

**Directorate General, C.R.P.F**

Block No.1, CGO Complex, Lodhi Road, New Delhi

(Ministry of Home Affairs/ Grih Mantralaya)

(Tele No.011-24369587/Fax No.011-24360155)

No. M.V-1/2023-24-Prov-Ord-II

Dated, the 23 May,2023.

To

The Technical Director, NIC  
North Block, New Delhi  
Email: [mpsugandhi@nic.in](mailto:mpsugandhi@nic.in)

**Subject: - Regarding publishing the draft QRs/TDs of Fusion Monocular.**

CRPF intends to procure some Fusion Monocular for operational utilization ; so the draft of requirement is attached with a request to upload it on MHA's Website for a period of 15 days (From 24/05/2023 to 07/06/2023) for comments of eligible vendors. The interested vendors/OEMs may send their comments in the following channels :-

Through Mail	<a href="mailto:dcordnance@crpf.gov.in">dcordnance@crpf.gov.in</a>
Through Fax	011-24360155
By Hand	Room No. 10, Ground Floor, Block No. 01, Directorate General, CRPF, Lodhi Road, New Delhi-03

Encl:- Draft QRs/TDs of Fusion Monocular (03 Pages).


  
23/5/23  
(Des Raj)  
DIG (Ordnance)

No. M.V-1/2023-24-Prov-Ord-II

Dated, the 23 May,2023

Copy forwarded to:-

SO (IT), North Block for necessary action please. ([soit@nic.in](mailto:soit@nic.in)).


  
(Des Raj)  
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## DRAFT QRs/TDs OF FUSION MONOCULAR

S/ N	Parameters	Quality Requirements	Trial Directive
1.	General	Fusion Monocular is an equipment, which enables troops to see and operate in dark hours of night. It has both technologies in it i.e. II tube based and thermal.	-
2.	Weight	500 gm $\pm$ 10% gm including Battery.	To be physically checked by BOO.
3.	Parameters	Real time night vision capabilities of 18 mm II tube technology fused with Thermal Imaging technologies for surveillance purpose. It Must be capable of being used as a hand held viewer, face & helmet mounted. Suitable adaptor should be provided with each such monocular.	To be physically checked on OLED display and external screen.
4.	Thermal Imager parameters	I) Spectral range - 8-14 $\mu$ m or better. II) Sensor Resolution 640x480 or better III) Pixel pitch 12 microns or better IV) Polarity:-Should have feature of white hot and edge detection for the ease of use.	Firm to submit Detector datasheet and certificate of manufacturer.
5.	II tube Specifications	I) Resolution – 64 lp/mm II) Signal to noise ratio – 24 III) It should be military grade. IV) It should have inbuilt AGC and BSP. V) It should be auto-gated.	Firm to submit OEM Certificate for same. These parameters will be checked at IRDE Dehradun or SIW BSF during field trial. Equipment must comply all parameters
6.	Operational parameters	I) Operating temp- -20° to 55°C II) Storage temp- -30°C to 55°C III) System should be ruggedized as per latest Mil Std 810G/JSS-55555 in respect of humidity, shock, vibration, and bump supported by National/International accredited lab certificate.	Firm to submit NABL certificate from any Indian accredited lab.
7.	Field of View	For II tubes - FOV of 45° or more. For TI – FOV of 30deg or more.	To be physically checked by BOO for both Day and TI.
8.	Recognition (In star lit conditions without moon)	For human being: Detection – minimum 250 meter Recognition – Minimum 150 meters	To be physically checked by BOOs.

9.	Frame rate	Not less 25 FPS.	To be physically checked by BOOs.
10.	Battery and battery back-up.	Equipment should work on a commercially available battery, which will provide 6 hours endurance to be checked on fusion mode.	To be physically checked by BOOs.
11	Transportation case	One hard rugged case for transportation for equipment and accessories and soft carry case for equipment with shoulder strap.	To be Physically checked by BOOs.
12	Starting time	10 sec or less	To be Physically checked by BOOs.
13	Dioptr	+4D to – 4D or better	To be physically checked by BOOs at SIW, BSF and firm to provide a lab certificate in this regard.
14	Battery Charger	It should have a commercially charger capable to charge the battery completely in less than 3 hours.	To be Physically checked by BOOs.
15	Technical Manual	Technical manual / operational manual should be provided. 1) One spare Eye guard and OG cover, and one set of cells / battery should be provided with each sight.	To be Physically checked by BOOs.
16	Warranty	Minimum 2 years	Firm to submit an undertaking certificate in this regard.
17	Service Life	Min 10 years	Firm to submit an undertaking certificate in this regard.
18	Water resistance	The complete equipment should be functional after being submersed into water in 1 meter depth for half an hour without water leakage in to its interior. The Fusion monocular should function properly after it.	To be Physically checked by BOOs.
19	Low battery indication	Low battery indication should be provided inside the field of view (FOV)	To be Physically checked by BOOs.
20	Magnification	1 x or better	To be Physically checked by BOOs.
21	Miscellaneous:- 1) One additional set of battery be provided.		To be Physically checked by BOOs.

	<p>II) Cleaning kit should be provided with each of the equipment.</p> <p>III) List of supporting test equipment's and their rate should be provided.</p> <p>IV) Supplier to submit undertaking to provide spare parts for next 10 years minimum from the date of supply.</p> <p>V) Technical manual/operational manual including repair manual of Fusion Monocular.</p> <p>VI) Repair and maintenance training should be arranged for about 3 working days to minimum 5 technicians at OEM premises and operational training to be provided at any field location. Number of persons and field locations to be specified by the users at the time of tender.</p>	
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23/11/23  
(Des Raj)  
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