover should be fitted so that mismatch was excluded. The screws for fastening the cover are to be tightened for providing the compactor's even hold-down.

If one of the cable glands (7 or 8) is not in use then a protective cap for making PSU sealed should be put on.

6. PSU PRE-STARTING PROCEDURES AND MAINTENANCE TESTING

On receiving the device it is advised to make sure of package undamaged state.

Unpacking should be performed in the following order:

- open a box cover;
- release a device from the packing material;
- hold careful visual inspection of a device with respect to mechanical failures and breakage;
- study accompanying documents and carry out completeness check.

PSU general operative state is to be tested in a set with an IR illuminator and a video camera before installing at a site.

7. TRANSPORTATION AND STORAGE RULES

The goods packed in a producer's package can be transported by all modes of covered transports in accordance with GOST 12297-84 and the rules applied in regards to this or that transportation mode.

PSU should be stored in an indoor area, ambient should not be aggressive, i.e. it should not contain acid or alkali vapors. Admissible ambient air temperature range is from -40 ° C to $+50$ ° C; upper air relative humidity is 80 % at the temperature $+25$ ° C.

8. WARRANTY

The producer or the supplier guarantees the Power Supply Unit conformity to the technical requirements given that the user observes the connection, mounting, storage and operation rules indicated in the given document. The warranty period is 36 months from the date of sale. The warranty validity expires in case of the user's non-observance of the operation or storage rules, case integrity breach or voluntary repair, alteration, modernization etc.