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TECHNICAL SPECIFICATION FOR

- 1) SPRING LOADED SWITCH FOR SANDING
- ~~2) FOOT SWITCH SPRING LOAD VIGILANCE~~
- 2 ~~3~~) PUSH BUTTON FOR RELEASE OF INDEP.BRAKE

FOR 3-PHASE ELECTRIC LOCOMOTIVES.

Specification No : CLW/ES/3/0032 ALT.~~G~~ H

ISSUE DATE: 04.06.2000

ENCLOSURES

1. DRG.NO.
 - (i) CLW/ES/3/SK-1/0032/~~G~~ H
 - (ii) CLW/ES/3/SK-2/0032/~~G~~ H

ISSUED BY :

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ALTERATION RECORD SHEET

Amendment No.	Date of Amendment	Page No.	Alteration	Reason	Authority
1	06.06.2000	5 & 7	A	I) Rated voltage & Current have been changed at sheet no.5 & mounting dimension have been added at sheet no.7. II) Type test & Routine test introduce in clause-6	S/d-
2.	23.08.2007	6	B	In Page No.6 Type No of the Switches wrongly mentioned as 7277 in place of 7727. It is corrected as SPI-PI-7727.	S/d-
3.	17.03.2008	5	C	In Page No.5, Clause 6.1 Endurance test for 10,000 operation has been changed to min 15 million operation as per R.B.letter no.2007/Elect (TRS)/138/9 Pt. dated.22.10.07	S/d-
4.	26.06.2009	5	D	Exemption of Endurance test as mentioned Alt.6 for OEM i.e.M/s.Spring AG/SWZ.	S/d
5.	09.08.2011	5	E	I) Sl.no.5 of clause no.6.2 has been deleted. II) Sl.no.6 of clause no.6.2 has been included.	S/d
6.	06.11.2013	5	F	I) Deletion of Sub-clause 6 of clause 6.2 Routine tests. II) Sub-clause 5 of clause 6.2 is reintroduced.	S/d
7.	30.05.2017	5	G	Electrical Endurance has been changed from 15 to 1.5 million.	S/d
8.	---. ---.2025		H.	1. "Foot Switch Spring Load Vigilance" has been deleted wherever specified in the specification due to implementation of RDSO MS-505. 2. "Cadium Plated" changed to "Zinc Plated" in Sheet No. CLW/ES/3/SK-1 /0032/G/H 3. Material of Knob and stud has been specified as "Stainless Steel Gr.304". in Sheet No. CLW/ES/3/SK-1 & SK-2/0032/G/H	

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

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SPECIFICATION FOR 1) SPRING LOADED SWITCH FOR SANDING 2) ~~FOOT SWITCH-SPRING LOAD-VIGILANCE~~ 3) PUSH BUTTON FOR RELEASE OF INDP.BRAKE

1. SCOPE :

This specification applies to SPECIFICATION FOR 1) SPRING LOADED SWITCH FOR SANDING 2) ~~FOOT SWITCH-SPRING-LOAD-VIGILANCE~~ 2 3) PUSH BUTTON FOR RELEASE OF INDP.BRAKE for 3-Phase Electric Locomotives for 25 KV, 50 Hz system..

2. Climatic and environmental condition: -

Maximum atmospheric temperatures	<ul style="list-style-type: none"> • Under sun : 70°C • In shade : 50°C • Minimum Temperature -10°C (also snowfall in certain areas during winter season).
Humidity	100% saturation during rainy season
Reference site conditions	<ul style="list-style-type: none"> • Ambient Temperature max 55°C • Min -10°C • Humidity: 100%. • Altitude: 1776m above mean sea level against USBRL project condition
Rainfall	Very heavy in certain areas. The locomotive shall be designed to permit it's running at 10 Km per hour in flood water level of 200 millimeter above Rail level.
Atmosphere during hot weather	Extremely dusty and desert terrain in certain areas.
Coastal areas	Locomotive and equipment shall be designed to work in coastal areas in humid and salt laden atmosphere.

~~Locomotive and equipment will be designed to work in coastal areas (humid and salt laden atmosphere possible) and in desert areas (extremely dusty and dried atmosphere).~~

3. STANDARDS :

ISO 4589-28V 94-1 These standard are applicable for 1) SPRING LOADED SWITCH FOR SANDING 2) ~~FOOT SWITCH-SPRING-LOAD-VIGILANCE~~ 2 3) PUSH BUTTON FOR

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RELEASE OF INDP.BRAKE. These relevant Indian standard shall also apply with respect to all materials used in the manufacture of these items

4. SUBMISSION OF TENDER QUOTATION :

- 4.1 The tenderer shall give sufficient information to prove that his factory has adequate facilities and capacity to manufacture such items.
- 4.2 Quotation shall not be considered complete unless all information are furnished and are therefore liable to be rejected.
- 4.3 Detailed drawing of the 1) SPRING LOADED SWITCH FOR SANDING 2) ~~FOOT SWITCH~~ ~~SPRING LOAD VIGILANCE~~ 3) PUSH BUTTON FOR RELEASE OF INDEPENDANT.BRAKE should be submitted for approval of the purchaser.

5. DRAWINGS:

The following drawings are attached with the specification: -

- 1) CLW/ES/3/SK-1/0032/~~G~~-H
- 2) CLW/ES/3/SK-2/0032/~~G~~ H

6. TESTS :

The following type test and routine test shall be conducted: -

Sl.No.	Test description	Type tset	Routine Test
1.	Visual check up	✓	✓
2.	Dimensional check up according to drawing	✓	✓
3.	Milli volt drop test (max. allowable voltage drop = 20 mv	Before and after endurance test	✓
4.	Endurance test under loaded condition (i.e. 110 v D.C., 1.2A) for min 1.5 million operation	✓	One sample from a group of every 25 samples shall be subjected to endurance test for 10000 operations
5.	Di-electric test (At 1.5KV for one minute	✓	✓

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~~Note: Endurance test as mentioned in Alt.C is not applicable for OEM i.e. M/s.Spring AG/SWZ.~~

7. TECHNICAL DESCRIPTION :

RATED VOLTAGE : 150 V, D.C.
CURRENT : 1.2 A
TEMPERATURE : - 40°C TO + 70°C
PROTECTION CLASS : IP20 CONDENSATION PROOF

8. QUANTITY PER LOCO

- 1) SPRING LOADED SWITCH FOR SANDING : 2 NOS
~~2) FOOT SWITCH SPRING LOAD VIGILANCE : 2 NOS~~
2 3) PUSH BUTTON INDEPENDANT.BRAKE : 2 NOS

9. REFERENCES :

This specification refers to the original manufacturer of :

M/S. SPRING AG
SWITZERLAND
TYPE: SPR-PI-7727

• SCHEMATIC POSITION OF THE LOCOMOTIVE:

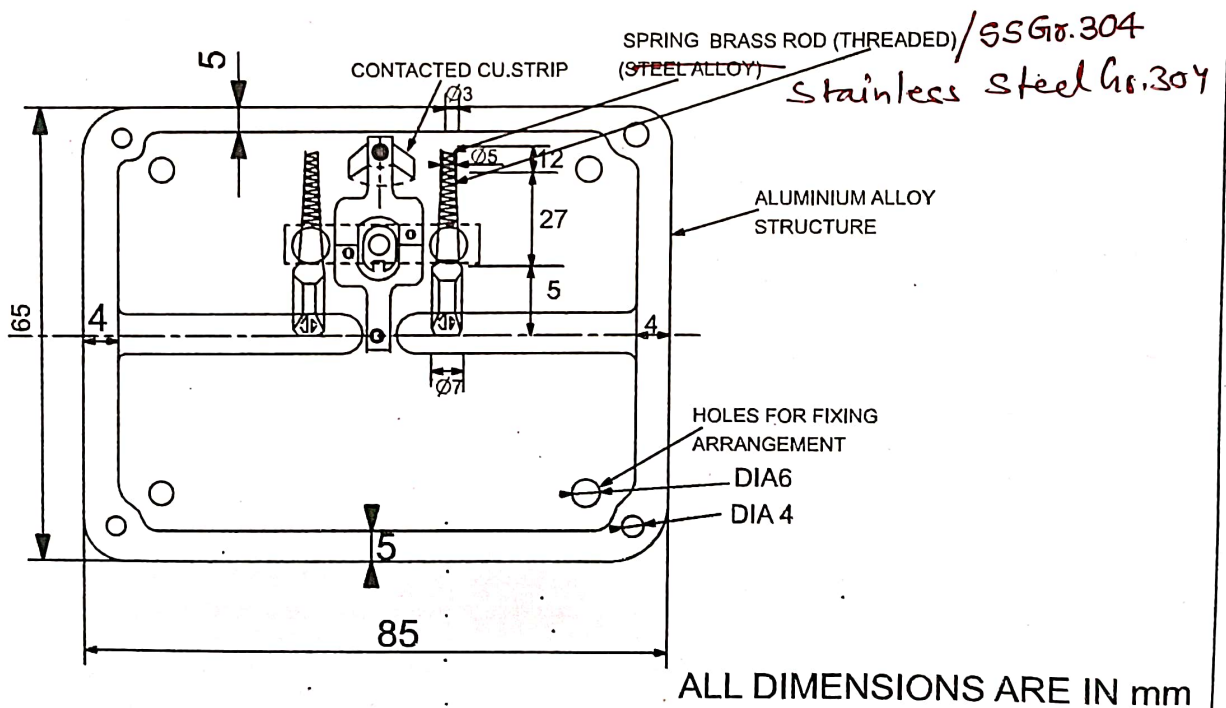
- 1) SPRING LOADED SWITCH FOR SANDING : 192.1
~~2) FOOT SWITCH SPRING LOAD VIGILANCE : 235~~
2 3) PUSH BUTTON INDEPENDANT.BRAKE : 262

NOTE :- 1) The name and year of manufacture of the firm should be embraced on the item.


- 1) Hardware are to be used should be any of the following make :-
a) Un-brako (Precision Fasteners)
b) Sundaram Fasteners (TVS)
c) Laxmi Precision (LPS)
d) All spring washers of Forbes Gohtak Ltd. Make, Mumbai only.

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ALL DIMENSIONS ARE IN mm

																		चित्तारंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA															
परिवर्तन संख्या ALT.NO.																प्राधिकार AUTHY		वर्णन DESCRIPTION						दिनांक DATED INITIAL		समीक्षित रिपोर्ट / चरित्र. REVIEWED AEE / SEE		CHAND AN KHMAR		पदार्थ MATERIAL		प्रति भार कि. ग्राम WT EACH IN KG	
उपलब्ध - कक्षा का मान या. नं. 3073 / व. मा. सं. 1902 <small>SURFACE HARDNESS VALUE TO EN779 / EN-579</small>																निर्दिष्ट तब - टीब या. नं. : 2102 / व. मा. सं. : 2708 UNSPECIFIED TOLERANCE TO IS : 2102 / ISO : 2708						TOL. CLS.		अनुमोदित अनुविधि APPROVED DYCCE		ANSHU KUMAR VERMA		वैशिष्ट्य SPECIES					
वायु-वेल्डिंग विधि या. नं. : 818 / व. मा. सं. : 2863 WELDING SYMBOLS TO IS:818 / ISO:2863																		दिनांक DATE				वर्णन DESCRIPTION		FOOT SWITCH SPRING LOAD FOR SANDING,VIGILANCE & RELEASE OF INDEP. BRAKE									
ग्रेड नं. GRADE NO.		च1 H1	च2 H2	च3 H3	च4 H4	च5 H5	च6 H6	च7 H7	च8 H8	च9 H9	च10 H10	च11 H11	च12 H12	रेटिक अनुपात SCALE		NTS		आरेखण संख्या DRAWING NO.		CLW/ES/3/SK-2100321/01													
R _L	0.10-0.3	0.5-0.7	0.9-1.1	1.5-2.0	2.5-3.0	3.0-4.0	4.0-5.0	5.0-6.0	6.0-7.0	7.0-8.0	8.0-9.0	9.0-10.0	10.0-11.0																				
R _B LLB	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50																					
चिह्न SYMBOL																	परिवर्तन संख्या ALTERATION NO.				पर्ण SHEET		1 OF 1		A4								

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