



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
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PR. No. 1000003363 (Tender/RFx No.6100000044)

Tender Specifications for InGaAs Camera for Electroluminescence Imaging

Part Description	Parameter specifications
Major Application	<ul style="list-style-type: none">• Imaging of Si wafer, solar cells and PV modules
Sensitivity range	<ul style="list-style-type: none">• 900 -1700 nm spectral range of standard SWIR
Quantum Efficiency	<ul style="list-style-type: none">• > 60 % in 1000 -1600 nm spectral range
Pixel format & pitch	<ul style="list-style-type: none">• 640 x 512 pixel (FPA) minimum• 15 μm (maximum)
Noise level	<ul style="list-style-type: none">• \leq 50 electrons (RMS)
Digital output	<ul style="list-style-type: none">• 30 - 60 frame per second• Continuous scan mode• Automatic gain control
Exposure time	<ul style="list-style-type: none">• Upto300 ms
Output range requirement	<ul style="list-style-type: none">• Raw data in matrix format• Non-uniformity real time correction on-board• Windowing, Binning & In-field offset correction
Temperature range	<ul style="list-style-type: none">• - 5⁰ C to + 50⁰ C during operation• \pm 50⁰ C for storage Camera suspension facility
Electrical Requirements	<ul style="list-style-type: none">• Low power consumption• Power supply must follow Indian standards (single phase 220 V, 50 Hz; or three phase 440V including power plugs) and all required cables must be supplied.• Camera should have the capability of being triggered electronically
Other requirements	<ul style="list-style-type: none">• C mount / F mount• Required lenses for imaging solar cells and modules
Software requirements	<ul style="list-style-type: none">• Support OS Window 7 & above• Free upgrade for higher version of the MS Windows OS when Windows 7 support from MS ends.

List of Consumables / Spare parts (including quantity)	<ul style="list-style-type: none"> • To be provided by the Vendor along with the bid (Cost should be mentioned in the bid)
Others	<ul style="list-style-type: none"> • Customer list in India and abroad with contact details (at least 3) already using the equipment should be provided.
Note	<ul style="list-style-type: none"> • The vendor must provide detailed technical specification of the quoted product. • In addition to above, vendor should comply with the mentioned requirements: <ol style="list-style-type: none"> 1. Provide all essential accessories including cables etc. 2. Must ensure after sales service and availability of spare parts for at least 5 years. 3. Demonstrate the proper operation of the equipments and provide proper training for operation and maintenance of the equipments. 4. Software, instruction manual and calibration report should be provided at the time of delivery of the equipment. 5. Provide 12 months warranty for all components of the system.