TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM

PROJECT : 2 x 490 MW NTPC DADRI

INDEX

LIST OF ANNEXURES

CHECK LIST

(To be filled by BIDDER and submitted along with Technical offer is compulsorily)

Vendor shall submit the following documents mandatorily as part of COMPLTE technical offer.

Enquiry No. / Date :
Name of the Bidder :
Project Name :
Item Description :

S. No	Document	Bidder confirmation (Yes/No)	Remarks
1	Technical offer complies with the specifications and its associated annexures, pre-bid clarifications in Toto and there are no technical deviations. Signed and stamped copy of this specification along with annexures enclosed along with technical offer.		
2	In case of deviation, vendor to confirm that these are technically not feasible deviations and same are submitted in BHEL format. In case technically feasible deviations are proposed by the bidder and subsequently withdrawn, no commercial implications can be claimed by the bidder		
3	All items are manufactured conforming to latest version of material grade standard and manufacturing standard mentioned in this specifications		
4	Bidder to quote as per BHEL price format only (Annexure – 04 & 05). No other format is acceptable. Bidder to attach un-priced price bid format by indicating "QUOTED" against each item and submit with technical offer duly signed & stamped.		
5	For addition/reduction of quantity, unit rate quoted in the present offer (Annexure – 05) shall be considered during ordering and shall be valid up to execution of the contract to the extent of + 10% and -10% of order Value.		
6	Bidder to agree that Bill of materials / list of equipment furnished in the offer is only for information; Vendor shall supply all the material to meet the performance, sizing & technical requirement as per specification & its Annexures, scope matrix etc.		
7	All the equipment / items / etc., supplied by bidder are having valid statutory approval certificates and same will be produced at any stage of contract execution to BHEL. The same were eligible to take local statutory regulatory body approval during commissioning of the system		

(Bidder's Signature and stamp with date)

1. SCOPE

This technical specification covers the Design, Engineering, Manufacturing, Assembly, testing at vendor works, inspection by purchaser, packing and transportation to site with necessary documentation like data sheets, statutory approvals, O&M manuals etc., as required for Fire Detection & Alarm System components like multisensor detectors, manual call points, hooters, cable glands, lugs, erection hardware etc.

2. INSTRUCTIONS TO BIDDERS

2.1 Bidders are advised to contact BHEL for essential technical queries in writing within one week of issue of Enquiry. In the event of any conflict between these specifications, data sheets, related standards, codes etc. the vendor shall refer the matter to the purchaser for clarifications before bid submission and the decision of Purchaser shall be final & binding on Bidder, without any cost & delivery implications. In the event of conflict, most stringent requirements shall be followed in general.

2.2 Further, if a requirement in this specification or any of the enclosures, calls for a decision from the Purchaser, it shall be bidder's sole responsibility to clearly bring out/highlight the same distinctively in his pre-bid queries, so as to enable purchaser to furnish their decision/clarification. If such issues/requirements are not duly addressed by bidder during the pre-bid stage and if such issues/requirements are observed later during order execution stage, it shall be binding on the bidder to comply with the final decision made by the purchaser subsequently, without any cost, delivery, or any other commercial implications.

2.3 Offers with incomplete information will not be considered for evaluation, and are likely to be rejected outright without any further interaction with the Bidder.

2.4 Any technical features [over & above BHEL enquiry specification requirements] proposed by Bidder will not be given preference for the purpose of evaluation.

2.5 Bidder shall submit the "Duly filled & Signed copy of Check list" compulsorily along with technical offer without which offer is liable for rejection without any further interaction with the Bidder.

2.6 Unsolicited requests from bidders like change in prices, change in model numbers, change in vendors etc., for alterations to their already submitted offer will not be entertained. These would not be taken cognizance, and offers will be evaluated without taking into account such requests/correspondence.

2.7 Compliance with this specification shall not relieve the bidder of the responsibility of furnishing equipment and accessories of proper design, materials and workmanship to meet the specified start up and operating conditions.

2.8 Bidders are advised to comply to specification in total, unless the requirement is not feasible. Nature of Deviations shall only be of Design / Manufacturing constraints and non-availability of items / components / makes in market. Reasons for the deviations shall be specified in the Remarks column. All such

deviations/queries shall be clarified from BHEL before submitting the techno-commercial bid. No deviations/clarification post-bid are allowed including any price impact.

3. BIDDER SCOPE OF SUPPLY

3.1 For scope of supply, refer bill of material (BOM) in annexures – 02.

3.2 Programming Dongle for programming the loops and implementing logics in fire alarm panel of SCHRACK make (Model. No. IP – MXF).

3.3 For technical requirements and make of the items listed in BOM, please refer list of annexures.

DEVIATION FORMAT

Enquiry No.:

Item:

Name of Bidder:

Offer Ref. No.:

Sl. No.	Clause no. & Spec. no.	Description as per Specification	Deviation taken	Nature of Deviation	Remarks

NOTES:

1. Technical offer of the bidder will be evaluated only on the basis of Deviation Schedule. Deviation Schedule constitutes this sheet (with these Notes) duly signed and stamped.
2. Deviations, if any, shall be clearly brought out only in this format. Deviations mentioned / taken elsewhere or in any other format will be ignored.
3. Additional sheets in the same format can be attached by the vendor, if necessary.
4. Nature of Deviations shall only be of Design / Manufacturing constraints and non-availability of items / components / makes in market.
5. No price implications shall be entertained for deviations withdrawn during the technical scrutiny. If any deviations are accepted by BHEL during technical scrutiny, then also there will be no price implication. Hence, in no case there will be consideration of Price implications.
6. Reasons for the deviations shall be specified in the Remarks column.
7. If there are no deviations from the specifications, bidder still has to submit the signed copy of this format by writing “No Deviations” on this format.
8. If the “Deviation Schedule” is not submitted along with the offer, the bidder’s offer is likely to be rejected without any further interaction with the bidder. Only the accepted deviations in conjunction with the original tender shall constitute the contract document for the award of job to the bidder

SIGNATURE OF THE BIDDER_____

NAME_____

DESIGNATION_____

COMPANY SEAL

DATE_____

4. DOCUMENTATION

4.1 INFORMATION TO BE INCLUDED WITH OFFER

Vendor shall make the offer in detail, with respect to every item of the Purchaser's specifications. Any offer not conforming to this shall be summarily rejected.

a) Duly filled & Signed copy of Check list
b) Deviation list, if any (as per "No deviation format" given in this specification). If there are no deviations, bidders shall submit "Deviation format" by mentioning deviations "Nil".
c) Unpriced price schedule (To be submitted compulsorily without fail)
d) Proven Track record and reference list (if applicable)
e) Bill of materials (only for information)

4.2 DOCUMENTS TO BE SUBMITTED DURING FINAL INSPECTION & TESTING AND BEFORE EQUIPMENT DISPATCH.

(Note: submission of these documents are commercially linked) - All in 16 sets (2 sets to be included with item dispatch and balance to BHEL purchase department).

a) Complete O& M manual.
b) Approved Engg documents
c) As-Shipped documents
d) As-Built documents
e) Guarantee and all test certificates for review and acceptance by BHEL and / or BHEL's Customer
f) Sets of CD-ROM – containing O&M manual and Engineering documents (1 set to be included with item dispatch and balance to BHEL purchase department).

4.3 DOCUMENTATION SCHEDULE

a) After the award of contract, kick off meeting planned and the requirement documentation shall be finalized. Typical list of documentation is enclosed as annexure as Master Documentation List (MDL) for ready reference. Vendor shall clearly bring their input documentation requirement, project execution methodology etc., during this kick of meeting only.
b) First submission of the set of documents shall be submitted within 2 weeks of LOI/ PO.
c) All vendor documents of FDA and its sub-items shall be submitted to Customer / Consultant for approval during order execution (if applicable). Any comment furnished by Customer / Consultant / BHEL shall be taken care by vendor during ordering execution.
d) Further BHEL with provide comments on vendor submitted document within 7 to 10 working days for revision & resubmission. Vendor shall follow up with BHEL for non- receipt of comments/approvals.
e) Revised drawings / Documents shall be submitted by Bidder in 07 days of receipt of comments / observations from BHEL. BHEL shall revert within 07 days on receipt of these revised documents / drawings from vendor for approvals.
f) All the approvals required for manufacturing shall be completed within 2 months from P.O to meet the P.O delivery schedule. Accordingly, vendor shall ensure the submission of approval category documents (which are required for manufacturing) and obtain their approvals.

g) Vendor shall obtain final approvals on all technical + quality aspect documents before inspection dates.

h) It is vendor's responsibility to obtain approvals from BHEL as earliest as possible to meet PO delivery schedules. Accordingly, vendor to plan and execute the supplies in time

5. GUARANTEE

a) Guarantee shall be valid for a minimum period of 24 calendar months commencing from the date of supply or 18 calendar months commencing from date of commissioning whichever is earlier.

b) The equipment shall be guaranteed to meet the performance, functional and accuracy requirements enumerated in the specification.

c) Bidder shall replace all instruments failing to meet the performance stipulations of the specification at any stage of the project with in the guarantee.

d) Vendor shall be fully responsible for all the items to be supplied in this package i.e. vendor shall provide a guarantee certificate for trouble free performance of all the items & system.

e) Vendor shall have tie-ups with sub-vendors for providing guarantee & only OEM authorized agency shall handle the warranty period services.

6. INSPECTION AND TESTING REQUIREMENTS:

a) Refer approved QAP (Annexure – 08) for reference.

b) Refer NTPC QAP format (Annexure – 09). Bidder to submit QAP in this format only.

7. MARKING, PACKING AND DESPATCH

a) All items shall be marked (stamped/etched) in accordance with the applicable code/standard/specification. In addition, the item code, if available, shall also be marked.

b) For ease of identification, the color of painted strip (wherever required) shall be as per the applicable standard.

c) Part number/Dispatch link-up of all the equipment's/items supplied and also their co-relation with system/drawing/approved BOQ.

d) Paint or ink for marking shall not contain any harmful metal or metal salts which can cause corrosive attack either ordinarily or in service. Special items/smaller items shall have attached corrosion resistant tag providing salient features.

e) The equipment shall be transported to site by the vendor in fully assembled condition. However, in case some components are liable to be damaged during transit, the same shall be dismantled and supplied separately, to be reassembled at site the vendor. Assembly of the item supplied loose at site and repairing of any item damaged during transport shall be in the vendor's scope. The vendor shall send each consignment to site with a detailed packing list.

f) All the equipment shall be divided into several sections for protection and ease of handling during transportation. The equipment shall be properly packed for transportation by ship/rail or trailer. The equipment shall be wrapped in polythene sheets before being placed in crates/cases to prevent damage to the finish. Crates/cases shall have skid bottom for handling.

g) Special notations such as 'Fragile', 'This side up', 'Center of gravity', 'Weight', 'Owner's particulars', 'PO Nos.' etc. shall be clearly marked on the package together with other details as per purchaser order.

h) The equipment/items may be stored outdoors for long periods before installation. The packing shall be completely suitable for outdoor storage in areas with heavy rains/high ambient temperature, unless otherwise agreed.

i) The following minimum packing procedures shall be followed: -

- ✓ All items shall be dry, clean and free from moisture, dirt and loose foreign material of all kinds.
- ✓ All items shall be protected from rust, corrosion, and mechanical damage during transportation and handling.
- ✓ Each variety and size of item shall be supplied in separate packaging marked with the purchase order no., item code (if available), and the salient specifications.
- ✓ All electrical, instrumentation etc., shall be properly packed to prevent damage during transport, storage, handling at site.
- ✓ All the items which the Bidders considered liable to be damaged during shipment or storage, shall be packaged for separate shipment. If instruments are removed from the panel, they and their connection shall be suitably tagged to ensure simple re installation at the job site. Each instrument shall be sealed in plastic bags containing moisture absorbing desiccants.
- ✓ It shall be bidder's sole responsibility to protect all the material during period of dispatch, storage and erection against corrosion, incidental damage due to vermin, sunlight, rain, high temperature, humid atmosphere, rough handling in transit and including delays in transit.
- ✓ Mandatory Spare parts shall be packaged separately and clearly marked as 'Mandatory Spares'.
- ✓ Commissioning spares, Tools & tackles to be packed separately & suitably tagged (If applicable).

j) If mandatory spare items are ordered, same shall be sent in pre-decided lots in containers /secure boxes distinctly marked in Red color with boldly written "S "mark on each face of the containers/secure boxes

k) Loose vendor items sent by vendor to sites shall be quantified/numbered/tagged and not merely mentioned as ONE lot of loose items.

l) A packing list covering items having shelf life are to be intimated to site. Also, shelf life items shall be packed separately in black color painted box for easy identification at site.

8. SUB VENDOR LIST

a) Refer Annexure – 06 & respective data sheet for approved make and model No.

b) Supply items for which no definite "make/brand" is indicated, shall be procured only from reputed makes & models having proven track records and requires purchaser approval.

RECORD OF REVISIONS

Rev. No.	Date	Revision Details	Revised By	Approved By
00	04.02.2022	Original issue	----------	Raviteja J

ANNEXURE - 1

TITLE: DATA SHEET OF MULTISENSOR DETECTOR

1.0	Item		Multi sensor Detector
2.0	Make		Schrack Seconet
3.0	Model		MTD 533X + USB 502 - 6 (with Detector Base)
4.0	Application Standard		Vds Approved, CE Certified, EN 54
5.0	Mounting		On base
6.0	Sensing Element		Smoke Detector & Heat Detector.
7.0	Sensitivity	Smoke	EN 54-7
		Head	EN 54-5 (classes A1, A2 and B)
8.0	Wiring		Class A, Style 7 Wiring.
9.0	Addressable Capability		Yes
10.0	Short circuit isolator		Integrated (inbuild)
11.0	Indication		LED Alarm indication 360° Visible (Red)
12.0	Mounting Base Model No.		USB 502-6
13.0	Operating Voltage		12 to 30 VDC
14.0	Quiescent Current		120µA
15.0	Alarm Current		Min. 0.5mA, max. 10mA
16.0	Protection Class		IP 44
17.0	Ambient Temperature		-25° to +60°C
18.0	Relative Humidity		10 to 95 %, Excluding Condensation
19.0	Air Velocity		Max. 20 m/s
20.0	Dimension		Ø 118mm, Hight 68 mm.
21.0	Weight		125 g
22.0	Case material & Colour		ABS/ PC, RAL 9003

Mehrfachsensormelder MTD 533X.
Multiple Sensor Detector MTD 533X.

• ein Melder für alle Anwendungen • Branderkennung immer mittels Rauch- und Temperaturauswertung • optimierte Rauchkammer • Rauchvoralarm bei 30 % und bei 75 % der Alarmschwelle • Speicherung aller Melderdaten und Ereignisse • dynamische Anpassung an Umgebungsbedienungen • 2-stufige Verschmutzungserkennung • parametrierbare Wärmeklassen gemäß EN 54 • LED Alarmanzeige 360° sichtbar • integrierter Kurzschlussisolator • VdS-Zulassung

• one detector for all applications • fire detection always carried out by means of smoke and temperature evaluation • optimized smoke chamber • Smoke pre-alarm at 30 % and at 75 % of the alarm threshold • all detector data and events are stored • adapts dynamically to surrounding conditions • 2 stage pollution detection • adjustable temperature classes acc. to EN 54 • LED alarm indicator 360° visible • integrated short circuit isolator • VdS-approval

Beschreibung

Der Mehrfachsensormelder MTD 533X kann je nach Bedarf und Anwendung als Rauch-, als Temperatur-, oder als kombinierter Melder eingesetzt werden und wird jeweils entsprechend seinem Einsatzgebiet anlagenspezifisch programmiert und eingestellt. Er erkennt frühzeitig Schwelbrände und offene Brände, indem er sowohl die Brandkenngröße Rauch (mittels Tyndall-Prinzip) als auch Wärme (NTC-Sensor-Prinzip) detektieren und auswerten kann. Die Empfindlichkeit kann über Software im Rahmen der EN 54 angepasst werden.

Der Melder verfügt über einen integrierten Kurzschlussisolator, der es im Kurzschlussfall auf einer Ringleitung ermöglicht, das schadhafte Leitungselement zu isolieren und den Betrieb aller Melder aufrecht zu erhalten.

Ein dynamischer Alarmfilter dient zum Erkennen und Ausfiltern von Täuschungsgrößen, darüber hinaus kann bei Bedarf ein Voralarm ausgewertet und an die Zentrale weitergeleitet werden. Wechselnde Umwelteinflüsse werden kompensiert, indem sich der Melder in regelmäßigen Abständen automatisch an seine Umgebung anpasst.

Die Montage und Installation des MTD 533X erfolgt mittels der Montagesockel-Serie USB 501.

Für die Projektierung gelten die länderspezifischen Richtlinien für Planung und Einbau von automatischen Brandmeldeanlagen. Für kombinierte Brandmelder können zusätzliche Richtlinien gelten, sofern dauernd oder zeitweise eine der Detektionseigenschaften abgeschaltet wird.

Description

The MTD 533 multiple sensor detector can be used as a smoke detector, as a heat detector or as a combined smoke/heat detector upon demand and is programmed and set-up specifically for the environmental conditions that it is part of. It detects smouldering and open fires at an early stage by being able to detect and evaluate the characteristics of fire and smoke (Tyndall principle) as well as heat (NTC sensor principle). The sensitivity of the detector can be adjusted using software within the scope of EN 54.

The detector provides an integrated short circuit isolator that, in case of a short circuit on the loop, enables the isolation of the faulty element while maintaining the operation of all other detectors.

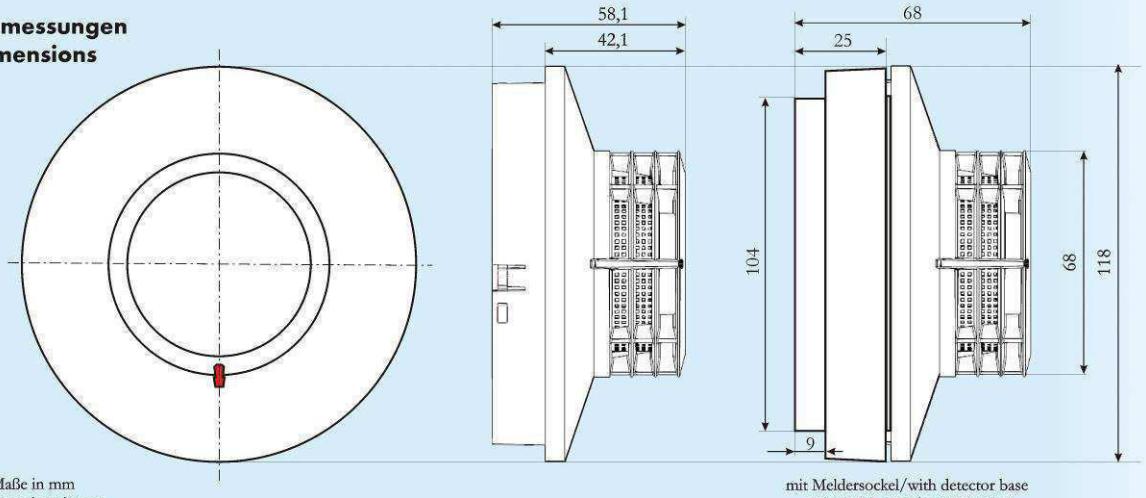
A dynamic alarm filter is used to detect and filter out deceptive alarms, furthermore a pre-alarm can be evaluated and forwarded to the control panel, if required. To compensate changing environmental influences, the detector adjusts itself at periodic intervals to its surroundings.

The assembly and installation is done by means of the mounting base series USB 501.

For planning and installation, the country-specific guidelines for planning and installation of automatic fire alarm systems apply. It could be possible, that additional guidelines and regulations for combined fire detectors must be taken into account, if continuously or temporarily one of the detection principles is switched off.

Mehrfachsensormelder MTD 533X.
Multiple Sensor Detector MTD 533X.

Abmessungen
Dimensions



Alle Maße in mm
All dimensions in mm

mit Meldersockel/with detector base
USB 501-1 oder/or USB 501-6

Technische Daten

Betriebsspannung:	12 bis 30 VDC (ohne Modulationshub)
Ruhestrom:	120 µA typ.
Alarmausgang:	3 Stufen programmierbar 0,1 mA/1 mA/5 mA
Alarm-LED aktiv:	1,6 mA
Alarmstrom:	min. 0,5 mA, max. 10 mA
Ausgangsspannung:	programmierbar
X-LINE:	5 V
Ringleitung:	6,3 V
Meldersockel:	USB 501-x
Funktionsprinzip:	Kombinierter Rauch/Wärmemelder (Tyndall-Effekt/NTC Sensor)
Signalübertragung:	serielle Biphase Datenübertragung, 2-Leiter-Technik
Empfindlichkeit:	Rauch nach EN 54-7
Empfindlichkeit:	Wärme nach EN 54-5; Klassen A1, A2, B (Index S und R)
Schutzart:	IP 44 (mit Sockel USB 501-1)
Umgebungstemperatur:	-25° bis +60°C
Rel. Luftfeuchtigkeit:	dauernd, ohne Betauung:
bei ≤ 34 °C:	10 ... 95 % rel/F
bei > 34 °C:	max. 35 g/m³ min. 10 % rel/F
Luftgeschwindigkeit:	max. 20 m/s
Abmessungen:	siehe Maßzeichnung oben
Gehäuse Farbe:	weiß ähnlich RAL 9003 alle RAL Farben auf Anfrage
Gehäuse Material:	ABS/PC
Gewicht:	125 g
CE-Zertifikat:	0786-CPD-20993
VdS-Zulassung:	G210115

Technical data

Operating voltage:	12 to 30 VDC (without modulation amplitude)
Quiescent current:	120 µA typ
Alarm output:	3 levels programmable 0,1 mA/1 mA/5 mA
Alarm-LED active:	1,6 mA
Alarm current:	min. 0,5 mA, max. 10 mA
Output current:	programmable
X-LINE:	5 V
Loop technology:	6,3 V
Detector base:	USB 501-x
Principle of function:	Combined smoke/heat detector (Tyndall effect and/or NTC sensor)
Signal transmission:	serial biphase data transmission, 2-wire -technology
Sensitivity:	smoke acc. to EN 54-7
	heat acc. to EN 54-5; (classes A1, A2 and B (Index S and R)
Protection class:	IP 44 (with base USB 501-1)
Ambient temperature:	-25° to +60°C
Rel. humidity:	permanent, without condensation:
at ≤ 34 °C:	10 ... 95 % rel/F
at > 34 °C:	max. 35 g/m³ min. 10 % rel/F
Air velocity:	max. 20 m/s
Dimensions:	see drawing above
Case colour:	white similar to RAL 9003 all RAL colours upon request
Case material:	ABS/PC
Weight:	125 g
CE-Certificate:	0786-CPD-20993
VdS-Approval:	G210115

Weitere Informationen sind der Technischen Dokumentation zu entnehmen.
Further informations can be obtained from the technical documentation.

SCHRACK SECONET AG
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FIRE ALARM

SCHRACK SECONET

TITLE: DATA SHEET OF MANUAL CALL POINT INDOOR & OUTDOOR

1.0	Item		Manual Call Point Indoor & Outdoor
2.0	Make		Schrack Seconet
3.0	Type of Device		Break Glass
4.0	Model	Indoor MCP	MCP 545X-1R
		Outdoor MCP	MCP 545X-3R
5.0	Application Standard		Approved According to EN 54-11: 2001 & EN 54 -17: 2005
6.0	Wiring		Class A, Style 7 Wiring.
7.0	Addressable		Yes
8.0	Short circuit isolator		Integrated (inbuild)
9.0	Operating Voltage		7 to 31 VDC
10.0	Quiescent Current		Max. 120µA at 30VDC
11.0	Alarm Current		2.5mA
12.0	Alarm Indication		LED
13.0	Protection Class		
13.1	Indoor MCP		IP 24
13.2	Outdoor MCP		IP 67
14.0	Ambient Temperature		-20° to +50°C
15.0	Humidity		5 to 95% without condensation
16.0	Weight		160 g
17.0	Dimension		93x89x59.5 mm (HxWxT) mm
17.0	Housing material & Colour		Plastic, Glass Fibre - Reinforced, Red RAL 3001

Handfeuermelder MCP 545X.
Manual callpoint MCP 545X.

• einfache Installation • Gehäuse in rot, blau oder gelb • Schutzart IP 24 bis IP 67 • Alarmanzeige mittels LED • Störungsmeldung bei Bauteilausfall • Melder einzeln abschaltbar • integrierter Kurzschlussisolator • geprüft nach EN 54-11 & EN 54-17.

• easy installation • case available in red, blue or yellow • IP protection class from IP 24 up to IP 67 • alarm indication by LED • fault message in the event of a component failure • detectors can be individually disabled • integrated short circuit isolator • approved according to EN 54-11 & EN 54-17.

Beschreibung

Die Handfeuermelder MCP 545X sind geeignet zum Anschluss an die Integral X-LINE.

Die drei verschiedenen Ausführungen unterscheiden sich lediglich durch ihre Gehäuseform (IP-Schutzart), Elektronik, Anschaltung und Funktion ist bei allen Typen ident.

Die Melder enthalten einen Kurzschlussisolator und eine rote Alarm-LED. Die Alarmauslösung erfolgt durch Eindrücken der Glasscheibe bzw. Drücken des Kunststoff-Plättchens. Der Alarm bleibt bis zum Wiedereinsetzen einer neuen Glasscheibe bestehen bzw. resetieren des Kunststoff Plättchen bestehen. Ein Prüfschlüssel dient zur Funktionsprüfung.

Der MCP 545X-1 ist geeignet für Innenanwendungen und wird Aufputz montiert. Die Dose wird mit zwei Schrauben an der Wand befestigt, dabei müssen die Befestigungspunkte für den Tasterteil waagrecht sein. Eventuell nötige Kabeleinführungen für AP-Installationen müssen aufgebohrt werden.

Der MCP 545X-2 ist geeignet für Innenanwendungen und wird direkt in eine handelsübliche Unterputzdose Größe 1 (rund od. viereckig) eingebaut. Der Befestigungsloch-Abstand beträgt 60 mm waagrecht.

Der MCP 545X-3 ist auch für Außenanwendungen geeignet und wird Aufputz montiert. Der Melder verfügt über Schutzart IP 67 (wasserfest); die Kabeleinführung erfolgt mittels Kabelverschraubung M 20 von unten oder oben. Die Dose des Melders wird mit drei Schrauben an der Wand befestigt.

Description

The manual call points MCP 545X are suitable for the connection to the Integral X-LINE.

The three different versions differ only from the shape of the housing (IP protection category).
Electronics, connection and function are the same for all types.

The detectors contain a short circuit isolator and a red alarm LED. An alarm is released directly when the glass pane is broken or the plastic pane is pressed.
The alarm condition remains active, until the glass pane is replaced by a new one or the plastic pane is reset.
A test key is available for function test.

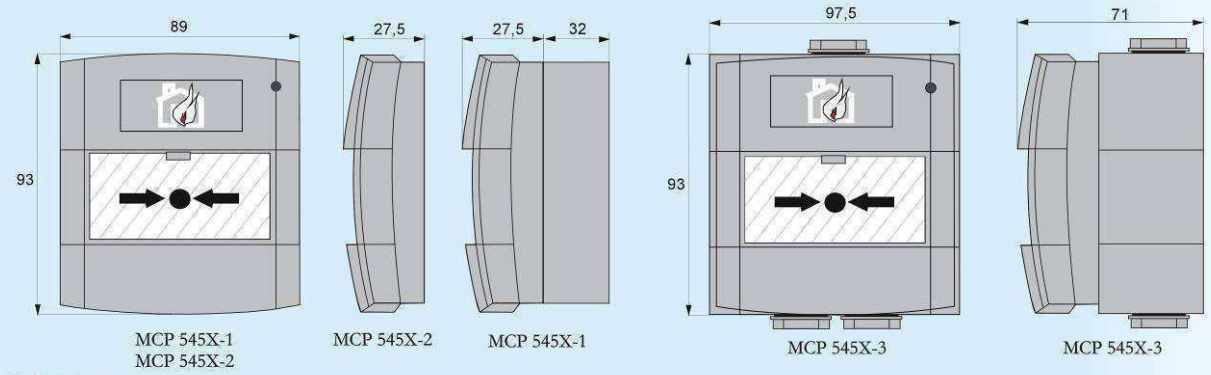
The MCP 545X-1 is suitable for indoor applications and surface-mounting. The surface-mounted box is fastened to the wall with two screws. The fastening points for the switch part must be horizontal.
Any necessary cable entries for surface-mounted installations must be drilled.

The MCP 545X-2 is suitable for indoor applications and is mounted in a commercial flush-mounted box (size 1; round or square). The horizontal distance between the mounting holes is 60 mm.

The MCP 545X-3 is also suitable for outdoor applications and surface-mounting. The detector has protection category IP 67 (waterproof); the cable entry is carried out by means of cable gland M20 from the bottom. The mounting box is attached to the wall with three screws.

Handfeuermelder MCP 545X.
Manual callpoint MCP 545X.

Abmessungen
Dimensions



Alle Maße in mm
All dimensions in mm

Technische Daten

Betriebsspannung:	7 bis 31 VDC
Ruhestrom:	max. 120 µA bei 30 VDC
Alarmstrom:	2,5 mA
Anschaltung:	Integral X-LINE
Schraubanschlüsse:	max. 2,5 mm²
Signalübertragung:	seriell, 2-Leiter-Technik
Schutzart	
MCP 545X-1/2:	IP 24
MCP 545X-3:	IP 67
Umgebungstemperatur:	-20° bis +50°C
Gehäuse Farbe:	rot, RAL 3001 gelb, RAL 1006 blau, RAL 5002
Gehäuse Material:	Kunststoff, glasfaserverstärkt
Gewicht	
MCP 545X-1/2:	160 g/110 g
MCP 545X-3:	240 g
Zulassung:	rot, G210092 (EN 54-11: 2001, EN 54-17: 2005) gelb, entsprechend (EN 54-11: 2001, EN 54-17: 2005) blau, entsprechend (EN 54-11: 2001, EN 54-17: 2005)
CPD-Zertifikat:	rot, 0786-CPD-20998

Technical data

Operating voltage:	7 to 31 VDC
Quiescent current:	max. 120 µA at 30 VDC
Alarm current:	2,5 mA
Connection:	Integral X-LINE
Screw terminals:	max. 2,5 mm²
Signal transmission:	serial, 2-wire
Protection class	
MCP 545X-1/2:	IP 24
MCP 545X-3:	IP 67
Ambient temperature:	-20° to +50°C
Housing colour:	red, RAL 3001 yellow, RAL 1006 blue, RAL 5002
Housing material:	plastic, glass fibre-reinforced
Weight	
MCP 545X-1/2:	160 g/110 g
MCP 545X-3:	240 g
Approval:	red, G210092 (EN 54-11: 2001, EN 54-17: 2005) yellow, according (EN 54-11: 2001, EN 54-17: 2005) blue, according (EN 54-11: 2001, EN 54-17: 2005)
CPD-Certificate:	red, 0786-CPD-20998

Weitere Informationen sind der Technischen Dokumentation zu entnehmen.
Further informations can be obtained from the technical documentation.

Schrack Seconet AG
A-1122 Wien/Vienna, Eibesbrunnergasse 18, Tel.:+43-1-81157-0, office@schrack-seconet.com

TITLE: DATA SHEET OF HOOTER

1.0	Item	Loop Sounder
2.0	Make	Schrack Seconet
3.0	Model	BX-SOL-R
4.0	Application Standard	Vds- Approval, CPD- Certificate (EN 54 – 3, 54-17)
5.0	Wiring	Class A, Style 7 Wiring.
6.0	Addressable	Yes
7.0	Short circuit isolator	Integrated (inbuild)
8.0	Volume Setting	
8.1	Low	89db ± 3db@ 1 m @ 24 VDC
8.2	High	99db ± 3db@ 1 m @ 24 VDC
9.0	Tone	4 Warning tones
9.1	DIN	1200 - 500 Hz (DIN 33404-3)
9.2	Slow Whoop	500 - 1200 Hz (EN 2575)
9.3	Continuous tone	990Hz
9.4	Swedish Tone	660 Hz
10.0	Operating Voltage	12 to 30 VDC
11.0	Power Consumption	
11.1	Idle mode	500µA
11.2	Low Volume	2.3mA @ 24 VDC
11.3	High Volume	4.7mA @ 24 VDC
12.0	Protection Class	IP 21C
13.0	Ambient Temperature	-10° to +55°C
14.0	Dimension	Ø 108 mm, Hight 91 mm
15.0	Case material & Colour	ABS Plastic, Red RAL 3001

Loop Sirene BX-SOL.
Loop Sounder BX-SOL.

• direkt auf der X-LINE anschaltbar • einstellbare Lautstärke • 4 einstellbare Warntöne • geringer Stromverbrauch • einzeln abschaltbar • integrierter Kurzschlussisolator • Gehäusefarben weiß oder rot • robustes Kunststoffgehäuse • Umweltkategorie Typ A gemäß EN 54-3.

• can be connected directly to the X-LINE • configurable volume • 4 warning tones can be set • low power consumption • can be individually disabled • integrated short circuit isolator • white or red case colours • robust plastic case • type A environment category according to EN 54-3.

Beschreibung

Die Loop Sirene BX-SOL dient zur akustischen Signalisierung eines Brandalarms in Innenräumen und entspricht Umweltkategorie Typ A gemäß EN 54-3.

Das Gerät ist in den Farben rot oder weiß lieferbar und wird über eine 6-polig Schraubklemme direkt an die Integral X-LINE angeschlossen.

Bis zu 62 Stk. BX-SOL können auf einer Integral X-LINE aufgeschalten werden, die Anzahl richtet sich nach der eingestellten Lautstärke, nach dem Mischverhältnis mit anderen Teilnehmern sowie dem Kabeldurchmesser.

Die Einstellung der Tonarten „Slow Whoop“, „DIN-Ton“, „Dauerton“ und „Schwedenton“ erfolgt, auch während des laufenden Betriebes, direkt an der Brandmelderzentrale, die Lautstärke kann mittels Software oder DIP-Schalter eingestellt werden.

Besonders beim Einsatz in Bereichen, wo EMV-Störgrößen vorhanden sind, oder solche bedingt durch Arbeitsprozesse periodisch auftreten können, empfehlen wir die Verwendung eines geschirmten Brandmeldekabels.

Wie jedes Element der Integral X-LINE verfügt auch die Loop Sirene BX-SOL über einen Kurzschlussisolator, welcher im Fall von Drahtbruch oder Kurzschluss dafür sorgt, dass der Fehler lokalisiert und gleichzeitig der Betrieb der Ringleitung in vollem Funktionsumfang erhalten bleibt.

Für die Projektierung gelten die landesspezifischen Richtlinien für Planung und Einbau von automatischen Brandmeldeanlagen.

Description

The loop sounder BX-SOL is used to signal a fire alarm in interior rooms and conforms to environmental category type A according to EN 54-3.

The device is available in red or white and is connected directly to Integral X-LINE by means of a 6 pin screw clip.

Up to 62 BX-SOL devices can be connected to an Integral X-LINE, with the quantity being determined by the volume that has been configured, the combination of other devices as well as the cable diameter.

The tone types “Slow Whoop”, “DIN tone”, “Swedish Tone”or “permanent tone” are set directly at the fire alarm control panel, even during ongoing operation, whilst the required volume can be set by using software or setting DIP switches.

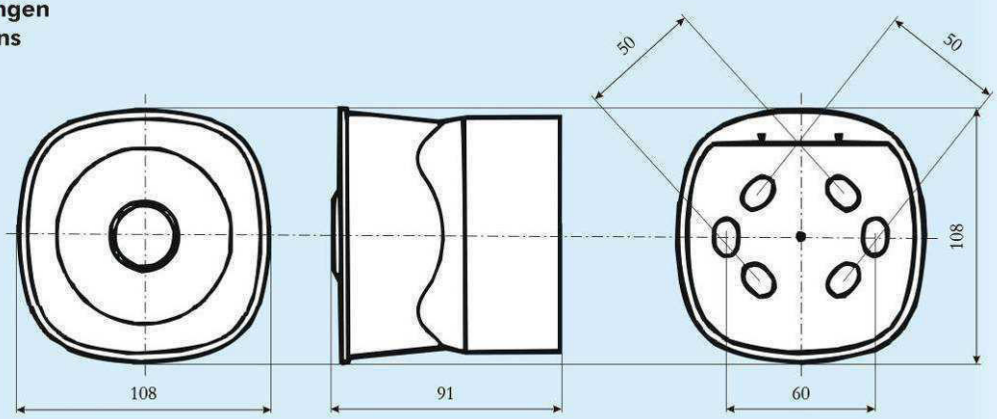
In particular when deployed in areas where there are EMC disturbances, or where such disturbances can occur periodically as a result of working processes, we recommend that a shielded fire alarm cable is used.

Like every element of Integral X-LINE, the loop sounder BX-SOL also contains a short circuit isolator, which ensures in the event of a wire break or a short circuit that the fault is localised and that the loop circuit’s operation is simultaneously maintained in its entirety.

The country-specific guidelines for planning and installation of automatic fire alarm systems are applicable.

Loop Sirene BX-SOL.
Loop Sounder BX-SOL.

Abmessungen
Dimensions



Alle Maße in mm
All dimensions in mm

Technische Daten

Betriebsspannung:	12 bis 30 VDC
Stromverbrauch:	
in Ruhe:	500 µA
Lautstärke LOW:	2,3 mA @ 24 VDC
Lautstärke HIGH:	4,7 mA @ 24 VDC
Anschluss:	Schraubklemmen, max. 2,5 mm²
Lautstärken:	
LOW:	89 dB ± 3 dB @ 1 m @ 24 VDC
HIGH:	99 dB ± 3 dB @ 1 m @ 24 VDC
Tonarten:	
DIN:	1200 ~ 500 Hz (DIN 33404-3)
Slow Whoop:	500 ~ 1200 Hz (EN 2575)
Dauerton:	990 Hz (Pulsverhältnis in der Zentrale frei projektierbar)
Schweden Ton:	660 Hz (150ms on, 150ms off)
Schutzart:	IP 21c
Umgebungstemperatur:	-10° bis +55°C
Durchmesser:	max. 108 mm
Bauhöhe:	91 mm
Gehäuse Farbe:	weiß (ähnlich RAL 9003) rot (ähnlich RAL 3001)
Gehäuse Material:	ABS
Gewicht:	ca. 230 g
VdS-Zulassung:	G210086 (EN 54-3, EN 54-17)
CPD-Zertifikat:	0786-CPD-20986 (EN 54-3, EN 54-17)

Technical data

Operating voltage:	12 to 30 VDC
Power consumption:	
in idle mode:	500 µA
with volume LOW:	2.3 mA @ 24 VDC
with volume HIGH:	4.7 mA @ 24 VDC
Connection:	Screw clips, maximum 2.5 mm²
Volume settings:	
LOW:	89 dB ± 3 dB @ 1 m @ 24 VDC
HIGH	99 dB ± 3 dB @ 1 m @ 24 VDC
Types of tone:	
DIN:	1200 ~ 500 Hz (DIN 33404-3)
Slow Whoop:	500 ~ 1200 Hz (EN 2575)
Continuous tone:	990 Hz (pulse behaviour can be freely set on the control panel)
Swedish Tone:	660 Hz (150ms on, 150ms off)
Protection class:	IP 21c
Ambient temperature:	-10° to +55°C
Diameter:	max. 108 mm
Construction height:	91 mm
Case colour:	white (similar to RAL 9003) red (similar to RAL 3001)
Case material:	ABS plastic
Weight:	ca. 230 g
VdS-Approval:	G210086 (EN 54-3, EN 54-17)
CPD-Certificate:	0786-CPD-20986 (EN 54-3, EN 54-17)

Weitere Informationen sind der Technischen Dokumentation zu entnehmen.
Further informations can be obtained from the technical documentation.

SCHRACK SECONET AG
A-1122 Wien, Eibesbrunnergasse 18 • Tel.: +43-1-81157-0 • office@schrack-seconet.com

Project :- NTPC Dadri

TECHNICAL DATASHEET			
S. N.	**DESCRIPTION**	**UNIT**	**1P x 1.5 mm^2**
	Material Code		
1	NAME OF THE MANUFACTURER		
2	PLACE & COUNTRY OF MANUFACTURER		
3	CABLE TYPE		Annealed Tinned Copper conductor, PVC insulated, Overall shielding, PVC Inner sheathed, Galvanised Steel Round Wire Armoured & Overall FRLS PVC Outer sheathed Loop cable.
4	APPLICABLE STANDARDS		BHEL Spec No.- PY 56239 Rev.02, IS:-1554-1/88, IS:-8130/84, IS:-3975, VDE:-0207 Part-4 & 5, VDE:-0816, IS:-10810/84, ASTMD-2863, ASTMD-2843, IEC-60754-1, IEC:-60332-3 Cat-A, IEEE-383, SS:-4241475 CL-F3 & this data-sheet.
5	VOLTAGE GRADE	V	600 / 1100
6	No. OF PAIR's	No	1P
7	**CONDUCTOR**		
a)	Material		High Conductivity Annealed Tinned Copper, Conf. to IS:-8130/84
b)	Grade		Electrolytic
c)	Size	mm^2	1.5
d)	No. of strands/ Nom. dia of each strand (Before stranding)	No /mm	7 / 0.53
e)	Shape of Conductor		Stranded & Circular
8	**INSULATION**		
a)	Material		PVC Type-YI3 Compound (suitable for 70Deg.C), Conf. to VDE:- 0207 Part-4
b)	Type		Extruded
c)	Thickness (Minimum)	mm	0.8
d)	Pair identification		Blue & Red
e)	Min. number of twists of cores in a pair	No	20 twist/meter
9	**Overall shielding**		
a)	Material		Aluminium-Mylar Tape
b)	Type		Helical
c)	Thickness (Min.)	mm	0.06
d)	Overlap / Coverage	%	25 / 100

S. N.	DESCRIPTION	UNIT	1P x 1.5 mm^2
10	**DRAIN WIRE** (Applicable for Overall shielding)		
a)	Material		Stranded Annealed Tinned Copper
b)	Size	mm^2	0.5
c)	No. of strands/ approx. strand size	No/mm	7 / 0.3
11	**INNER SHEATH**		
a)	Material		PVC Type-YM1 (suitable for 70Deg.C), Conf.to VDE:-0207 Part-5
b)	Type		Extruded
c)	Thickness (Min)	mm	0.3
d)	Colour		Black
e)	Rip-Cord		Non-metallic rip-cord shall be provided below inner sheath
f)	Approx dia of cable over inner sheath	mm	8.6
12	**ARMOUR**		
a)	Material		Galvanised Steel Round Wire, Conf. to IS:-3975
b)	Type		Single Layer
c)	Size (Nom)	mm	1.4
d)	Approx dia of cable over armour	mm	11.4
e)	Min. Coverage	%	90
f)	Method of joining	%	Welding
g)	Breaking load of joint	%	95% on normal armour
h)	Number of wires (Approx)	No	18
13	**OUTER SHEATH**		
a)	Material		PVC Type-YM1 (suitable for 70Deg.C), Conf.to VDE:-0207 Part-5 with FRLS Properties (Resistant to water, Fungus, Rodent & Termite attack)
b)	Type		Extruded
c)	Thickness (Min)	mm	1.8
d)	Colour of outer sheath		Black
e)	Overall diameter of cable	mm	15.4
f)	Tolerance on overall diameter	mm	+/-2.0
g)	Variation in diameter	mm	Not more than 1.0mm throughout the length of cable
h)	Ovality at any cross-section	mm	Not more than 1.0 mm
i)	Marking on outer sheath		

S. N.	DESCRIPTION	UNIT	1P x 1.5 mm^2
j)	Max. Safe pulling force when pulled by pulling eye	N / Sq.mm	50
14 a)	**Drum Length** (Packing shall be done in Non-Returnable Wooden Drum)	Mtrs	(10 x 1000) Mtrs
b)	Tolerance on Individual drum length and Overall quantity.	%	+/-5% on Individual drum length & (+3%, -0%) on overall quantity
c)	Quantity as per PO requirments	Mtrs	10,000
15	**ELECTRICAL PARAMETERS**		
a)	Max. DC resistance of conductor of completed cable at 20 Deg. C	Ω/km	12.3
b)	Min. Volume Resistivity	Ω-cm	1 x 10^{14} at 20 deg.C and 1x10^{11} at 70 Deg.C
c)	Min. Insulation resistance at 20 Deg.C of completed cable	MΩ/km	100
d)	Max. Mutual capacitance at 1.0kHz	pF/mtr	100
e)	Max. Capacitance between any core or screen at 1.0kHz	pF/mtr	400
f)	Max. L/R Ratio	µH/Ω	40
g)	Max. Drain wire resistance including shield at 20Deg.C	Ω/km	30
h)	Min. Electrostatic noise rejection ratio	dB	76
i)	Max. Inductance at 1.0 kHz	mH/km	1.0
j)	Max. Attenuation at 1.0 kHz	db/km	1.2
k)	High voltage test	kV(rms)	1.0 kV rms for 1 minute
k)	Noise interference as per IEEE Transactions 19687 (Min.)	dB	60
16	**FRLS PROPERTIES** (On Outer sheath)		
a)	Min. Oxygen index as per ASTMD-2863	%	29
b)	Min. Temperature index as per ASTMD-2863	°C	250
c)	Max. HCL emission as per IEC-60754-1	%	20 by weight
d)	Max. Smoke Density rating as per ASTMD-2843	%	60
e)	Flammability test on completed cable		Cable shall meet the test requirment of IEEE:-383, SS:-4241475 CL-F3 & IEC:-60332-3 Cat-A
17	Anti-termite & Rodent test		Presence of lead shall be confirmed (Black precipitate)
18	Marking on drum		Manufacturer's name, Country of manufacture, details of cable, Length of cable, Net & Gross-weight, PO Number, BHEL material code, Consignee address, Drum no, Direction of rotation of drum by means of an arrow for unwinding & BHEL Part No.

TITLE: DATA SHEET OF EXIT SIGN

1.	Make	HITECH VISION Adding glow to growth
2.	Item	Exit Sign
3.	Model	Foam board with auto glow vinyl sticker
4.	Material	Photo Luminescent material
5.	Size	12” X 6 “

	BILL OF MATERIAL FOR FIRE DETECTION & ALARM SYSTEM					Annexure -[2] of PY51807
	Project: 2 x 490 MW NTPC DADRI					Rev - 00
S. No	**Item Description**	**BOQ**	**UNITs**	**MAKE**	**MODEL NO.**	**REMARKS**
1	Multisensor Detectors with detector base and mounting back box	12	Nos.	SCHRACK	MTD 533X + USB 502-6	
2	Manual Call Points with mounting back box (Outdoor)	4	Nos.	SCHRACK	MCP 545X-3R	
3	Loop Powered Hooter with mounting back box	2	Nos.	SCHRACK	BX-SOL-R	
4	Self - Illuminating Exit Sign	4	Nos.	HITECH VISION / Equavalent	-	
5	1P x 1.5 Sqmm Twisted, Screened, Armoured Cable - Loop Cable	400	Mtrs.	refer attached vendor list.	-	
6	GI Cable Saddle + Saddle Bars along with fixing screws and rawl plugs for 1P x 1.5 sqmm Armoured Cable	800	Set	-	-	
7	Erection & Commissioning Hardware required for completeness of above FDA items	1	Lot	-	-	Engineering is in Bidder scope. Bidder to estimate the BOQ.
8	Programming Dongle for programming SCHRACK make fire alarm panel (Model. No. IP – MXF).	1	Nos.	SCHRACK	-	

Notes:

1) All erection hardware including back box, fixing screws, lugs, glands, clamps, structural steel, anchor fastner, nuts, bolts, flages etc. for the above items shall be considered in the offer by the bidder.

Master Document Schedule

Annexure -[3] of PY51807

Rev 00

Project: 2 x 490 MW NTPC Dadri

S. NO	Drawing / Document Name	VENDOR Drg/ Document No	Category (A/I)	Schedule of submission from P.O. Date	First Submission (Rev -00)			Current Revision			Current Status (Approved / commented)	BHEL APPD CATEGORY
					Rev No	Actual Date of Submission	Return Date	Rev No	Actual Date of Submission	Return Date		
A.	**Project Execution Plan**											
1	Quality Plan		A	2 WEEKS								
B.	**Design Output documents**											
1	Complete Bill of Material		A	2 WEEKS								
2	Item Wise Installation Details		A	3 WEEKS								
3	Item Wise Termination Details		A	3 WEEKS								
C.	**Data Sheets**											
1	Datasheet of Multi Criteria detector		A	2 WEEKS								
2	Datasheet of Manual Call Point		A	2 WEEKS								
3	Datasheet of Hooter		A	2 WEEKS								
4	Datasheet of Exit Sign Board		A	2 WEEKS								
5	Datasheet of 1P x 1.5 Sqmm Loop Cable		A	2 WEEKS								
6	Datasheet of Cable Gland		A	2 WEEKS								
7	Datasheet of Cable Lugs		A	2 WEEKS								
8	Datasheet / Catalogues of Erection Hardware		A	2 WEEKS								
D.	**ERECTION**											
1	Billing Break up		A	3 WEEKS								

	Master Document Schedule	Annexure -[3] of PY51807
		Rev 00
	Project: 2 x 490 MW NTPC Dadri	

S. NO	Drawing / Document Name	VENDOR Drg/ Document No	Category (A/I)	Schedule of submission from P.O. Date	First Submission (Rev -00)			Current Revision			Current Status (Approved / commented)	BHEL APPD CATEGORY
					Rev No	Actual Date of Submission	Return Date	Rev No	Actual Date of Submission	Return Date		
2	Certificates(Factory tests, calibration reports, statutory approval certificates)		I	3 WEEKS								
3	Packing procedure + Packing list		I	3 WEEKS								
4	Field quality plan		I	3 WEEKS								
5	Commissioning procedure		I	3 WEEKS								
6	Operating & Maintenance Manual		I	3 WEEKS								

	Price Bid format [for Main Supply + Mandatory Spares]	Annexure -[4] of PY51720
	Fire Detection & Alarm System	Rev 00
	Project: 2 X 490 MW NTPC DADRI	

BHEL ENQUIRY NO :

Vendor Offer ref no:

Ref. date:

Ref. date:

NOTES ::

1	This document details the price schedule format for the enquiry. **No other format will be entertained.** Applicable taxes and duties shall be indicated separately in commercial offer.
2	Duly signed & stamped un-priced price schedule format shall be submitted by vendor in the technical offer as a token of concurrence that price schedule would be submitted in this format. Any tampering / modification / additions, etc. are NOT allowed and not considered binding and is liable for rejection of the offer.
3	**Bidders shall be evaluated on overall L1 basis.**
4	For addition/reduction of quantity, unit rate quoted in the present offer shall be considered during order execution and shall be valid up to execution of the contract to the extent of + 10%, - 10% of overall order Value. These would include the cost up to engineering, installation of the item, wiring up in the panel and seamless integration with main system at works/site without any cost implications. All accessories as required for this purpose also shall be included in the unit rate of main items.
5	Components/Items for addition/deletion, spares shall be identical to the main equipment
6	Billing will be as per BOM of actual supplied main equipment (including accessories) & spares.
7	Bidders will be required to quote Total BASIC Price only (For Main items) in Price Bid Form in the e-procurement portal, considering all items as per this Price Format. Basic Prices of various line items shall be calculated by BHEL by multiplying the quoted Total Basic Price with the Weightages mentioned in this Price Format against the respective line items.

	Price Bid format	Annexure -[4] of PY51807
	Fire Detection & Alarm System	Rev 00
	Project: 2 x 490 MW NTPC DADRI	

S. No	Material Code	Item Description	Quantity [I]	UNITs	Unit Rate (Rs.) [II]	TOTAL PRICE (Rs.) [I*II]	REMARKS
1	PY9751807000	Fire Detection & Alarm System as per BOQ of Annexure - 02	1	Lot			
TOTAL PRICE (Rs.) ::							

ANNEXURE - 5			
	UNIT RATES FOR FIRE DETECTION & ALARM SYSTEM		
Sl. No.	**Item Description**	**Unit Rate**	**Percentage of Grand Total of Annexure - 5**
1	Multisensor Detectors with detector base and mounting back box		1.0609%
2	Manual Call Points with mounting back box (Outdoor)		3.8526%
3	Loop Powered Hooter with mounting back box		2.2166%
4	Self - Illuminating Exit Sign		0.7286%
5	1P x 1.5 Sqmm Twisted, Screened, Armoured Cable - Loop Cable		0.0363%
6	GI Cable Saddle + Saddle Bars along with fixing screws and rawl plugs for 1P x 1.5 sqmm Armoured Cable		0.0014%
7	Erection & Commissioning Hardware required for completeness of above FDA items		1.1167%
8	Programming Dongle for programming SCHRACK make fire alarm panel (Model. No. IP – MXF).		45.3657%

Annexure - 6

BHARAT HEAVY ELECTRICALS LTD.
PROJECT ENGINEERING & SYSTEMS DIVISION

2 X 490 MW NTPC DADRI

VENDOR LIST:-

SL. NO.	ITEM DESCRIPTION	VENDOR
1.	Instrumentation Cable	GUPTA POWER INFRASTRUCTURE LTD.
2.		TEMPSENS INSTRUMENTS (I) PVT.LTD.
3.		UDEY PYROCABLES PVT. LTD.
4.		LEONI CABLE SOLUTIONS (INDIA)
5.		ASSOCIATED FLEXIBLES AND WIRES
6.		ASSOCIATED CABLES PVT. LTD.
7.		ADVANCE CABLE TECHNOLOGIES PVT LTD.
8.		LAPP INDIA PVT. LTD.
9.		ELKAY TELELINKS LIMITED
10.		SUYOG ELECTRICALS LTD
11.		POLYCAB INDIA LIMITED
12.		T C COMMUNICATION PVT. LTD.
13.		SPECIAL CABLES PVT. LTD.
14.		PARAMOUNT COMMUNICATIONS LTD
15.		DELTON CABLES LIMITED
16.		KEI INDUSTRIES LIMITED
17.		CMI LIMITED
18.		CORDS CABLE INDUSTRIES LTD.
19.		MIDDLE EAST SPECIALIZED CABLES CO.
20.		GLOSTER CABLES LIMITED
21.		KEC INTERNATIONAL LIMITED
22.		THERMO CABLES LIMITED

BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING & SYSTEMS DIVISION

PROJECT: - 2 x 490 MW NTPC DADRI

ANNEXURE - 7					
PREBID QUERIES FORMAT					
Sl. No.	**Bidding document Reference**			**Subject**	**Bidder's Query**
	Spec/Annexure	**Page No**	**Clause No**		

MANUFACTURER NAME & ADDRESS SCHRACK SECONET AG VIENNA, AUSTRIA		SUPPLIER: SAMAY PROJECT SERVICES PVT. LTD.	QUALITY ASURANCE PLAN ITEM: FIRE ALARM PANEL (MICROPROCESSOR BASED)		SPSPL QAP NO. BHEL/NTPC QAP NO. REV. DATE:		Project: 2X490 MW NATIONAL CAPITAL THERMAL POWER PROJECT, NTPC DADRI, UP PACKAGE: FIRE FIGHTING AND ALARM SYSTEM CONTRACT NO.: MAIN SUPPLIER: SAMAY PROJECT SERVICES PVT. LTD.					
SR. NO.	COMPONENT/ OPERATION	CHARACTERISTICS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD		INSPECTION AGENCY			REMARKS
1	2	3	4	M C/N 5	6	7	8		M	C	N 9	10
1	Fire Alarm Panel (Integral IP MX)	VDS Certificate	Review	100%	Approved Data Sheet	VDS Certificate/ Approved Datasheet	Test Certificate COC	Ok	P	V	V	Model No. is as per the approved datasheet only
2	Fire Alarm Panel (Integral IP BX)	VDS Certificate	Review	100%	Approved Data Sheet	VDS Certificate/ Approved Datasheet	Test Certificate COC	Ok	P	V	V	
3	Multi Detector (MTD 533X+USB502-6)	VDS Certificate	Review	100%	Approved Data Sheet	VDS Certificate/ Approved Datasheet	Test Certificate COC	Ok	P	V	V	
4	Monitor Module (BX-OI3)	VDS Certificate	Review	100%	Approved Data Sheet	VDS Certificate/ Approved Datasheet	Test Certificate COC	Ok	P	V	V	
5	Duct Detector (LKM593X+LKM-SET)	VDS Certificate	Review	100%	Approved Data Sheet	VDS Certificate/ Approved Datasheet	Test Certificate COC	Ok	P	V	V	
6	Manual Call Point (MCP545X-1R)	VDS Certificate	Review	100%	Approved Data Sheet	VDS Certificate/ Approved Datasheet	Test Certificate COC	Ok	P	V	V	
7	Manual Call Point (MCP545X-3R)	VDS Certificate	Review	100%	Approved Data Sheet	VDS Certificate/ Approved Datasheet	Test Certificate COC	Ok	P	V	V	
8	Hooter (BX-SOL-R)	VDS Certificate	Review	100%	Approved Data Sheet	VDS Certificate/ Approved Datasheet	Test Certificate COC	Ok	P	V	V	

Note: Following documents will be submitted for issuance of MDCC for imported items.
1. One time UL/FM/LPCB/VDS certificate.
2. COC from the main contractor.
3. Proof of origin.
4. Certificate of test from the Manufacturer.

SEAL	SEAL	LEGEND TO BE USED: CLASS# A=CRITICAL, B=MAJOR, C=MINOR, M: MANUFACTURER(SCHRACK) C: MAIN SUPPLIER (VIKRAM SOLAR PVT. LTD.) N: NTPC P:PERFORM, W: WITNESS, V:VERIFICATION AS APPROPRIATE, MTC:MATERIAL TEST CERTIFICATE, COC: CERTIFICATE OF COMPLIANCE		DOC. NO.		REV……	CAT……..
MANUFACTURER (SCHRACK)	MAIN SUPPLIER (SAMAY PROJECT SERVICES PVT. LTD.)		FOR NTPC/BHEL USE				
				REVIEWED BY:		APPROVED BY	APPROVAL SEAL

APPROVED

24.12.18

Manufactured and Supplied by: Honeywell International(I) Pvt. Ltd. Sector - 36, Pace City II, Gurgaon, Haryana - 122004	QUALITY ASSURANCE PLAN (QAP)	SYSTEM SENSOR Form No. 307/01

Project Name : BHEL Dadri UP

QAP Issue Date : **13-Dec-18**

Sl. No.	Model No.	Description	Country of Origin	Type/method of check	Quantum of Check	Reference Document	Acceptance Norm	Format of record	Agency		
									S	M	O
1	BEAM1224	BEAM DETECTOR CONV SSD	MADE IN MEXICO	Functional & Visual check	2 pcs/ lot qty.	Datasheet	UL	TC	P	W	V

Note:

LEGENDS	
P: Perform	O: Purchaser/ Owner
W: Witness	M: Main Vendor
V: Doc Verification	S: Manufacturer/Sub Vendor
TC: test Certificate	

BHEL PE QA HYDERABAD

Honeywell International (India) Pvt. Ltd. Gurgaon

Mr. Amrish Sharma

Prepared by | Approved by

Make as per approved datasheet

Following documents are required to be submitted for issuance of MDCC.
1-UL/FM/LPCB/VDS
2-Proof of Origin
3-Test certificate/COC of Mfr
4-COC from Main Contractor

ANNEXURE - 09

MFGR.'s LOGO	MANUFACTURER'S NAME AND ADDRESS	MANUFACTURING QUALITY PLAN		PROJECT : PACKAGE : CONTRACT NO. : MAIN-SUPPLIER:
		ITEM : SUB-SYSTEM:	QP NO.: REV.NO.: DATE: PAGE: …. OF….	

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	CLASS TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C / N					M	C	N	
1	2	3	4	5	6		7	8	9	D *	** 10			11

MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER
SIGNATURE	

LEGEND: * RECORDS, INDENTIFIED WITH "TICK" ( ) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.
** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, N: NTPC
P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE,
CHP: NTPC SHALL IDENTIFY IN COLUM "N" AS ' W"

FOR NTPC USE

DOC. NO.:		REV…… CAT…..
REVIEWED BY	APPROVED BY	APPROVAL SEAL