


TD-201 Rev No. 00 Form No.	 HYDERABAD	<b>PRODUCT STANDARD          PROJECT ENGINEERING &amp;          SYSTEMS DIVISION          HYDERABAD</b>	ANNEXURE-B OF
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**(TECHNICAL DATA SHEETS)**


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<div><div><div>COPYRIGHT AND CONFIDENTIAL</div><div>The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.</div></div></div> <div><div>01.Type</div><div>: Conventional liner smoke detector, consists of Transmitter unit &amp; receiver unit</div></div> <div><div>02. Model No.</div><div>:Bidder to indicate</div></div> <div><div>03. Operating Temperature</div><div>: -10 Deg. C. to 55 Deg. C. Range</div></div> <div><div>04. Operating range</div><div>: 5 to 100 meters</div></div> <div><div>05. Mounting</div><div>: Horizontal / Vertical</div></div> <div><div>06. Quiescent current</div><div>: 250 micro Amp.</div></div> <div><div>07. Protection</div><div>: IP42</div></div> <div><div>08. Humidity Range</div><div>: 5% to 90% RH</div></div> <div><div>09. Alarm current</div><div>: 50mA</div></div> <div><div>10. Operating Voltage</div><div>: 24V DC</div></div> <div><div>11. Sensitivity</div><div>: Present at factory/ Adjustable at site</div></div> <div><div>12. Detectors approved by</div><div>: FOC/ FM / UL/ MAC / LPA/ VDS</div></div> <div><div>13. Detector Base</div><div>: Mounting Box with double compression glad</div></div> <div><div>14.Accessories</div><div>: To install required nut, bolts, cable glands, Lugs etc., as required</div></div> <div><div>15. Mounting Type</div><div>: Horizontal / Vertical</div></div> <div><div>16.Inspection &amp; Testing</div><div>: Visual &amp; Functional witness, Test certificates review , statutory certificates review</div></div> <div><div>17. Current Rating</div><div>: To suit above parameters model current data,</div></div> <div><div>18. Material</div><div>: To suit above parameters model current data,</div></div> <div><div>19. Makes</div><div>: Protect wire/ system sensor or equivalent.</div></div> <div><div>20. Compatible</div><div>: To be hooked up to plant fire detection &amp; Alarm System supplied by others.</div></div> <div><div>Ref. Doc</div></div>			

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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.	<p align="center"><b><u>COMPUTER &amp; PRINTER DATA SHEET</u></b></p> <p><b>A. CPU:</b></p> <p>1.0 Make : Dell / equivalent.</p> <p>2.0 Processor : Latest/ Intel @ core i7</p> <p>3.0 Configuration : Tower</p> <p>4.0 Model No. : To be selected by vendor</p> <p>5.0 Internal clock : 3.2 GHz</p> <p>6.0 Architecture : 32 bit</p> <p>7.0 Video card : PCI</p> <p>8.0 RAM : 4 GB DDR,</p> <p>9.0 Hard Drive : 500 GB SATA@7200 rpm</p> <p>10.0 Cache : 512 KB level2</p> <p>11.0 CD/ DVD Drive : CD - Both Read &amp; Write for OWS.</p> <p align="center">Both CD &amp; DVD Read &amp; Write for ES</p> <p>12.0 Audio Controller : 16-bit</p> <p>13.0 Operating System : LATEST Window</p> <p>14.0 Graphic accelerator : 8 MB</p> <p>15.0 Communication Ports : 2nos. (min.) Ethernet ports (1000 MB) 4 nos. USB ports (2 front &amp; 2 back.)</p> <p>16.0 Dimensions &amp; Weight : To be selected by vendor</p> <p>17.0 Mouse. : Optical</p> <p>18.0 UPS : 1 NO. PER PC (Backup 1 Hr.)</p> <p><b>B. MONITOR:</b></p> <p>1.0 Make : Dell / equivalent.</p> <p>2.0 Type : TFT Monitor</p> <p>3.0 Model No. : To be selected by vendor</p> <p>4.0 Screen diagonal : 24 Inch Flat</p> <p>5.0 Display : XGA/ better</p> <p>6.0 Resolution : 1024 X 768/ better</p>			
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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<div data-bbox="321 226 1468 1738"> <p>7.0 Degree of protection : IP-30</p> <p>8.0 External Controls : Brightness, contrast, Horizontal / Vertical Amplification &amp; shift</p> <p>9.0 Power supply : 240 V, 50 Hz, 1 phase</p> <p>10.0 Ambient temperature : 0-50 O C</p> <p>11.0 Humidity : 95% non-condensing</p> <p>12.0 Version : To suit industrial application</p> <p><b>C. KEY BOARD:</b></p> <p>1.0 Make : Dell / equivalent.</p> <p>2.0 Type : Flat spill proof membrane type or Positive depression type</p> <p>3.0 Model No. : To be selected by vendor</p> <p>4.0 Key lock : Lockable type push button mounted on Keyboard</p> <p>5.0 Life Expectancy : 50 million cycles per key</p> <p>6.0 Version : To suit industrial application</p> <p>7.0 Different keys : a) Soft and user defined function keys for Software/ programming including text Correction, scan rate alteration, Zooming/ flashing color selection etc. b) Panel select keys for alarm summary, Control loop display, overview, trend, Graphic, operator guide message etc. c) Standard Alphanumeric keys d) Alarm acknowledge keys e) Cursor keys f) Mode/ loop status switching keys g) Setting change keys h) Print-out command keys i) Other keys as required to operate the system</p> <p><b>D. PRINTER:</b></p> <p>1.0 Make : Dell / equivalent.</p> <p>2.0 Type : Laser jet, tabletop, network ready</p> <p>3.0 Model No. : To be selected by vendor</p> <p>4.0 Printer Memory : 256 MB</p> </div>		
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<div>COPYRIGHT AND CONFIDENTIAL</div> <div>The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.</div>		5.0 Speed		: Monochrome 24 ppm - A4, Color 6 ppm –A3/ A4			
		6.0 Resolution		: 1200 x 1200 DPI in color			
		7.0 No. of color (Basic)		: 4 (four) minimum			
		8.0 Size of paper		: Letter, A4, Legal, Ledger, A3			
		9.0 Power supply		: 240 V, 50 Hz, 1 phase			
		10.0 Ambient temperature		: 0-50 O C			
		11.0 Humidity		: 95% non-condensing			
		12.0 Print media		: Plain paper, transparencies, thick stock			
				: Glossy stock, envelopes			
		12.0 Accessories		: Adapters, Connector Cable, Multiplexer			
				Switch (4 point)			
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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p style="text-align: center;"><b><u>CONTROL MODULE</u></b></p>																															
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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p style="text-align: center;"><b><u>EXIT SIGN</u></b></p> <table border="0"> <tr> <td>01. Type</td> <td>:Self Luminous Exit Sign(Back )</td> </tr> <tr> <td>02. Model No.</td> <td>:Bidder to indicate</td> </tr> <tr> <td>03. Operating Temperature</td> <td>:-20 Deg. C. to 80 Deg. C. Range</td> </tr> <tr> <td>04. Mounting</td> <td>:Horizontal / Vertical</td> </tr> <tr> <td>05. Degree of Protection</td> <td>:IP55</td> </tr> <tr> <td>06. Humidity Range</td> <td>:5% to 90% RH</td> </tr> <tr> <td>07. Operating Voltage</td> <td>:24V DC</td> </tr> <tr> <td>08. Detectors approved by</td> <td>:FOC/ FM / UL/ MAC / LPA</td> </tr> <tr> <td>09.Accessories</td> <td>:To install required nut, bolts, cable glands, Lugs etc., as required</td> </tr> <tr> <td>10.Inspection &amp; Testing</td> <td>:Visual &amp; Functional witness, Test certificates review ,Statutory certificates review</td> </tr> <tr> <td>11. Housing</td> <td>:Enclosed in a transparent proof –UV stabilized coated sheet With UV screen printing by imported inks</td> </tr> <tr> <td>12. Current Rating</td> <td>:To suit above parameters model current data,</td> </tr> <tr> <td>13. Material</td> <td>:To suit above parameters model current data,</td> </tr> <tr> <td>14. Makes</td> <td>:Protect wire/ Polite Auto glow or equivalent.</td> </tr> <tr> <td>15. Compatible</td> <td>:To be hooked up to plant fire detection &amp; Alarm system Supplied by others.</td> </tr> </table>			01. Type	:Self Luminous Exit Sign(Back )	02. Model No.	:Bidder to indicate	03. Operating Temperature	:-20 Deg. C. to 80 Deg. C. Range	04. Mounting	:Horizontal / Vertical	05. Degree of Protection	:IP55	06. Humidity Range	:5% to 90% RH	07. Operating Voltage	:24V DC	08. Detectors approved by	:FOC/ FM / UL/ MAC / LPA	09.Accessories	:To install required nut, bolts, cable glands, Lugs etc., as required	10.Inspection & Testing	:Visual & Functional witness, Test certificates review ,Statutory certificates review	11. Housing	:Enclosed in a transparent proof –UV stabilized coated sheet With UV screen printing by imported inks	12. Current Rating	:To suit above parameters model current data,	13. Material	:To suit above parameters model current data,	14. Makes	:Protect wire/ Polite Auto glow or equivalent.	15. Compatible	:To be hooked up to plant fire detection & Alarm system Supplied by others.
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		01. Model No.	:Bidder to select	
		02.Type	:Addressable, modular, networkable, fully redundant, Hot redundant microprocessor	
		03. Temperature Range	: 1.6 Deg.C to + 60 Deg.C	
		04. Size of Panel	:Bidder to indicate	
		05. Mounting	: Floor mounted vertical	
		06. Degree of Protection	:IP30	
		07. Humidity Range	:15% to 90% RH	
		08. Operating Voltage	:24V DC(2x12v)	
		09. No. of loop provided	:As per system requirement	
		10. approved by	:UL/ FOC/ FM/ TAC/ LPA/ VDS	
		11. Display	:6 line x 40 characters	
		12. History	:65000 Events	
		16.Accessories	:To install required nut, bolts, cable glands, Lugs etc., as required	
		17.Inspection & Testing	:Visual & Functional witness, Test certificates review , statutory certificates review	
		13. Current Rating	:To suit above parameters model current data,	
		14. Address per loop	:318 Max.	
		15. Maximum loop length	:3500 Mtr.	
		16. Mounting	:Floor	
		17. Weight	:Bidder to indicate	
		18. Colour	:Red RAL 300	
		19. Makes	:Schrack / UTC fire & security / Notifier or equivalent.	
		20. Battery charger	:Built-in with panel power supply	
		21. Battery Back-up period	:As per Spec.	
22. Batter Type	:SMF Battery(Built-in)			
23. Front Panel switches	:Acknowledge, Alarm Silence, Reset, Evacuate			
24. Front Panel LEDs	:SMF Battery Power, Fire Alarm, Pre Alarm, Supervisory / Security, Alarm Silent, System trouble			





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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p style="text-align: center;"><b><u>PROBE TYPE HEAT DETECTOR</u></b></p> <p>01.Type : Fixed temperature cum rate of rise type, Intelligent Addressable Analog</p> <p>02. Application :For HSD / Naptha / HFO / LDO Fuel Tanks,</p> <p>03. Operating Temperature :54 Deg. C. to 60 Deg. C. Range</p> <p>04. Type of sensing Element :Fine silver contacts</p> <p>05. Mounting :Horizontal / Vertical</p> <p>06. Contact :Normally open, closes at the alarm stage,</p> <p>07. Protection :IP65</p> <p>08. Humidity Range :5% to 90% RH</p> <p>09. Detector automatically rests :yes After actuation</p> <p>10. Operating Voltage :24V DC</p> <p>11. Detectors approved by :FOC/ FM / UL/ MAC / LPA</p> <p>12. Detector Base :Mounting Box with double compression gland</p> <p>13. Coverage Area :50 Sq mm per detector as per IS – 2189</p> <p>14. Accessories :To install required nut, bolts, cable glands, Lugs etc., as required</p> <p>15. Mounting Type :Horizontal / Vertical</p> <p>16. Inspection &amp; Testing :Visual &amp; Functional witness, Test certificates review , Statutory certificates review</p> <p>17. Current Rating :To suit above parameters model current data,</p> <p>18. Material :To suit above parameters model current data,</p> <p>19. Makes :Protectowire/ Notifier/ UTC fire &amp; security or equivalent.</p> <p>20. Compatible :To be hooked up to plant fire detection &amp; Alarm System supplied by others.</p>		
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<p style="text-align: center;"><b>COPYRIGHT AND CONFIDENTIAL</b></p> <p>The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.</p>	<b><u>MONITOR MODULE</u></b>			
	01. Model No.	:Bidder to indicate		
	02. Type	:To interface non-addressable loop unit like LHS cable, Infrared detector, etc. with addressable loop		
	03. Temperature Range	:-20 Deg.C to + 60 Deg.C		
	04. Mounting	:suitable for Wall / Ceiling		
	05. Degree of Protection	:IP66		
	06. Humidity Range	:15% to 90% RH		
	07. Operating Voltage	:24V DC		
	08. Area covered by single Control module	:Bidder to indicate		
	09. approved by	:UL/ FOC/ FM/ TAC/ LPA/ VDS		
	10. Module Base	:Mounting Box with double compression gland		
	11. Coverage Area	:Considering maximum spacing as per IS – 2189		
	12. Accessories	:To install required nut, bolts, cable glands, Lugs etc., as Required		
	13. Inspection & Testing	:Visual & Functional witness, Test certificates review , Statutory certificates review		
	14. Current Rating	:To suit above parameters model current data,		
	15. Material of Module body	:Metallic/ Plastic/ halogen free		
	16. Makes	:SCHRACK / Notifier/ UTC fire & security or equivalent.		
17. Input	:4 No			
Ref. Doc				


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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p style="text-align: center;"><b><u>MULTI CRITERIA SMOKE DETECTOR</u></b></p> <p>01. Type : Combination of Photo electric sensing and heat sensing, intelligent Analogue Addressable.</p> <p>02. Code/ Specification :NFPA-72E/ BS-5839/ IS</p> <p>03. Temperature Range :1.6 Deg.C to + 60 Deg.C</p> <p>04. Sensitivity :Preset at factory/ Adjustable at site (as per UL-268).</p> <p>05. Mounting :Horizontal / Vertical</p> <p>06. Air velocity :0 to 300 ± 25 feet/ minute</p> <p>07. Degree of Protection :IP55</p> <p>08. Humidity Range :15% to 90% RH</p> <p>09. Plug in type detector : yes</p> <p>10. Operating Voltage :24V DC</p> <p>11. Area covered :Bidder to indicate for single detector</p> <p>12. No. of terminals on : Bidder to indicate Detector on mounting base</p> <p>13.Inbuilt indicating lamp : Yes [Separate response indicators mounted on false to indicate operation of ceiling to be provided for smoke detectors mounted the detector provided above false ceiling]</p> <p>14. Detectors approved by :UL/ FOC/ FM/ TAC/ LPA</p> <p>15. Detector Base :Mounting Box with double compression glad</p> <p>16. Coverage Area :Considering maximum spacing as per IS – 2189</p> <p>17. Accessories :To install required nut, bolts, cable glands, Lugs etc., as Required</p> <p>18. Mounting Type :Horizontal / Vertical</p> <p>19.Inspection &amp; Testing :Visual &amp; Functional witness, Test certificates review ,Statutory certificates review</p> <p>20. Current Rating :To suit above parameters model current data,</p> <p>21. Material of detector body :Metallic/ Plastic</p> <p>22. Makes :SCHRACK / Notifier/ UTC fire &amp; security or equivalent.</p> <p>23. Compatible :To be hooked up to plant fire detection &amp; Alarm System supplied by others</p>		
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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p><b><u>NOTES:</u></b></p> <ol style="list-style-type: none"> <li>1. The smoke detectors shall continually monitor any changes in sensitivity due to the environmental effects of dirt, smoke, temperature, etc. This information shall be stored in the processor and transferred to the loop controller.</li> <li>2. Each detector shall be provided with an indicating lamp glowing steadily to indicate that it has operated which shall otherwise flash intermittently to indicate the healthy condition of the detector and sensing circuits.</li> <li>3. The multi criteria smoke detectors shall be capable of sensing the fire in the incipient or smoldering stage itself, long before the fire matures to a visible flame. For achieving this requirement, the detector shall be capable of sensing visible combustion gases (in the form of smoke) or invisible combustion gases, which are the only clues for a long time in smoldering fires.</li> <li>4. The detectors shall be sensitive to very low smoke densities of the order of 0.05 gm/ cu.m.</li> <li>5. The detectors shall be of Multisensor type with a combination of photoelectric and heat sensing elements. The multicriteria smoke detector provides photoelectric sensing and heat sensing combined in a single sensor/ base assembly. The multisensor base provides two sequentially addressable points, automatically assigned with one address selection.</li> <li>6. The sensitivity of multicriteria smoke detectors shall be selected depending upon the environmental condition.</li> </ol>		
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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.	<p style="text-align: center;"><b><u>REPEATER PANEL</u></b></p> <table border="0"> <tr> <td>01. Model No.</td> <td>:Bidder to indicate</td> </tr> <tr> <td>02. Type</td> <td>:Addressable, modular, networkable, fully Redundant, annunciator</td> </tr> <tr> <td>03. Temperature Range</td> <td>:-5 Deg.C to + 60 Deg.C</td> </tr> <tr> <td>04. Size of Panel</td> <td>:Bidder to indicate</td> </tr> <tr> <td>05. Degree of Protection</td> <td>:IP55</td> </tr> <tr> <td>06. Humidity Range</td> <td>:15% to 90% RH</td> </tr> <tr> <td>07. Operating Voltage</td> <td>:24V DC</td> </tr> <tr> <td>08. approved by</td> <td>:UL/ FOC/ FM/ TAC/ LPA/ VDS</td> </tr> <tr> <td>09. Display</td> <td>:6 line x 40 characters</td> </tr> <tr> <td>10. Quiescent current</td> <td>:49 Ma Consumption</td> </tr> <tr> <td>11. Accessories</td> <td>:To install required nut, bolts, cable glands, Lugs etc., as Required</td> </tr> <tr> <td>12. Inspection &amp; Testing</td> <td>:Visual &amp; Functional witness, Test certificates review , Satutory certificates review</td> </tr> <tr> <td>13. Current Rating</td> <td>:To suit above parameters model current data,</td> </tr> <tr> <td>14. Weight</td> <td>: Bidder to indicate</td> </tr> <tr> <td>15. Colour</td> <td>:Red RAL 300</td> </tr> <tr> <td>16. Makes</td> <td>:SCHRACK / Notifier or equivalent.</td> </tr> <tr> <td>17.Compatible</td> <td>:To be hooked up to plant fire detection &amp; Alarm System supplied by others.</td> </tr> <tr> <td>18.Fixed Function Keys</td> <td>:Acknowledge Signal Silence, System Reset, Drill, Fire Alarm Scroll/ Display, Security Scroll/ Display, Supervisory Scroll/ Display, Point disabled, Control Active.</td> </tr> </table>				01. Model No.	:Bidder to indicate	02. Type	:Addressable, modular, networkable, fully Redundant, annunciator	03. Temperature Range	:-5 Deg.C to + 60 Deg.C	04. Size of Panel	:Bidder to indicate	05. Degree of Protection	:IP55	06. Humidity Range	:15% to 90% RH	07. Operating Voltage	:24V DC	08. approved by	:UL/ FOC/ FM/ TAC/ LPA/ VDS	09. Display	:6 line x 40 characters	10. Quiescent current	:49 Ma Consumption	11. Accessories	:To install required nut, bolts, cable glands, Lugs etc., as Required	12. Inspection & Testing	:Visual & Functional witness, Test certificates review , Satutory certificates review	13. Current Rating	:To suit above parameters model current data,	14. Weight	: Bidder to indicate	15. Colour	:Red RAL 300	16. Makes	:SCHRACK / Notifier or equivalent.	17.Compatible	:To be hooked up to plant fire detection & Alarm System supplied by others.	18.Fixed Function Keys	:Acknowledge Signal Silence, System Reset, Drill, Fire Alarm Scroll/ Display, Security Scroll/ Display, Supervisory Scroll/ Display, Point disabled, Control Active.
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<div style="display: flex; justify-content: space-between;"> <div style="width: 15%;"> <p style="writing-mode: vertical-rl; transform: rotate(180deg);"> <b>COPYRIGHT AND CONFIDENTIAL</b>            The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED .            It must not be used directly or indirectly in any way detrimental to the interest of the company.         </p> </div> <div style="width: 85%; text-align: center;"> <p><b><u>RESPONSE INDICATOR</u></b></p> <table border="0"> <tr> <td style="width: 35%;">01. Model No.</td> <td style="width: 5%;">:</td> <td>Bidder to indicate</td> </tr> <tr> <td>02. Type</td> <td>:</td> <td>Indication of operation of detectors located above False ceiling and below false flooring</td> </tr> <tr> <td>03. Temperature Range</td> <td>:</td> <td>-20 Deg.C to + 60 Deg.C</td> </tr> <tr> <td>04. Mounting</td> <td>:</td> <td>suitable for Wall / Ceiling</td> </tr> <tr> <td>05. Degree of Protection</td> <td>:</td> <td>IP66</td> </tr> <tr> <td>06. Humidity Range</td> <td>:</td> <td>15% to 90% RH</td> </tr> <tr> <td>07. Operating Voltage</td> <td>:</td> <td>24V DC</td> </tr> <tr> <td>08. approved by</td> <td>:</td> <td>UL/ FOC/ FM/ TAC/ LPA/ VDS</td> </tr> <tr> <td>09. Module Base</td> <td>:</td> <td>Mounting Box with double compression glad</td> </tr> <tr> <td>10. Accessories</td> <td>:</td> <td>To install required nut, bolts, cable glands, Lugs etc., as Required</td> </tr> <tr> <td>11. Inspection &amp; Testing</td> <td>:</td> <td>Visual &amp; Functional witness, Test certificates review , Statutory certificates review</td> </tr> <tr> <td>12. Current Rating</td> <td>:</td> <td>To suit above parameters model current data,</td> </tr> <tr> <td>13. Material of Module body</td> <td>:</td> <td>Metallic/ Plastic</td> </tr> <tr> <td>14. Makes</td> <td>:</td> <td>NITIE/ Schrack/ Technico or equivalent.</td> </tr> </table> <p><b><u>NOTES:</u></b></p> <p>1. When the detectors are mounted below the false floor or in inaccessible position, response indicator for each of the detectors and test switch shall be mounted on a separate box which shall be suitable for mounting on the wall. If the detectors are mounted above the false ceiling, response indicators with test switch shall be mounted directly below the detector (on the false roof).</p> </div> </div>				01. Model No.	:	Bidder to indicate	02. Type	:	Indication of operation of detectors located above False ceiling and below false flooring	03. Temperature Range	:	-20 Deg.C to + 60 Deg.C	04. Mounting	:	suitable for Wall / Ceiling	05. Degree of Protection	:	IP66	06. Humidity Range	:	15% to 90% RH	07. Operating Voltage	:	24V DC	08. approved by	:	UL/ FOC/ FM/ TAC/ LPA/ VDS	09. Module Base	:	Mounting Box with double compression glad	10. Accessories	:	To install required nut, bolts, cable glands, Lugs etc., as Required	11. Inspection & Testing	:	Visual & Functional witness, Test certificates review , Statutory certificates review	12. Current Rating	:	To suit above parameters model current data,	13. Material of Module body	:	Metallic/ Plastic	14. Makes	:	NITIE/ Schrack/ Technico or equivalent.
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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p style="text-align: center;"><b><u>SIREN</u></b></p> <p>1.Type : Electrically Operated Siren</p> <p>2.Mounting : HORIZONTAL Double Mounting</p> <p>3.Operating Voltage : Selectable to Vendor (415 V, 3-Ø )</p> <p>4.Audible Range : Min. 10km</p> <p>5.Motor Speed : Selected model motor speed,</p> <p>6.Motor Rating : Selected model motor Rating,</p> <p>7.Mounting Type : Horizontal,</p> <p>8.Base / Measurement kit : Required,</p> <p>9.Accessories : Cable Glands, Lugs for Power cables and Signal Cables,</p> <p>10. Inspection &amp; Testing : Visual &amp; Functional witness, Test certificates review , Statutory certificates review</p> <p>11. Application : Fire Alarm,</p> <p>12. Mounting arrangement : Required (Dwg. to be provided for review)</p> <p>13. Compatible : To be hooked up to plant fire detection &amp; Alarm System supplied by others.</p> <p>14. Make : Kheraj electrical Industries pvt ltd or equivalent.</p> <p><b><u>NOTES:</u></b></p> <p>1. The sirens shall be capable of being heard distinctly throughout the plant area and shall comprise twin sounders having a suitable range.</p> <p>2. The sirens shall be suitable for installation outdoors and shall be complete with rain shades and all other mounting accessories.</p> <p>3. The sirens shall be motor operated type with AC motors of three phase design. The starters along with mounting hardware required for switching the sirens ON / OFF shall be supplied with them.</p>		
	Ref. Doc	<p>4. Siren shall be mounted on duct support near chimney (capacity 10 km range) to operate in case of any alarm other than fault registered in the composite panel.</p>		

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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<div data-bbox="321 222 1469 1108"> <div>17.0 Conductor Diameter</div> <div>: To suit Fibre optic cable</div> <div>18.0 Response time</div> <div>:Less than 5 sec</div> <div>19.0 Enclosure for Detector unit</div> <div>: Weather tight and gasketed, IP-54 or better</div> <div>20.0 Detector/ Control Unit Condition</div> <div>: LED for Power ON/ Fault/ Alarm It shall have freely programmable Relay Contact, minimum 16 nos.</div> <div>21.0 Approval</div> <div>: FOC/ FM/ UL/ TAC/ LPA/ NFPA/ VDS/ LPCB</div> <div>22.0 Operating Voltage Rating</div> <div>: 24 V DC</div> <div>23.0 Inspection &amp; Testing</div> <div>: Visual &amp; Functional witness, Test certificates review , Statutory certificates review</div> <div>24.0 Length of cable per drum</div> <div>: 1000m.</div> <div>25.0 Length</div> <div>: As per BOM table.</div> <div>26.0 Interface</div> <div>: PC Interface via Ethernet/ Mod-bus output etc.</div> <div>27.0 Compatible</div> <div>: The items will be linked to controllers, further to fire detection and alarm system.The addressable system will generate alarm during fire.</div> </div> <div data-bbox="321 1108 1485 1854"> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>Linear heat detection system shall essentially comprise sensor cables, interface units and necessary hardware required for installation.</li> <li>Laying of LHS cables shall be as per TAC rules. Linear heat sensor cables shall be provided in upper most and third cable tray from top in case where 4 to 5 tiers of cable trays are provided and in the upper most tray when cable tray tiers are 2 to 3.</li> <li>Linear Heat sensing cable shall be non-electrically operated optical fiber type.</li> <li>The detector system shall consist of an optical fiber sensor and the detection unit. The detector unit shall house the electronic circuitry that interfaces with the optical fiber sensor.</li> <li>The optical fiber shall be connected to the detector/ device unit in a single continuous loop to ensure redundancy and full coverage of the protected zones even if the cable is broken/ cut/ damage at one point.</li> <li>The fire or excessive temperature condition shall be sensed by the fiber. The detector unit shall recognize the change in optical transmittance of the fiber and cable breaker Fire/ Alarm condition shall be identified within 1 mtrs locational accuracy.</li> <li>All accessories such as fittings, fastenings, sleeves, straps, staples, clips (mounting) rings, test terminals, glands, Lugs, special tools &amp; tackles, Junction Box etc. as may be required for interconnection of linear heat detector cables as well as interconnection to Control and Power Cable</li> <li>For fire detection Unit should be able to detect abnormal/ hot spot within 1 mtrs. Span. Further it shall be able to measure both side of the FO LHS cable in the event of wire break. So as to ensure continued fire protection over the entire length.</li> </ol> </div>		
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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p style="text-align: center;"><b><u>IR DETECTOR WITH AIR PURGING UNIT</u></b></p> <p>1 Type : Infrared spark / Ember Detectors (Solar Blind), Intelligent analogue addressable with inbuilt air purging unit.</p> <p>2 Make : Patol / Neola Corp / AGNI CONTROLS/ Equivalent</p> <p>3 Model No. : To be selected by vendor to suit present requirement.</p> <p>4 Approval/ Confirmation/ Certification : Traffic advisory committee (TAC)</p> <p>5 Application : Coal conveyor - Head and trail of each conveyor belt.</p> <p>6 Material : Cast aluminium LM6</p> <p>7 Air Purging Unit : In-built</p> <p>8 Temperature range : -40°C to +60 °c</p> <p>9 Ambient Temperature : -8°C to +40 °c</p> <p>10 Operating Voltage : 24 VDC</p> <p>11 Enclosure : Powder Coated Hammer Tone Gray</p> <p>12 Mounting : IHMB 01 XY mounting bracket</p> <p>14 Quiescent Current : 10 mA</p> <p>15 Alarm Current : 20 mA</p> <p>16 Acceptance Angle : 120 Deg.</p> <p>17 Protection Class : IP 67</p> <p>18 Sensing Element : Infra Red</p> <p>19 Spectral Filter : 3000 - 14000 nm</p> <p>20 Indication : Normal - Flickering Green LED; Fire - RED LED</p> <p>21 Quantity : As per system requirement</p> <p>22 Catalogue : Attached</p> <p>23 Spectral Response : 0.8 to 0.2 micron.</p> <p>24 Half Power Cone Vision : 90°</p> <p>25 Spectral Peak : 4.5 Micro meter's</p> <p>26 Nominal Response Time : 75 m.Sec.</p> <p>27 Sensitivity Range : 4 Levels of Sensitivity Selection available</p> <p style="margin-left: 40px;">VERY HIGH SENSITIVITY – 1</p> <p style="margin-left: 40px;">HIGH SENSITIVITY – 2</p> <p style="margin-left: 40px;">NORMAL SENSITIVITY – 3</p>		
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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p style="text-align: right;">LOW SENSITIVITY – 4 (DEFAULT SETTING)</p> <p>28 Quantity : As per BOM,</p> <p>29 Inspection and Testing Inspection : in Fire condition LED will glow RED, Testing - with the help of IR testing bulb. Visual &amp; Functional witness, Test certificates review , Statutory certificates review</p> <p>30 Compatible :To be hooked up to plant fire detection &amp; Alarm System supplied by others.</p> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1. The detector must respond satisfactorily even when the lens, through which the detection is sensed are covered with coal dust or oily dust substance.</li> <li>2. The detectors shall be designed to work satisfactorily in the event of vibration in any axis.</li> <li>3. To prevent false alarms, the detectors shall be provided with purge air facility to keep the lines clean.</li> <li>4. Facility for remote response indication shall be envisaged in each detector.</li> <li>5. Sensitivity shall be 1.0- 5.0 Microwatt shall be Field Adjustable.</li> <li>6. Detector shall be solar blind</li> <li>7. All accessories such as air : Yes purging facilities for cleaning lens, protective housing mounting hinge &amp; latch, J Box Glands, Lugs etc. as required.</li> </ol>		
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<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<b><u>HOOTER CUM STROBE DATA SHEET</u></b>																																													
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