

## Jadavpur University

### Notice to Bidders

Tender Enquiry No.: JU/UPE/EE/03/2015

Date: 20/2/2015

#### Sub: Thermal Imager.

Sealed bids are invited from eligible and reputed OEMs/bidders who must be authorized by OEMs/Developers/Registered for products quoted for implementing the complete Wire based smoke detection system and related infrastructure up-gradation as per the details provided.

The rates must be inclusive of all costs, taxes, charges in total as cost of the University, Considering following four functions: 1. DELIVERY, 2. INSTALLATION, 3.COMMISSIONING & 4.CONFIGURATION.

The offer must be given under two-bid system:

I) TECHNO COMMERCIAL BID: SEALED ENVELOPE CONTAINING – COVERING LETTER WITH AUTHORIZATION IN OEM'S/DEVELOPERS/REGISTERED OFFICIAL STATIONARY AND COMPLIANCE DETAILS OF TECHNICAL SPECIFICATION AND GENERAL TERMS AND CONDITIONS ALONG WITH PRESCRIBED EARNEST MONEY DEPOSIT (EMD) DULY SUPER-SCRIBED WITH 'TECHNO-COMMERCIAL BID', TENDER NOTICE NO. & DATE. A CHECKLIST AND COMPLIANCE STATEMENT AGAINST EACH ITEM THEREON SEVERALLY AND INDIVIDUALLY SHALL ALSO BE SUBMITTED. A DD OF RS.15000/- DRAWN IN FAVOUR OF JADAVPUR UNIVERSITY IS TO BE SUBMITTED TOWARDS EARNEST MONEY.

II) PRICE-BID: SEALED ENVELOPE CONTAINING THE BILL OF MATERIAL WITH PRICE BID AS PER DETAILS GIVEN CLEARLY STATING THE COMPONENTS THEREOF. THE ENVELOPE SHOULD BE CLEARLY SUPER-SCRIBED WITH 'PRICE BID', TENDER NOTICE NO. & DATE.

THE LAST DATE OF SUBMISSION OF TENDER IS FIXED AS 4<sup>TH</sup> MARCH' 2015 WITHIN 4 P.M AT CENTRAL MONITORING CELL, AUROBINDA BHAVAN, JU, WHICH WILL BE OPENED ON THE SAME DATE.

THE TECHNICAL BID WILL BE EVALUATED FIRST AND THE PRICE BID WILL BE OPENED ONLY IN RESPECT OF THOSE OEMS/VENDORS WHO ARE FOUND TECHNICALLY QUALIFIED AFTER EVALUATION OF TECHNICAL BIDS, WITHIN NEXT 7 DAYS.

University reserves the right of selection.

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Registrar

## Terms & Conditions:

- Quotation should be free for delivery at Jadavpur University unless otherwise arranged.
- Prices Quoted be net and minimum period of validity of the quotation should be for the six months from the closing date.
- Quotation should be free from CORRECTIONS and ERASURES.
- Sample must be attached with quotation in all possible cases. (if applicable)
- Manufacturers NAME and COUNTRY OF ORIGIN OF THE MATERIALS offered must be clearly specified falling which the Tender will be considered.
- **For the brand is being quoted, we require a formal tender specific authorization from the manufacturer must be stated.**
- Samples must be submitted where specified so as to reach this office before the DUE DATE of Enquiry. Samples must be labelled clearly with our ENQUIRY NUMBER, DUE DATE, NAME OF THE FIRM AND number on sample must corresponds to the items in the tender. (if applicable)
- The tenderers will not be entitled to ask for any further information other than whether there tender have been received or not.
- The University does not bind itself to accept the lowest or any tender assign any reason for non-acceptance. It further reserved the right to accept any tender in part or in whole at its option.
- If the University finds that the materials supplied are not of the contract quality or not according to the specification required by the University or otherwise not satisfactory owing to any reason, of which the university shall be the sole judge, the university shall be entitled to refuse the acceptance of the said materials, cancel the order and buy its requirement elsewhere at supplier's responsibility.
- Tenders must as far as possible, arrange to supply the materials according to the terms of delivery specified in the orders. If however this is not possible, they shall clearly specify the time in which the delivery of the articles can be affected. This delivery time must be strictly adhered to. Failure to supply within the specified time will lead to cancellation of the order without notice.
- If the deliveries are not regular and if on that account the university is forced to buy the materials elsewhere, any loss or damage the university may sustain thereby will be recovered from the supplier for non-delivery at the scheduled periods.
- If any tenderer proposes to change Sales Tax & Delivery charges, in addition to his quoted rates this fact should be stated specifically in the quotation. In the absence of such statement the rate quoted will be deemed to be inclusive Sale Tax & Delivery Charges.
- Non-compliance of a order may lead to cancellation of enlistment and no enquiry will be issued in future. Upto 10% of bill value may be deducted for default on delivery.
- IN ALL CASES OF DISPUTES, THE DECISION OF THE UNIVERSITY SHALL BE FINAL & BINDING ON YOU.

### **Please note that-**

- The quantity mentioned in the tender document may vary depending upon change in requirement or availability of fund.
- Order will be placed to a single bidder for all the items.
- For any dispute, the decision of the University shall be valid & final

# JADAVPUR UNIVERSITY

## BOQ and Specifications

Thermal Imager for Electrical Engineering Department under UGC UPE- II Programme

Specifications for Thermal Imager	
Attributes	Required or not with minimum range/feature
Temperature measurement range	at least -20 °C to +1200 °C
Temperature measurement accuracy	at least $\pm 2$ °C or 2 % (at 25 °C nominal, whichever is greater)
Imaging performance	
Image capture frequency	9 Hz refresh rate or 60 Hz refresh rate depending upon model variation
Detector type	Focal Plane Array, uncooled
Thermal sensitivity (NETD)	microbolometer, 320 x 240 pixels
Total pixels	$\leq 0.05$ °C at 30 °C target temp (50 mK)
Infrared spectral band	at least 7.5 $\mu\text{m}$ to 14 $\mu\text{m}$
Visual (visible light) camera	Industrial performance at least 5.0 megapixel
Visual (visible light) camera Standard infrared lens type	Industrial performance at least 5.0 megapixel
Field of view	at least 24 ° x 17 °
Spatial resolution (IFOV)	1.31 mRad
Minimum focus distance	15 cm (approx. 6 in)
Field of view	12 ° x 9 °
Spatial resolution (IFOV)	0.65 mRad
Minimum focus distance	45 cm (approx. 18 in)
Optional wide-angle infrared lens type, available soon	
Field of view	46 ° x 34 °
Spatial resolution (IFOV)	2.62 mRad
Minimum focus distance	15 cm (approx. 6 in)
<b>Focus mechanism</b>	
Auto Focus System	Yes
Advanced Manual Focus	Yes

Assistant Professor  
 Assistant Engineer  
 JADAVPUR UNIVERSITY  
 KALYANPUR

18/12/15

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Attributes	Required or not with minimum range/feature
Palettes	Ironbow, Blue red, High Contrast, Amber, Amber inverted, Hot Metal, Grayscale, Grayscale Inverted
Standard	Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra
Ultra Contrast Level and span	Smooth auto-scaling and manual scaling of level and span
Fast auto toggle between manual and auto modes	Yes
Fast auto-rescale in manual mode	Yes
Minimum span (in manual mode)	2.0 °C (3.6 °F)
Minimum span (in auto mode)	3.0 °C (5.4 °F)
IR-Fusion information	
Picture-In-Picture (PIP)	Yes
Full screen infrared	Yes
Auto Blend mode	Yes
Color alarms (temperature alarms)	High-temperature , low-temperature, and isotherm (user-selectable)
Image capture and data storage	
Image capture, review, save mechanism	One-handed image capture, review, and save capability
Storage Medium	Micro SD Memory Card, on-board flash memory, save-to-USB capability, direct download via USB-to-PC connection
File formats	Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2) Video*: non-radiometric (MPEG - encoded .AVI) and fully-radiometric (.IS3)
Export file formats	BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF
Memory review	Thumbnail view navigation and review selection
Voice annotation	60 seconds recording time per image; reviewable playback on imager
Wi-Fi connectivity	Yes, to PC, iPhone®, iPad®
Video recording	Standard and Radiometric
Streaming Video	Via USB to PC and HDMI to HDMI compatible screen
Wireless System	Yes
Cardinal Compass	Yes
Auto capture (temperature and interval)	Yes

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Responsible Professional Engineer  
Responsible Professional Engineer  
Responsible Professional Engineer  
Responsible Professional Engineer

Attributes	Required or not with minimum range/feature
Remote control and operation (for special and advanced applications)	Yes
Operating temperature	-10 °C to +50 °C (14 °F to 122 °F)
Storage temperature	-20 °C to +50 °C (-4 °F to 122 °F) without batteries
Relative humidity	10 % to 95 % non-condensing
Ruggedized Touchscreen Display (preferably Capacitive)	8.9 cm (3.5 in) diagonal landscape color VGA (640 x 480) LCD with backlight
Controls and adjustments	User selectable temperature scale (°C/°F)
	Language selection
	Time/Date set
	Emissivity selection
	Reflected background temperature compensation
	Transmission correction
	User selectable hot spot and cold spot, and center point on the image
	Expandable-contractable Measurement Box with MIN-AVG-MAX temp
	Color alarms
	User selectable backlight setting
Batteries	Graphical information display preference at least Two lithium ion rechargeable smart battery packs with five-segment LED display to show charge level, all models
Battery Life	At least Four+ hours continuous use per battery pack (assumes 50 % brightness of LCD and average usage
AC operation	AC operation with included power supply (110 V ac to 220 V ac, 50/60 Hz). AC mains adapters included.
Power saving	User selectable sleep and power off modes
Safety standards	UL 61010-1:2012 CAN/CSA-C22.2 No.61010-1-12 IEC 61010-1
Size (H x W x L)	Not exceeding 28 cm x 13 cm x 17 cm
Warranty	At least Two-years (standard)

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18/11/15

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Approved: \_\_\_\_\_  
 Assistant Professor  
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