

**PLEASE UPLOAD THIS ENTIRE DOCUMENT IN GEM PORTAL WITH DULY FILLED ,SIGNED AND STAMPED
ALONG WITH YOUR OFFER AND RESPECTIVE ATTACHMENTS WHEREEVER NECESSARY**

1	GEM ID NO	GEM/2021/B/1421460 Dt.07.08.2021
2	ITEM	RF TYPE LEVEL SWITCH
3	PROJECT	BHUSAWAL- BOILER & SCR

1. VENDOR DETAILS

Sl no-	DESCRIPTION	RESPONSE
1.	VENDOR / FIRM NAME	
2.	BHEL VENDOR CODE	
3.	QUOTATION REFERENCE & DATE	
4.	CONTACT PERSON NAME	
5.	CONTACT PERSON MOBILE NO	
6.	CONTACT PERSON MAIL ID	
7.	FIRM MAIL ID	
8.	WORKS ADDRESS & TELE NO	
9.	OFFICE ADDRESS & TELE NO	
10.	PAN NO	
11.	GST NO	
12.	MSE VENDOR / NON MSE VENDOR	

2.Commercial conditions

Sl no	Terms	Conditions	Vendor confirmation	Remarks
1	Delivery term	Vendor shall quote unit price on FOR / Consignee basis inclusive of Packing & Forwarding, Freight & GST. Insurance will be on BHEL scope.	Accepted / Not accepted	
2	Delivery days	For this GeM tender, the indicated delivery days is from document approval/manufacturing clearance. Delivery date shall inclusive of all the activities like manufacturing, inspection, Packing & Forwarding and dispatch.	Accepted / Not accepted	
3	Payment term	As per GEM T&C	Accepted / Not accepted	
4	LD clause	As per GEM T&C	Accepted / Not accepted	
5	Guarantee/ Warranty period	A Guarantee certificate for 18 months from the date of shipment or 12 months from the date of commissioning whichever is earlier shall be furnished.	Accepted / Not accepted	
6	GEM validity	As per GEM T&C	Accepted / Not accepted	
7	HSN CODE			

8	GST	Pl Mention in %	%	
9	Attachments 1	Have you submitted the Udyam registration certificate (applicable only for MSE vendors)	Yes / No	
10	Attachments 2	Have you submitted the point wise supporting documents required against PQR which is attached below. Please mention the corresponding page no also for each PQR point	Yes / No	
11	Attachments 3	Have you Filled, signed , sealed &submitted “NIL Deviation Format ” attached below.	Yes / No	
12	Attachments 4	Have you signed , sealed &submitted the all pages of “Technical Specification, Drawing, datasheet & Quality Plan” with respect to this tender along with your quoted offer.	Yes / No	
13	Attachments 5	Have you Filled, signed , sealed &submitted “Self declaration format for MII clause” as per BHEL format in your company letter head attached below. (IN %)	Yes / No	
Vendor consents that the terms & conditions accepted, in GEM alone, shall be binding between BHEL and Vendor; and no other terms mentioned elsewhere in the un-priced offer / Quotation will be considered / accepted by BHEL.				

3.PRE-QUALIFICATION REQUIREMENT (PQR)

		RF Type Ash Level Switches	CONTROLS & INSTRUMENTATION (FB)		CI:PE:PQR: RF_LS Rev. No: 00 Dt. : 03-08-2021
Sl. No.	Description	Bid Requirements	Acceptance	Respective Document (pdf format)	Mention corresponding page no in the attached pdf document
1	Past experience /Reference Projects	Vendor to submit signed copy of the reference list of projects, where the offered RF Type Ash Level Switches, were supplied earlier in the past three years. The reference list should contain the following details: Name of the projects, Size, Material, total quantity and contact details along with relevant PO copies.	Accepted / Not accepted	Attached / Not attached	page no From to
2	Service & Spares support	Spares & service support shall be available in India.	Accepted / Not accepted	Attached / Not attached	page no From to

4. SUB-DELIVERY ENQUIRY DEVIATION FORMAT



MATERIALS MANAGEMENT / BOI SUB-DELIVERY ENQUIRY DEVIATION FORMAT

Page : of

Schedule of deviation to Sub-delivery Enquiry No. : GeM Bid no: GEM/2021/B/1421460 Dt.07.08.2021

Description : RF TYPE LEVEL SWITCH

Documents : TCI:302/02

Drawing Nos. : --

Quality Plan : VQP

Packing Procedure : QA:CI:STD:PR:04, Rev. 03

Document reference	BHEL called for	Firm's alternative offer

Certified that other than the above deviations, we are accepting all the other specifications and requirements in full to your Enquiry.

Station :

Date :

Signature of firm's representative

Firm seal

Note :
1. Deviations should be taken only in the extreme case
2. If necessary, use additional sheets with page control number

5. / On Bidder's office letter pad /

Self-Declaration

Enquiry No. & Date	GEM/2021/B/1421460 Dt.07.08.2021
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In line with Government public procurement order Number P-45021/2/2017-B.E-II dated 15.06.2017, and further modified order dt.04.06.2020 issued by DPIIT,

I / We hereby declare that I / We are a “Local Supplier” meeting the requirement of minimum local content (.....%) defined in the above government notification for the goods against above mentioned enquiry Number.

Details of location at which local value addition will be made is as follows:

Door No.	
Street / Address 1	
Street / Address 2	
District	
State	
Country	
PIN Code	

We also understand that the false declarations will be considered as breach of Integrity and liable for action.

For Company Name:

Seal:

Signature:

Date:

Place:

(Please fill all the yellow color field)



BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI - 14

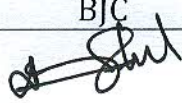
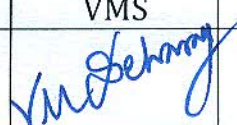
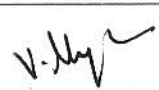
CONTROLS & INSTRUMENTATION/FB

SHEET 01 OF 06

**Technical Specification for
RF TYPE ASH LEVEL SWITCH**

Specification Number - TCI: 302, Rev. 02

Revision History

REV. NO.	DATE	DESCRIPTION	PREPARED	REVIEWED	APPROVED
00	20-09-2014	Initial Release	-Sd-	-Sd-	-Sd-
01	22-07-2016	General Revision	-Sd-	-Sd-	-Sd-
02	22-11-2016	Revisit	BJC 	VMS 	VM 

**Technical Specification for
RF TYPE ASH LEVEL SWITCH**

TCI: 302, Rev. 02

SPECIFICATION REQUIREMENT FOR RF TYPE ASH LEVEL SWITCH	
1	Application The RF type ash level switches are fitted to hoppers in Boiler Economiser and Air heater to sense ash deposit level.
2	Site Conditions Dusty, salty, corrosive and highly polluted. Relative humidity – 66% Ambient Temperature – 50 °C
3	Applicable standard Water and Dust proof Enclosure Protection conforming to IP 65 as per IS/IEC 60529
4	Scope of Supply Includes design, manufacturing, testing, inspection, packing, delivery and commissioning at site.
5	Major Components The ash level switch shall consist of the following:-
a	Level Sensing Probe with mounting stub.
b	Electronic Unit (with enclosure) & mounting accessories
c	Interconnecting cables and accessories.
6	Operating Principle
6.1	The Ash Level Switch shall function based on Radio Frequency. It shall sense the ash reaching a particular level (High) and provide output signals (relay contact) and LED Indications.
6.2	Heavy deposits of ash on the hopper wall to the extent of forming rat hole shall also be detected by the ash level switch.
7	General Requirements
7.1	Level Sensing Probe with mounting stub
a	The probe material shall be SS 316, suitable to sense process ash level, with a continuous maximum temperature of 350 Deg. C.
b	The probe shall withstand continuous, uniformly distributed load of 25 Kg (approx.), over the portion of the probe inserted into the hopper.
c	The probe shall be suitable for perpendicular mounting to the hopper wall and shall be resistive for abrasive particles and vibrations.

**Technical Specification for
RF TYPE ASH LEVEL SWITCH**

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d	A probe-mounting stub (socket) of suitable length shall be supplied for fixing the probe on the hopper wall. The probe and the mounting stub shall have matching threads.
7.2	Electronic Unit and Enclosure with mounting accessories
a	The electronic unit shall be suitable to operate at the below mentioned power supply rating/variations. Power Supply requirement: - Input supply : 230 VAC, 1 phase, 50Hz. Voltage variation : $\pm 10\%$ Frequency variation : $\pm 5\%$ Any other voltage /power supply required shall be derived internally with the electronic unit, by the vendor.
b	The Electronic unit shall activate a relay when ash level inside the hopper reaches a prescribed level. Number of relay Contacts (minimum) : 2 (Two) SPDT, potential free contacts Contact Rating (Minimum): 3A, 240V AC / 0.25A, 220V DC. The contacts shall be terminated in the terminal block in the Electronic unit.
c	Distinctly coloured, Individual LED indications for “Power ON”, “Fault” & “Level reached” shall be provided externally on the electronic unit enclosure.
d	The Electronic unit shall have tuning arrangements to adjust the set point. The system shall also have dead band provision within acceptable limits in the level detection. Repeatability shall be $\pm 0.5\%$ of full range.
e	The electronic unit enclosure shall be provided with 2 sets of SS-304, M6 bolt with washers at both sides of the enclosure for external earthing.
f	The electronic unit enclosure shall be suitable for mounting on Walls, Columns/Structures.

**Technical Specification for
RF TYPE ASH LEVEL SWITCH**

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g	Common Points for Probe terminal box and Electronic Unit enclosure :- The probe terminal box and the electronic unit enclosure shall be of die-cast aluminium, suitable for outdoor installation with water and dust proof protection conforming to IP-65 degree of protection as per IEC-60529. The probe terminal box and the electronic unit enclosure shall be of smooth finish and painted. The probe and the electronic unit shall be provided with plug in connectors for terminating the signal and power cables, inside the enclosure.
7.3	Interconnecting cables and accessories
a	15 metres (minimum) of 3 core, annealed, silver plated copper conductor with minimum cross section of 0.5 Sq.mm, PTFE Insulated and Outer sheathed, shielded cable shall be considered for interconnecting each Level sensing probe with its electronic unit.
b	15 metres of flexible self-locking type metallic galvanized conduit shall be considered for routing signal cable from each Level sensing probe to its electronic unit. The probe terminal box and the electronic unit enclosure shall have provisions to accommodate the conduits.
c	The interconnecting cables and flexible metallic conduits shall be supplied in running meters. The same shall be cut and used at site, based on routing length required.
d	Double compression type, Nickel plated brass cable glands suitable for Signal and Power cables shall be considered
e	End sealing ferrule (Insulated) shall be provided for connecting signal cables and power cable to the plug in connectors in the level sensing Probes and Electronic unit enclosures.
f	15 sets of suitable GI clamps, GI base plates and screws shall be supplied for each ash level switch. The minimum thickness of the base plates shall be 5mm.
g	All necessary mounting accessories shall be supplied along with each electronic unit enclosures. Mounting accessories shall be of SS-304.

**Technical Specification for
RF TYPE ASH LEVEL SWITCH**

TCI: 302, Rev. 02

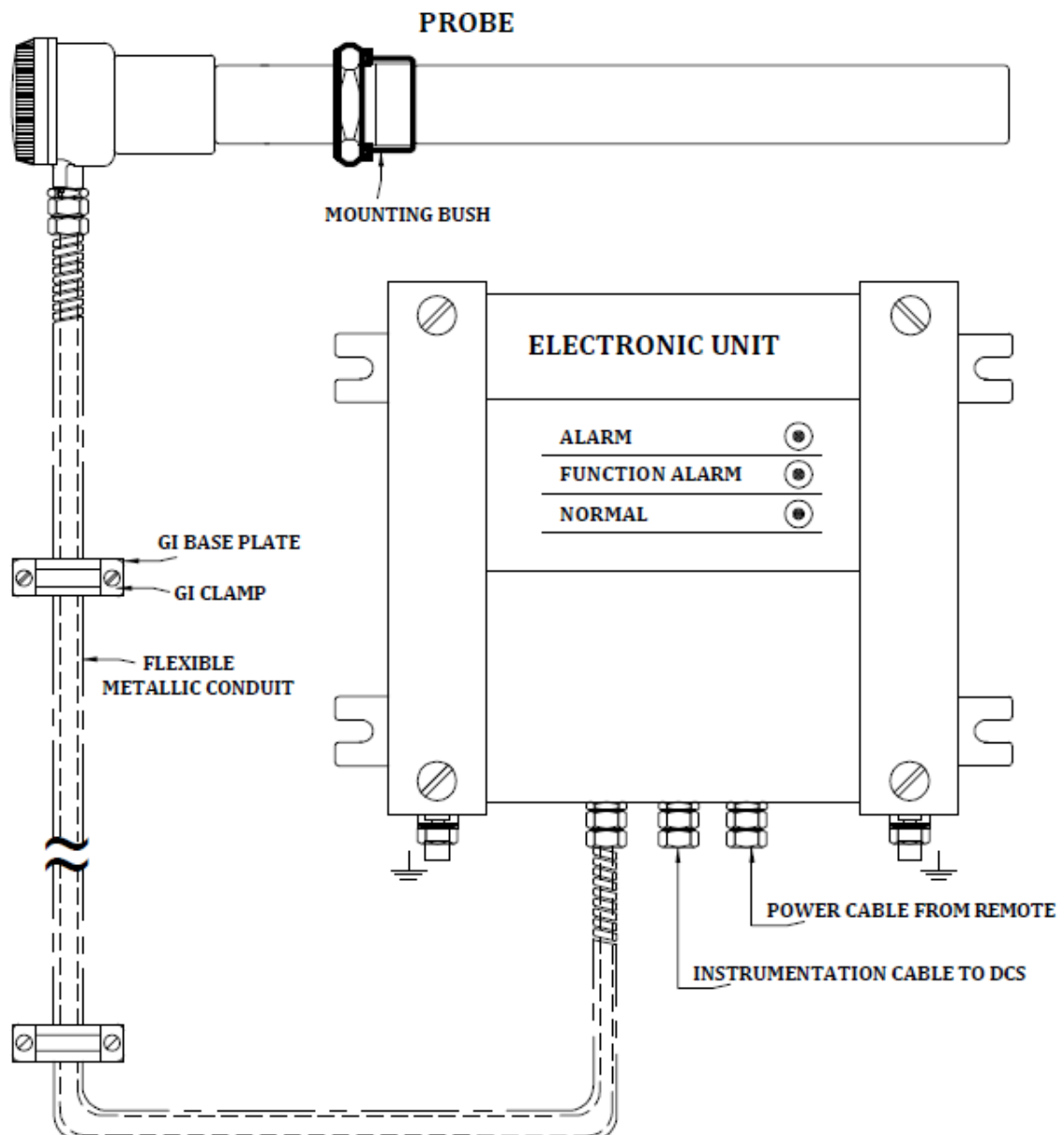
h	Individual SS-304 name plates with following details shall be fixed on the level sensing probe and the electronic unit enclosure. The name plate shall include the following information – 1. Equipment Name 2. Name of Manufacturer 3. Month/Year of manufacturing 4. Batch/Serial No. 5. Power supply rating 6. Output Contact rating
8	Inspection & Testing:
a	Applicable Quality plan: - Vendor quality plan
b	BHEL's technical specification and Approved drawings/documents shall be referred at the time of inspection
9	Packing
a	All the components of the Ash level switch shall be packed suitably in wooden crates to avoid damages during transit or storage.
b	The packing shall be suitable for outdoor storage, having water proof covering to avoid water entry and Silica gel shall be provided inside the packing wherever required.
10	DOCUMENTATION:
10.1	Confirmation to be given by the vendor during offer submission
a	Sub-Delivery Enquiry Deviation format shall be filled with "No Deviation", indicating the Data sheet and Quality Plan reference and shall be furnished along with the offer.
b	In the absence of Sub-Delivery Enquiry Deviation format, the vendor's offer will not be evaluated.
c	Technical deviation/non-conformance indicated elsewhere in the offer will not be considered.

Technical Specification for RF TYPE ASH LEVEL SWITCH

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10.2	Documents to be submitted by the vendor after placement of Purchase Order
a	Dimensional drawing of Level sensing probe & electronic unit enclosure. Block diagram of Electronic circuits Terminal details of level sensing probe and Electronic unit. Level sensing probe erection/installation/commissioning drawings. Test certificates as per Quality Plan. Detailed BoM O&M Manuals Special Instruments for Erection and Commissioning Trouble shooting manuals

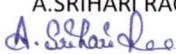
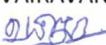
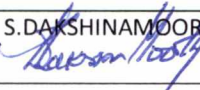
TYPICAL ARRANGEMENT OF INTERCONNECTION OF PROBE AND ELECTRONIC UNIT



**BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPPALLI**

**CONTROLS AND INSTRUMENTATION / FB
QUALITY ASSURANCE**

**STANDARD PACKING PROCEDURE
FOR
ALL INSTRUMENTS AND MISCELLENEOUS ITEMS
(ELECTRICAL, ELECTRONIC AND PNEUMATIC)**

Rev	Date	Prepared	Checked	Approved	Revision History
00	01.01.96	Sd/-	Sd/-	Sd/-	Initial History
01	28.03.02	Sd/-	Sd/-	Sd/-	Department name changed
02	26.02.07	Sd/-	Sd/-	Sd/-	Revised after discussion with Shipping Dept.
03	17.12.16	A.SRIHARI RAO 	RM.VAIRAVAN 	S.DAKSHINAMOORTHY 	Revised to suit all type of instruments.

1. Scope

This procedure gives minimum guidelines to be complied with for packing of Electrical, Electronic and pneumatic Instruments. This packing shall be suitable for different handling operations and for the adverse conditions during transportation and during indoor / outdoor storage for period more than one year.

2. Material for packing

The individual instrument shall be packed in carton box (specifically made for particular instrument) and grouped together inside a box made of wood or plywood as per National / International standard.

3. Packing

- Items shall be inspected for cleanliness immediately before packaging. Dirt, oil, residue, metal chips or other forms of contamination shall be removed.
- Adequate protection shall be provided against mechanical damage and atmospheric corrosion in transit and, for equipment suitable for outside storage, for prolonged storage at the site prior to installation.
- Water proof barrier material – high density polythene shall be used as a resistant to grease and water; it shall protect items from airborne and windblown soils.
- Desiccants like silica gel to be used inside the carton box. Silica gel shall conform to IS 3401. The gel is to be packed in sachets placed at different positions inside the components for absorbing moisture. The quantity of silica gel shall be adequate for storage period of one year.
- All tapped openings in equipment shall be plugged with plastic plugs to protect internal / external threads.
- Use a sturdy cardboard shipping carton, large enough for at least 3 inch foam padding around the instrument.
- Do not use loose plastic foam pieces, which can shift during transport.
- Secure the box flaps with packaging tape or box staples.

3.1) Marking & Labelling:

- Components and their containers shall be identified by marking. Shipping marks shall be on all sides of package. The shipping marks shall be at least 3 inches high where space permits. Markings are to be in black paint or ink depending on shade of the package surface.
- Cautionary symbols to be stenciled in red waterproof paint or ink.

QA:CI:STD:PR:04 / Rev 03

- The gap between job and the box shall be filled with suitable material like jute, coir, thermo coal, etc.
- For export packing additional care shall be taken as per contract requirements if applicable. Otherwise, suitable box made of seasoned wood and / or plywood sheets of required thickness shall be used with suitable sea worthy packing protection.

4. Marking

- After completing the packing, Stencil marking, as per dispatch instructions and symbol marking as per Annexure – I shall be made. Please ensure the box is stenciled with “FRAGILE ITEM”, “HANDLE WITH CARE”.

5. Packing Slip

- A copy of the packing slip, kept in a polythene cover shall be kept inside the box. Another copy of the packing slip, kept in a polythene cover shall be kept outside the box and firmly fixed to the case.

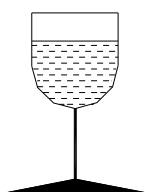
6. Caution

- Do not pack any other Mechanical items with this case.

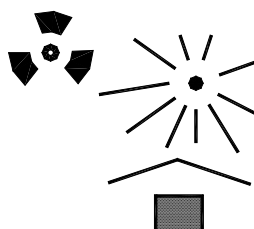
7. General

- These packing procedures are the minimum requirements in addition to the standard instructions mentioned in the Purchase Order and Specification.
- Deviation to meet the packing procedure requirements / non-clarity in packing approach in any quotation will be liable for rejection of offer.

ANNEXURE – 1



FRAGILE, HANDLE WITH CARE



PROTECT FROM HEAT AND RADIOACTIVE SOURCES



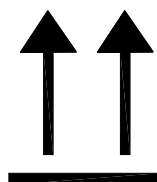
USE NO HOOKS

NOTE: The design of heavy goods packages cannot always resist top lifting by grabhooks.



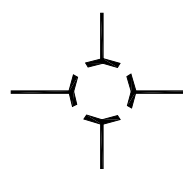
KEEP DRY

NOTE: Not all cases have waterproof internal liners: plywood used in the construction may not have a waterproof glue line.



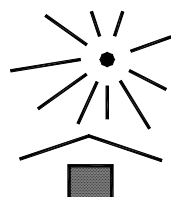
THIS WAY UP

NOTE: Certain designs of small cases make it difficult to distinguish top from bottom.

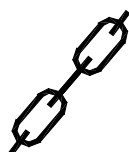


CENTRE OF GRAVITY

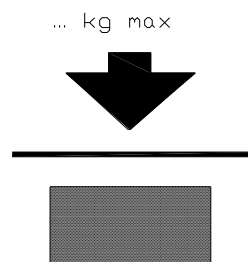
NOTE: This should be stencilled as a minimum on the two longest case sides (this information will normally be supplied by the manufacturer of the item(s) packed).



KEEP AWAY FROM HEAT



INTERNATIONAL "SLING HERE" SYMBOL



STACKING LIMITATION

NOTE: The maximum load in kilograms should be marked above the arrow.