

Page 1 of 6	Effective from 21.01.2021	Document Title: Pre-installation Checklist for HBL STCAS –RIU (Remote Interface Unit)	SIF-0551	Version 1.0
-------------	------------------------------	--	----------	-------------

SIGNAL DIRECTORATE RESEARCH DESIGNS AND STANDARDS

ORGANISATION

MANAK NAGAR, LUCKNOW- 226011

Title: Pre-installation Checklist for HBL STCAS –RIU (Remote Interface Unit)

Line #	Issue	Version	Reason of Amendment
1	First	1.0	First issue

Prepared by:	Approved by:
Rajesh Bhimte SSE/Signal R.N.Singh ADE/Signal-V G.Pavan Kumar ED-TELE-II	Shaminder Singh PED/QA/S&T/RDSO

Firm's Representative with Name Designation and Date	Railway Representative with Name Designation and Date
---	--

Page 2 of 6	Effective from 21.01.2021	Document Title: Pre-installation Checklist for HBL STCAS –RIU (Remote Interface Unit)	SIF-0551	Version 1.0
-------------	------------------------------	--	----------	-------------

RIU No:

RIU Equip. Sl. No:

Document/ Activity	Documents / Activity details	Status of Document (Railway document / Approved by TCAS)	Remarks (OK/Not OK)
Signaling and Interlocking Plan	Approved SIP.of the host station to which RIU is interfaced shall be available		
Selection Table. (TOC)	There shall not be any change in Selection Table Number		
RFID Tag Layout	RFID Tag layout shall be based on the approved SIP layout number and shall be approved by Railway		
RFID Tag Data	RFID Tag Data shall be approved by Railways.		
Station TCAS Table of Control	The modified stationary TCAS control table as per field inputs from RIUs shall be based on Selection Table as mentioned above.		
	The date of the modified TCAS control table shall not be earlier than the date as indicated in the Selection Table of the Station		
RIU Relay wiring Circuit diagram	The updated Relay wiring circuit of RIU shall be approved.		
	The RIU wiring diagrams shall be an integral part of station wiring sheets		
RIU Relays Contacts	RIU Relays spare contacts (front contact) available for relays wiring		
	If spare contacts not available, proving relays shall be made available.		
RIU Power Supply Scheme drawing	RIU Power Supply Scheme drawing shall be approved.		
RIU Placement location	RIU Installation / Placement location drawing approved		
	RIU placement location shall be very near to the existing Signaling location box in which the auto section field inputs are available (<5mtrs)		
RIU Connectivity	RIU Connectivity drawing with filed inputs and OFC links shall be approved		
RIU System Placement	RIU System location box drawings shall be approved.		
RIU system Inspected	RIU system shall be Inspected by DI/QA as per approved ATF		

Firm's Representative with Name Designation and Date	Railway Representative with Name Designation and Date
---	--

Page 3 of 6	Effective from 21.01.2021	Document Title: Pre-installation Checklist for HBL STCAS –RIU (Remote Interface Unit)	SIF-0551	Version 1.0
-------------	------------------------------	--	----------	-------------

Document/ Activity	Documents / Activity details	Status of Document (Railway document / Approved by TCAS)	Remarks (OK/Not OK)
	document.		
RIU - OFC Connectivity	RIU - OFC Connectivity, OFC cable is arranged by Railtel / Telecom		
	For OFC Connectivity fibre distribution module shall be made available		
RIU - Earth	It shall be ensured that adequate space is available near RIU for provision of Maintenance Free Earth for RIU		
RIU - Location Box	<p>RIU location box of Remote Interface unit shall have double walled with proper canopy & shall be approved by zonal Railway.</p> <p>The following shall be ensured</p> <ol style="list-style-type: none"> The foundation of Location boxes / Apparatus cases (single full size) shall be cast as per approved drawings. The foundation work should not be done on loose earth. It should be installed on concrete foundation. As far as possible, location box/apparatus case should be installed perpendicular to the track. Marking of the foundation shall be done at a place where minimum prescribed clearance from track is available when the location box has been installed and doors are open. It should be preferably outside the track and close ahead of the signal post to facilitate maintenance, so that the aspect of the signal can be visible to the maintainer. The wiring and earthing required for use in the location box shall be drawn through the foundation using DWC pipes. Proper curing of the foundation shall be done and adequate setting time shall be permitted before installing the location box / apparatus case on the foundation. The depth of the foundation below the ground level shall be 50 (fifty) mm minimum and foundation bolt shall invariably be used. Location boxes shall be erected vertically and plumb. 		

Firm's Representative with Name Designation and Date	Railway Representative with Name Designation and Date
---	--

Page 4 of 6	Effective from 21.01.2021	Document Title: Pre-installation Checklist for HBL STCAS –RIU (Remote Interface Unit)	SIF-0551	Version 1.0
-------------	------------------------------	--	----------	-------------

Document/ Activity	Documents / Activity details	Status of Document (Railway document / Approved by TCAS)	Remarks (OK/Not OK)
	ix. Location Boxes should be installed after applying bitumen at the bottom surface to avoid corrosion. The bitumen compound should be poured over bolts to achieve this purpose. x. Wooden plank used in Location box shall be of Teak Wood of of suitable thick.		
Tools required for installation of RIU	Ensure that the following tools are available for installation of RIU <ul style="list-style-type: none"> • 3½ Digit Digital Multimeter • 3½ Digit Clamp meter • Screw-driver set • Ring spanner set • D-spanner set • Allen key set • Soldering station • Hot-air gun • Cutting Plier • Pipe wrench • Microchip make PIC Kit-III • Laptop with required software for loading configuration data files into the VC modules of the stationary TCAS unit to which RIUs are connected. 		

Firm's Representative with Name Designation and Date	Railway Representative with Name Designation and Date
---	--

RIU System: Pre-Installation Checks (for RIU equipment)

Item No	Location	Task Description	Action taken/Range of Voltage levels	Equipment condition		Remarks (OK/Not OK)	
1.	RIU Equipment (Location Box)	Check the communication status of the RIU COM1 & RIU COM2 Modules	LEDs should be Glow/Blink	COM1	COM2	COM1	COM2
			PWR LED				
			MHLT LED				
			WHLT LED				
			DATA1 LED				
			DATA2 LED				
			CH1/LINK1 LED				
			CH2/LINK2 LED				
			BMS LED				
			CNS LED				
			BHLT LED				
2.		RIU – FSC Module	LEDs should be Glow/Blink	FSC1	FSC2	FSC1	FSC2
			PWR LED				
			SCS LED				
			WHLT LED				
			ADC LED				
			MHLT LED				
3.		RIU – PS Module	LEDs should be Glow/Blink	PS1	PS2	PS1	PS2
			PWR LED				
			CAN LED				
			ISO LED				
4.		Visually examine all PS, communication cables are tighten all the connections /Terminations / Wago terminals.	Ensure the tightness of the cables connectors.				
5.	Clean the TCAS equipment	Equipment shall be dust free					

Firm's Representative with Name Designation and Date	Railway Representative with Name Designation and Date
---	--

Item No	Location	Pre - Installation Checks	Action taken / Range of parameter levels	Equipment condition		Remarks (OK/Not OK)	
6.	Earthing,	Measure the Resistance of the Earth.	Resistance Should be <2Ω(Ohm)				
7.	RIU Equipment and Relays LB	Check the Voltage levels at 230V AC Mains Input voltage to 24V DCDC modules	220V to 250V				
8.		Ensure Charger / DC-DC Modules indication should Glow.	LED Indications should glow.	BC 1	BC2	BC1	BC2
			BATTERY CHARGER I/P ON				
			BATTERY CHARGER O/P ON				
9.		Check the Power voltages at Equipment End of Ch-A & Ch-B	The voltage shall be in the range of 22V to 26.5V				
10.	Relay coil voltage to checked in Tapping Relay	Shall be greater than >22 Volt (observations are detailed in Annexure-I)					
11.	Relay output voltage to checked in Tapping Relay	Shall be greater than >22 Volt (observations are detailed in Annexure-I)					
12.	RFID Tags	The fitment of the RFID Tags in the RIU location.	RFID tags shall be firmly installed and as per location shown in the drawing.				
13.		RFID Tags installed are programmed	RFID Tags program is verified				
14.	SPDs	SPD provided in RIU / LB	SPD provided at input of 230V AC supply				

Firm's Representative with Name Designation and Date	Railway Representative with Name Designation and Date
---	--