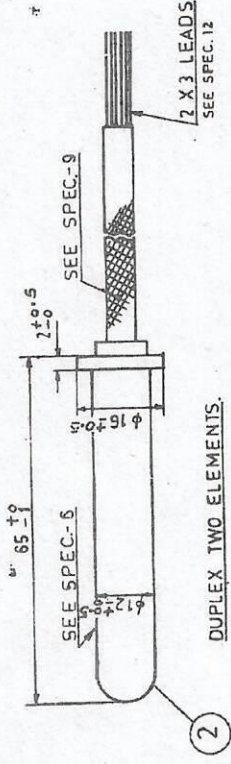
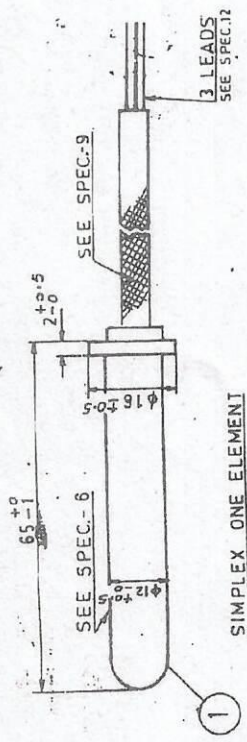


(ALL DIMENSIONS ARE IN MM.)

FIRST ANGLE PROJECTION

DRG NO 34021040090



SPECIFICATION :

1. BTD TO BE SUITABLE FOR MEASURING THE TEMPERATURE OF BEARINGS OF INDUCTION MOTOR UP TO 150°C, IN CHEMICAL ATMOSPHERE.
2. BTD SHOULD HAVE RESISTANCE ELEMENT OF PLATINUM HAVING 100 Ω RESISTANCE AT 0°C RESISTANCE/TEMPERATURE CHARACTERISTICS TO B51904.
3. ELEMENT RESISTANCE (EXCLUDING LEADS) 100 ± 0.25 Ω AT 0°C, 1385 ± 0.5 Ω AT 100°C
4. INSULATION RESISTANCE BETWEEN ELEMENT & SHEATH 10 MEG. Ω.
5. RESISTANCE ELEMENT TO WITHSTAND H.V. TEST AT 15 KV FOR 4 MINUTE
6. RESISTANCE ELEMENT SHOULD BE IN CERAMIC BODY, SEALED & COVERED WITH A SHEATH, COVERING THE ELEMENT IS TO BE MADE OF STAINLESS STEEL, SUITABLE FOR PROTECTING THE ELEMENT FROM MECHANICAL DAMAGE. COMPLETE SHEATH INCLUDING Ø 16 COLLAR SHOULD BE COVERED WITH INSULATING SLEEVE.
7. THE LEADS ARE TO BE 19/0.16 mm. DIA. (19/0.006") SILVER PLATED COPPER PIPE (TEFLON) INSULATED, 4 METRE LONG AND ITS RESISTANCE TO BE 0.051 Ω/m. MAX. AT 20°C
8. THE LEADS/JOINTS SHOULD BE CAPABLE OF WITHSTANDING LEAD PULL-OUT STRENGTH TEST OF 5 Kg. ON EACH LEAD THE ELEMENT RESISTANCE WILL BE CHECKED AFTER THIS TEST.
9. BTD LEADS SHOULD BE COVERED WITH A FLEXIBLE SLEEVE OF STAINLESS STEEL WIRE (35 SWG S.S. WIRE) PLATED WITH 0.5 DIA. STRANDS AND THIS SHOULD BE INTEGRAL WITH BTD.
10. FERRULES WITH LETTERS 'PT' INDICATING THAT BTD IS PLATINUM TYPE HAS TO BE FIXED ON LEADS. S.No. OF BTD ALSO TO BE INDICATED BY FERRULES.
11. TEST CERTIFICATE FOR EACH SERIAL NO. OF RTD SHOWING TESTED RESISTANCE AT AMBIENT TEMP. AND 100°C HAS TO BE FURNISHED.
12. TWO ELEMENTS TO BE DISTINGUISHED BY COLOURS OF LEADS e.g. ELEMENT-1: RED-RED WHITE ELEMENT-2: BLUE-BLUE/GREEN.

13. TESTED RESIS. AT 0°C TO BE FURNISHED AS AND WHEN REQUIRED IN PURCHASE ORDER.

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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
06/19/2020		06/19/2020	06/19/2020	06/19/2020	06/19/2020	06/19/2020	06/19/2020	06/19/2020	06/19/2020
REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
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REV. DATE		ALT. DATE	PRVIN. NO.	CHKD. NO.	AKASH. NO.	NOTES	DELETED	DRAWING	REDRAWN
02/17/2020		02/17/2020	02/17/202						



QUALITY CONTROL- MOTOR GROUP
QUALITY PLAN FOR RTD AND BTD

Page 1 of 2

Customer	BHEL, Bhopal	QAP No. QA/MT/BOI/009	Rev. No.00	LEGEND						
Material description	RTD and BTD	Date: 25.06.2012		TPIA: Third party inspection agency						
Specification	P.O./ drg.			RR: Record Review						
Sr. No	Stage	Characteristics	Method	Reference Document	Acceptance Criteria	Extent of check	Record of format	Inspection by	Mode of inspection	Remarks
1.	Raw material									
1.1	Platinum element.	Electrical, chemical & mechanical	Test	IS	IS	one sample/lot	Supplier TC	TPIA/BHEL	Record Review	Stock shall be verified by inspector for material
1.2	Wire Cable	Electrical	Test	IS	IS	---do---	Supplier TC	TPIA/BHEL	Record Review	
1.3	Epoxy glass laminated sheet	Chemical, mechanical & electrical	Test	IS	IS	---do---	Supplier TC	TPIA/BHEL	Record Review	
1.4	Binder material	Chemical	Test	IS	IS	---do---	Supplier TC	TPIA/BHEL	Record Review	
2.	In-process									
2.1	Soldering of element to cable	1. Visual inspection	Visual	Vendor document	Vendor document	100 %	QC record	TPIA / BHEL	Record Review	Operator shall be identified for soldering operation
2.2	After sealing / crimping of element	1. Continuity test 2. Resistance 3. IR test	Measurement	Vendor document	Vendor document	100 %	QC record	-do-	Record Review	
2.3	Testing	a) HV test b) Resistance calibration c) Pullout test d) IR at (20 Deg & 100 Deg)	As per Po specification/ spec/drawing Drawing	As per spec/ drawing -do- -do- -do-	As per spec/ drawing -do- -do- --do--	100 % by vendor & 30 % by TPIA/BHEL	Test certificate -do- -do-	-do- -do- -do- --do--	Witness Witness Witness witness	Check calibration status of testing equipment (calibrated by NABL accredited lab.)

Note: In case of sample failed in test witness, Screening shall be done by vendor by 100 % testing and tested Ok, quantity shall be re-offered for inspection.

Prepared by A.K. Vinodh
Sr. Manager (Quality Control) / Sr. Manager (QC)
मु. नि. - बी. एल. एम. एवं एल. ई. एम. / Quality Control PLM & LEM
बी. एल. ई. एल. मोफत / B. E. L., Bhopal

Approved by S.K. Sharma,
AGM (QEW, QMX)





BHARAT HEAVY ELECTRICAL LIMITED, BHOPAL
QUALITY CONTROL- MOTOR GROUP
QUALITY PLAN FOR RTD AND BTD

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Customer		BHEL, Bhopal	QAP No.	Rev.	LEGEND		
Material description		RTD and BTB	QA/MT/BOI/00	No.00	RR: Record Review	TPIA: Third party inspection agency	
Specification		P.O./drg.	Date: 25.06.2012		W: Witness		
Sl. No	Stage	Characteristics	Method	Reference Document	Acceptance Criteria	Extent of check	Record of format
4	Dimensions & visual inspection in finished	Dimension, cable length, cable marking, identification i.e. vendor name, sl no	Measurement/ visual	BHEL drawing/ spec	BHEL drawing/ spec	100%	Inspection report
5	Dispatch	Visual inspection/ packing & marking (PO, size, spec, Qty, etc.	Drawing/ packing instruction	--do--	--do--	100%	Inspection report
6	Document submission duly verified by TPIA	1. Source raw material TC. 2. Test report (Elect, Mechanical & Chemical) 3. Final dimension and visual report. 4. Third party inspection report.					

Prepared by A.K. Vinodia, Sr. Manager (QC)
Sr. Manager (QC)

Approved by S.K. Sharma, AGM (QEW, QMX)

श्री कृष्ण भारती / श्री कृष्ण भारती
अपर महाप्रबन्धक / अपर महाप्रबन्धक
कर्मचारी संस्था, भोपाल
QMX, QEW, QMX & QEW
श्री कृष्ण भारती / श्री कृष्ण भारती

