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TECHNICAL SPECIFICATION FOR
ROTARY SWITCH FOR FAILURE MODE OPERATION,
BOGIE CUT OUT, CONFIGURATION & VIGILANCE
DEVICE CUT-OFF
FOR 3-PHASE ELECTRIC LOCOMOTIVES.

Specification No : CLW/ES/3/0068 ALT.B C

ANNEXURE : DRG.NOS . CLW/ES/SK-1/0068 To CLW/ES/SK-6/0068

ISSUE DATE: 08.03.1999

ISSUED BY :

**DY.CHIEF ELECTRICAL ENGINEER/D-II
CHITTARANJAN LOCOMOTIVE WORKS
P.O.CHITTARANJAN – 713331
DIST.BARDHAMAN (WEST), WEST BENGAL (INDIA)**

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ALTERATION RECORD SHEET

Amendment Number	Date of Amendment	Page number	Alteration	Reason	Initial
1	06.03.2003	4	A	Flammability test included.	Sd/-
2.	13.08.2022	9	B	As per RDSO MS RDSO/2013/ EL/ MS/0426 (Rev '0') dtd.18.07.2013, Stopper from Rotary Switch Bogie Cut out in SB-1 has been removed.	Sd/-
3.		6	C	RDSO/2018/EL/MS/0475 Rev. 1 dated 26.10.2023 has been implemented. Qty. of Rotary Switch Vigilance cut out has been increased in WAG-9 only.	

Note:- Specifications have been digitized and all alterations have been incorporated.

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SPECIFICATION FOR
ROTARY SWITCH FOR FAILURE MODE OPERATION, BOGIE CUT OUT ,
CONFIGURATION & VIGILANCE DEVICE CUT-OFF.

1. SCOPE :

This specification covers the manufacture and supply of ROTARY SWITCH FOR FAILURE MODE OPERATION, BOGIE CUT OUT, CONFIGURATION & VIGILANCE DEVICE CUT-OFF for 3-Phase Electric Locomotives for 25KV, 50 Hz system.

2. SERVICE CONDITION :

2.1 Climatic and environmental condition: -

Maximum atmospheric temperatures	+ 70°C (in sun) & + 50°C (in shade)
Normal Humidity	60%.
Maximum Humidity	100% saturation during rainy season.
Altitude	160 m.a.s.l.
Railfall	Very heavy in certain areas. The equipment should be designed in such a way as to withstand its running at running at 10 km /hr in flood water level of 102 mm above rail level.
Atmosphere during hot weather	Extremely dusty and desert terrain in certain areas.
Coastal areas	Locomotive and equipment will be design to work in coastal areas in humid and salty laden atmosphere.
Vibration.	The equipment , sub system and their mounting arrangement will be designed to withstand vibrations and shocks encountered in service as specified in corresponding unless otherwise prescribed.

3. STANDARDS :

All materials used comply with the ISO 4589-28V 94-1 fire protection standards and are condensation-proof and tropicalized.

Flammability test as per IS:11731 (Pt-1&2) 1986 or relevant standard.

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4. **TECHNICAL DESCRIPTION :**

Current / voltage : 25 A / 500 V.AC or (15 A / 36 VDC)

Temperature : - 40°C. to +70°C.

Protection Class : IP51 condensation proof.

5. **MAIN FEATURES & CONSTRUCTIONS :**

Manual switches are used to interrupt electrical circuits, or to close them. The contacts in the switches should possess the following features: double-interruption, positive opening, self-cleaning and non-bounce operation. If the required they can be fitted with double contacts (Hcontact).

The construction should be of modular type. Turning a rectangular steel shaft, fitted with a handle, operates a cam mounted on the shaft, which in turn opens the contact in the unit. The various possible switch settings shall be set on a notched index-wheel in an indexing casing by means of two roller-levers.

6. **SUBMISSION OF TENDER QUOTATION :**

- 6.1 The tenderer shall give sufficient information to prove that his factory has adequate facilities and capacity to manufacture Rotary switch for failure mode operation, bogie cut out configuration and vigilance and device cut-off to meet fully the technical requirements of the specification and quality of materials and workmanship.
- 6.2 Quotation shall not be considered complete unless all information is furnished and are therefore liable to be rejected.
- 6.3. Detailed drawing of Rotary switch for failure mode operation, bogie cut out configuration and vigilance and device cut-off should be submitted for approval of purchaser.

7. **DRAWINGS :**

The following drawings are attached with the specification :

Drg.No.: 1. CLW/ES/3/SK-1/0068 to CLW/ES/3/SK-6/0068.

- 7.1 Technical documents and drawings to be furnished by the supplier as part of the contract.

8. **TESTS :**

Type test and routine test shall be carried out according to the standard of IEC -60077, ISO 4589- 28V 94-1 fire protection standard.

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9. TECHNICAL DOCUMENTS TO BE SUPPLIED BY THE SUPPLIER :

- i) Type test reports
- ii) Routine test reports along with each set
- iii) Maintenance manual
- iv) Detailed drawings

10. NAME PLATE :

The tenderer shall fix name plate on the equipment indicating (i) manufacturer's name and also monogram / brand, (ii) Range of electrical ratings in watts, (iii) Max.rated voltage, (iv) Month and year of manufacture, (v) Sl. no. of equipment.

11. QUANTITY / LOCO :

SN	ABB IDENT NO	TYPE	CLW DRG.NO.	QTY/ LOCO	NOMENCLATURE
1.	HBTB585580 R1032	SPR-P- 03-R-06A, 500V or similar	CLW/ES/3/SK-1/0068 & CLW/ES/3/SK-2/0068	1 No.	ROTARY SWITCH FAILURE MODE OPERATION
2.	HBTB585580 R1022	SPR-P- 02-R-06A, 500V or similar	CLW/ES/3/SK-3/0068 & CLW/ES/3/SK-4/0068	1 No.	ROTARY SWITCH BOGIE CUT OUT
3.	HBTB585580 R0034	SPR-P- 04-R-06A, 500V or similar	CLW/ES/3/SK-5/0068 & CLW/ES/3/SK-6/0068	2 Nos. 3 Nos for WAG-9 and 02 nos for WAP-5 & 7	ROTARY SWITCH CONFIGURATION, VIGILANCE DEVICE CUT-OFF AND FOR CE RESETTING SCHEME REV '1' IN WAG-9 ONLY.

12. REFERENCES :

This specification has the reference to the original manufacturer as follows :-

M/s. SPRING AG.
RAHNHOFSTR 105
CH – 5430 NETTINGEN
TEL. 056 426 66 88
FAX. 056 426 03 72

Schematic position on locomotive : 152, 154, 160, 237.1 & CE Resetting Scheme Rev. '1' in WAG-9 only.

- 13.** The tenderer should also offer suitable spare parts along with the item.

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