

4 MANUAL

4.1 During installation and operation, use of force more than 1N (0.1kgf) to the IIT input and output windows is prohibited. Touching input and output optical surfaces with fingers or solid objects is prohibited. Maximal axial and lateral force applied to the IIT while fastening is 10N (1kgf).

4.2 Exposing the turned-off IIT to direct sunlight and continuous (more than 0.1h) exposing it to diffused light with illumination rate more than 100lx is prohibited.

4.3 Switching on the IIT can be made only with photocathode illumination rate less than 0.1 lx.

4.4 Maximum power supply voltage cannot exceed the stated requirements.

4.5 In order to avoid failure of the IIT power supply, the application equipment circuit should allow the installation of a non-polar capacitor with a capacitance 1μf parallel to the voltage input terminals (e.g. model K10-47a).

4.6 Relative humidity in the application equipment during the IIT operation should not exceed 40%. Other operation directives are to be performed according to RD 110708.

5 STORAGE REGULATIONS

IIT should be stored in accordance with Russian State Standard 21493.

6 MANUFACTURER'S WARRANTY

The Manufacturer guarantees that the quality of IIT corresponds to the KFSE.433240.015 TU, provided the Consumer complies all the terms and conditions of storage, installation and operation listed in the datasheet. The Warranty Period should be stipulated in the sales contract. MTTF is 10 000 hrs within the Warranty Period. Guaranteed storage life is 5 years from the date of acceptance, for the rechecked IIT – from the date of recheck.

7 CLAIMS

In case of premature failure, IIT and its datasheet should be returned to the Manufacturer with the following information:

Storage time _____
Start date of operation _____
Date of failure _____
Basic data of the operational mode _____
Operation time in the described mode, h _____
Reasons for taking IIT out of operation or storage _____
Fulfillment date _____ signature _____
date

If the fulfilled datasheet is absent, claims for defected Goods are not accepted.

Typ 3 gen.

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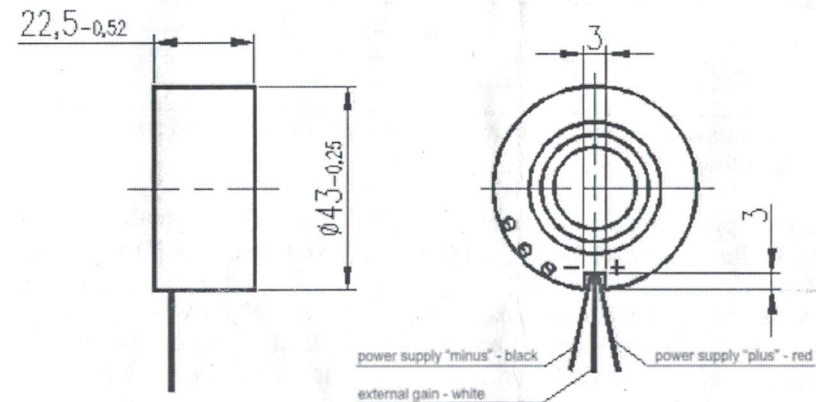
Image Intensifier Tube
EPM228G-10-11AR

DATA SHEET

1 GENERAL INFORMATION

Image intensifier tube (IIT) EPM228G-10-11AR with a direct image transfer, GaAs photocathode, microchannel plate for electron multiplication, build-in power supply, input and output window on a flat glass, which is designed to amplify weak light fluxes in night-vision equipment intended for commercial applications.

Individual serial number № 00742 Production date 21.09



Typ 3 sen.

2 MAIN TECHNICAL PARAMETERS

2.1 A IIT electrical parameters are stated in Table 1.

Table 1.

Parameter	Requirements		Measurement	Note
	min	max		
Photocathode luminous sensitivity, $\mu\text{A/lm}$	1 900		2150	
Photocathode sensitivity with filter KC-27, mkA/lm	1300		1550	
Photocathode radiant sensitivity $\lambda=850 \mu\text{m}$, mA/W	185		245	
Luminous gain, rel. units	60 000		70300	
Resolution center, lp/mm	63,2		797	
E.B.I., cd/m^2		6×10^{-3}	$2,1 \times 10^{-3}$	
Degree of purity of visual area	Paragraph 3.3.3, Table 3 TU			Guaranteed
Screen brightness at ABC at the range from 0,005 to 0,4 lx , cd/m^2	2.0	8.0		Guaranteed
Power supply range, V	2.0	3.6		Guaranteed
Input current, mA		25		Guaranteed

2.2 Electrical parameters changing in the process of operation:

Luminous gain – not less than 15 000.

2.3 Electrical parameters changing in the process of storage:

Luminous gain – not less than 20 000

2.4 Maximum operational modes are shown in Table 2.

Table 2.

Parameter	Requirements		
	min	nominal	max
Illumination on a photocathode, lx	-	1×10^{-4}	$1 \times 10^{-3*}$
Power supply, V	2,0	2,8	3,6

* IIT operation time with photocathode illumination $1 \cdot 10^{-3} \text{ lx}$ should not exceed 12 hrs for all the operation time.

2.5 The gamma-percent operating time at $\gamma = 90\%$ in a typical operational mode (with a photocathode illumination of $1 \times 10^{-4} \text{ lx}$ and a supply voltage of 2.8 V) is not less than 10,000 hours.

2.6 Gamma-percent shelf life of the image intensifier at $\gamma = 90\%$ when stored in the manufacturer's packaging in heated storage facilities, storage facilities with air conditioning, as well as those, which are installed in protected equipment or located in a protected ZIP-LOCK in all storage places -12 years .

2.7 IIT overall size: diameter, mm – does not exceed 43; length, mm – does not exceed 21,5. Product mass, g – does not exceed 60.

2.8 Non-ferrous metals content:

Copper and its alloys 0.12 g in details and solder.

Nickel and its alloys 1.52 g in details.

3 ACCEPTANCE REPORT

EPM228G-10-11AR individual number № 00792 correspond to the technical conditions KFSE.433240.015 TU, is accepted as qualified and is ready for exploitation.

Acceptance date	15.09.2022
QCD seal	
Signature	
Reinspection date	
QCD seal	
Signature	