

**Cable Connection chart of Filter Cubicle for WAP7/WAG9/WAP5 Supposed
to be Included in CLW Spec no. CLW/ES/3/0193**

XE37A:01

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	0.5	1534A	XE37A:01-QE	6.2A/1-4
2	0.5	1533A	XE37A:01-2	6.2A/1-3
3	0.5	1531A	XE37A:01-3	6.2A/1-1
4	0.5	1532A	XE37A:01-6	6.2A/1-2
5	0.5	1538A	XE37A:01-7	6.2A/1-8
6	0.5	1539A	XE37A:01-8	6.2A/1-9

XE37A:02

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	0.5	1534B	XE37A:02-QE	6.2A/2-4
2	0.5	1533B	XE37A:02-2	6.2A/2-3
3	0.5	1531B	XE37A:02-3	6.2A/2-1
4	0.5	1532B	XE37A:02-6	6.2A/2-2
5	0.5	1538B	XE37A:02-7	6.2A/2-8
6	0.5	1539B	XE37A:02-8	6.2A/2-9

XE37A:05

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	0.5	1584A	XE37A:05-QE	8.5A/1-4
2	0.5	1583A	XE37A:05-2	8.5A/1-3
3	0.5	1581A	XE37A:05-3	8.5A/1-1
4	0.5	1582A	XE37A:05-6	8.5A/1-2
5	0.5	1588A	XE37A:05-7	8.5A/1-8
6	0.5	1589A	XE37A:05-8	8.5A/1-9

XE37A:06

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	0.5	1584B	XE37A:06-QE	8.5A/2-4
2	0.5	1583B	XE37A:06-2	8.5A/2-3
3	0.5	1581B	XE37A:06-3	8.5A/2-1
4	0.5	1582B	XE37A:06-6	8.5A/2-2
5	0.5	1588B	XE37A:06-7	8.5A/2-8
6	0.5	1589B	XE37A:06-8	8.5A/2-9

XK37A

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	2.5	2050	XK37A-1	8.41-B
2	2.5	2050	XK37A-1	8.1-3
3	1.5	2864	XK37A-5	8.41-5 (Paralleling RDSO MS 413)
4	1.5	2864	XK37A-5	8.41-7 (Paralleling RDSO MS 413)
5	1.5	2866	XK37A-6	8.2-2
6	1.5	2867	XK37A-7	8.1-2A
7	1.5	2867	XK37A-7	8.1-4A
8	1.5	2869	XK37A-8	8.9.6-B
9	1.5	2801A	XK37A-9	8.1-1A
10	1.5	2861A	XK37A-10	8.1-2B (2) (RDSO MS 464)
11	1.5	2861B	XK37A-11	8.1-4B (2) (RDSO MS 464)
12	1.5	2862A	XK37A-12	8.2-2B (2) (RDSO MS 464)
13	1.5	2862B	XK37A-13	8.2-4B (2) (RDSO MS 464)
14	1.5	2863A	XK37A-14	8.41-2
15	1.5	2863B	XK37A-15	8.41-4

Contactor with Transorb

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	10	0	8.1-MASSAE	MASSAE
2	1.5	2865	8.1-2	8.41-6 (Paralleling RSDO MS 413)
3	1.5	2865	8.1-2	8.41-8 (Paralleling RSDO MS 413)
4	1.5	2050	8.1-3	8.2-3
5	1.5	2801A	8.1-1A	8.1-3A
6	1.5	2868	8.1-2B	8.41-A
7	1.5	2801A	8.1-3A	8.2-1A
8	1.5	2868	8.1-2B	8.1-4B (Paralleling RDSO MS 390)
9	1.5	2867	8.1-2A	8.1-4A (Paralleling RDSO MS 390)

8.2

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	10	0	8.2-MASSAE	MASSAE
2	1.5	2801A	8.2-1A	8.2-3A
3	1.5	2801A	8.2-3A	8.41-1

8.41

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	10	7	8.41-C	8.4-A
2	10	8	8.41-D	8.42-Q1
3	1.5	2801A	8.41-1	8.41-3

4	1.5	2801A	8.41-3	89.6A
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8.4

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	150	7	8.4-A	XI37A-4
2	150	14	8.4-B	S14.1-Q1
3	25	0	8.4-MASSAE	MASSAE-M

6.21

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	BAR	98	6.21-Q1	S98.2-Q1
2	BAR	100	6.21-Q2	S100.2-Q1

6.2/1

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	BAR	100	6.2/1-IN	S100.3-Q2
3	BAR	99	6.2/1-OUT	S100.3-Q1

6.2/2

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	BAR	99	6.2/2-IN	S98.3-Q2
3	BAR	98	6.2/2-OUT	S98.3-Q1

8.5/1

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	BAR	14	8.5/1-IN	S14.1-Q1
3	BAR	13	8.5/1-OUT	S14.1-Q2

8.5/2

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	BAR	13	8.5/2-IN	S12.2-Q1
2	BAR	12	8.5/2-OUT	S12.2-Q2

8.42

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	10	14	8.42-Q2	S14.1-Q1

8.61/1

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	2.5	4	8.61/1-Q1	XI37A-1
2	2.5	9	8.61/1-Q2	8.62/1-Q1

8.62/1

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	2.5	10	8.62/1-Q2	8.61/2-Q1
2	2.5	10	8.62/1-Q2	89.6-U

8.61/2

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	2.5	11	8.61/2-Q2	8.62/2-Q1
2	2.5	12	8.62/2-Q2	S12.1-Q1

89.6

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	2.5	10	89.6-U	8.62/1-Q2
2	2.5	0	89.6-V	MASSE-M

8.1

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	1.5	2861A	8.1-1B(Block 1)	8.1-2B (Block 2) (RDSO MS 464)
2	1.5	2861B	8.1-3B(Block 1)	8.1-4B (Block 2) (RDSO MS 464)
3	1.5	2862A	8.2-1B(Block 1)	8.2-2B (Block 2) (RDSO MS 464)
4	1.5	2862B	8.2-3B(Block 1)	8.2-4B (Block 2) (RDSO MS 464)

XI37A

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	150	4	XI37A-1	8.1-A1
2	150	5	XI37A-2	S5.1-Q1
3	150	6	XI37A-3	8.2-B2

EARTHING CABLE

Sl. No	Cable Cross Section	Cable no.	Connection From	Connection To
1	10	EARTHING	EARTHING1	EARTHING
2	10	EARTHING	EARTHING2	EARTHING
3	25	EARTHING	EARTHING	EARTHING
4	25	EARTHING	EARTHING	EARTHING
5	25	EARTHING	EARTHING	EARTHING
6	25	EARTHING	EARTHING	EARTHING
7	25	EARTHING	EARTHING	EARTHING
8	25	EARTHING	EARTHING	EARTHING

**Cable Connection chart of Complete Panel A for WAP7/WAG9/WAP5 as per
CLW Spec no. CLW/ES/3/0239**

Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
1.5	2050 XK**A-1	Plug XK**A (Plug)	2050-116-BEL	Voltmeter Battery (UBA)	
1.5	2050 XK**A-2	Plug XK**A (Plug)	2050-166-X2-	Indication Lamp Temp. of Cont. (LSCE)	
1.5	2063 XK**A-3	Plug XK**A (Plug)	2063-125-6 (BL)	Cab Activating Switch (BL)	
1.5	2067 XK**A-4	Plug XK**A (Plug)	2067-125-9 (BL)	Cab Activating Switch (BL)	
1.5	2069 XK**A-5	Plug XK**A (Plug)	2069-125-15	Cab Activating Switch (BL)	
1.5	2300 XK**A-6	Plug XK**A (Plug)	2300-125-12	Cab Activating Switch (BL)	
1.5	2310 XK**A-7	Plug XK**A (Plug)	2310-125-14	Cab Activating Switch (BL)	
1.5	3001 XK**A-8	Plug XK**A (Plug)	3001-125-8	Cab Activating Switch (BL)	
1.5	4234 XK**A-9	Plug XK**A (Plug)	4234-237.5-14	Switch Front Maker Light (BPVR)	
1.5	4235 XK**A-10	Plug XK**A (Plug)	4235-242.1-X1+	Indication Vigilance Warning (LSVW)	
1 Sq. mm Cale 2P + S	1504 XK**A-11	Plug XK**A (Plug)	1504-74-+MES	Catenary Voltmeter (U)	
	1514 XK**A-12	Plug XK**A (Plug)	1514-74--MES	Catenary Voltmeter (U)	
	1524 XK**A-13	Plug XK**A (Plug)	1524-74-FREE	Catenary Voltmeter (U)	
1.5	2061 XK**A-14	Plug XK**A (Plug)	2061-125-5	Cab Activating Switch (BL)	
1.5	2111 XK**A-15	Plug XK**A (Plug)	2111-116-+MES	Voltmeter Battery (UBA)	
1.5	2309 XK**A-16	Plug XK**A (Plug)	2309-125-11	Cab Activating Switch (BL)	
1.5	2313 XK**A-17	Plug XK**A (Plug)	2313-125-13	Cab Activating Switch (BL)	
1.5	2331 XK**A-18	Plug XK**A (Plug)	2331-137.3-X1+	Indication Lamp MCB (LSDJ)	
1.5	2333 XK**A-19	Plug XK**A (Plug)	2033-129-B2	Spring Loaded Switch Pantograph (ZPT)	
1.5	2334 XK**A-20	Plug XK**A (Plug)	2334-134-B2	Spring Loaded Switch Main Circuit Breaker (BLDJ)	
1.5	2334 134-B2	Spring Loaded Switch Main Circuit Breaker (BLDJ)	2334-Addl. BLDJ-B2	Additional BLDJ	RDSO MS 495
1.5	2500 XK**A-21	Plug XK**A (Plug)	2500-125-2	Cab Activating Switch (BL)	

PREPARED BY

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APPROVED BY

Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
1.5	2503 XK**A-22	Plug XK**A (Plug)	2503-125-10	Cab Activating Switch (BL)	
1.5	2514 XK**A-23	Plug XK**A (Plug)	2514-166-X1+	Indication Lamp Temp. of Cont. (LSCE)	
1.5	2516 XK**A-24	Plug XK**A (Plug)	2516-125-16	Cab Activating Switch (BL)	
1.5	2532 XK**A-25	Plug XK**A (Plug)	2532-151.4-X1+	Illuminated Push Button Const. Speed Control (BPCS)	
1.5	2540 XK**A-26	Plug XK**A (Plug)	2540-151.1-1	Switch Maximum Tractive Effort Limit (ZTEL)	
1.5	2541 XK**A-27	Plug XK**A (Plug)	2541-151.4-14	Illuminated Push Button Const. Speed Control (BPCS)	
1.5	2542 XK**A-28	Plug XK**A (Plug)	2542-92-X1+	Indication Lamp Wheel Slipping (LSP)	
1.5	2803 XK**A-29	Plug XK**A (Plug)	2803-169.1-B2	Spring Loaded Switch Hotel Load Support (BLHO)	
1.5	2804 XK**A-30	Plug XK**A (Plug)	2804-169.1-A2	Spring Loaded Switch Hotel Load Support (BLHO)	
1.5	2807 XK**A-31	Plug XK**A (Plug)	2807-169.3-X1+	Indication Lamp Hotel Load Supply (LSHO)	
1.5	3005 XK**A-32	Plug XK**A (Plug)	3005-244-52	Push Button Emergency Stop (Emergency Stop)	
1.5	3020 XK**A-33	Plug XK**A (Plug)	3020-81.5-X1+	Indication Lamp Train Parting (LSAF)	
1.5	3034 XK**A-34	Plug XK**A (Plug)	3034-172-A2	Spring Loaded Switch Compressor (BLCP)	
1.5	3035 XK**A-35	Plug XK**A (Plug)	3035-172-B2	Spring Loaded Switch Compressor (BLCP)	
1.5	3060 XK**A-36	Plug XK**A (Plug)	3060-268-14	Illuminated Push Button Parking Brake (BPPB)	
1.5	3069 XK**A-37	Plug XK**A (Plug)	3069-153-4	Switch Banking Operation (ZBAN)	
1.5	3071 XK**A-38	Plug XK**A (Plug)	3071-268-X1+	Illuminated Push Button Parking Brake (BPPB)	
1.5	3108 XK**A-39	Plug XK**A (Plug)	3108-125-7	Cab Activating Switch (BL)	
1.5	3502 XK**A-40	Plug XK**A (Plug)	3502-116-+BEL	Voltmeter Battery (UBA)	
1.5	4211 XK**A-41	Plug XK**A (Plug)	4211-237.5-13	Push Button Reset Vigilance Control (BPVR)	
1.5	4242 XK**A-	Plug XK**A (Plug)	4242-125-4	Cab Activating	

Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
	42			Switch (BL)	
1.5	2331AR XK**A-45	Plug XK**A (Plug)	2331AR-Add LSDJ X 1	ADD. LSDJ	For Push pull operation in WAP-5&7 as per letter no. C- D&D/T/47 dated 05.07.2019
1.5	2050AR XK**A/53	Plug XK**A (Plug)	2050AR – Add LSDJ X 2	ADD. LSDJ	
1.5	2111AR XK**A/49	Plug XK**A (Plug)	2111AR-ADD BL KEY 1	ADD. BL KEY	
1.5	2111AR XK**A/49	Plug XK**A (Plug)	2111AR ADD BL KEY 3	ADD. BL KEY	
1.5	2067-125-9	ADD BL*	2067 ADD BL Key 9	ADD. BL KEY	
1.5	2500AR XK**A-43	Plug XK**A (Plug)	2500AR-Add BL Key 2	ADD. BL KEY	
1.5	2503AR XK**A-44	Plug XK**A (Plug)	2503AR-Add BL Key 10	ADD. BL KEY	
1.5	4242AR XK**A/46	Plug XK**A (Plug)	4242AR-Add BL KEY 4	ADD. BL KEY	
1.5	2111AR XK**A/49	Plug XK**A (Plug)	2111AR ADD BPFA 13	ADD. BPFA	
1.5	5671AR XK**A/48	Plug XK**A (Plug)	5671AR-ADD. BPFA 14	ADD. BPFA	
1.5	5672AR XK**A/50	Plug XK**A (Plug)	5672AR-ADD BPFA X 1	ADD. BPFA	
1.5	2050AR XK**A/53	Plug XK**A (Plug)	2050AR ADD BPFA X2	ADD. BPFA	
1.5	SP XK**A/47	Plug XK**A (Plug)	SPARE – A/47	SPARE	
1.5	SP XK**A/51	Plug XK**A (Plug)	SPARE – A/51	SPARE	
1.5	SP XK**A/52	Plug XK**A (Plug)	SPARE – A/52	SPARE	
1.5	3502-116- +BEL	Voltmeter Battery (UBA)	3502-74-+BEL	Catenary Voltmeter (U)	
1.5	2111-116- +MES	Voltmeter Battery (UBA)	2111-153-1	Switch Banking Operation (ZBAN)	
1.5	2050-116-BEL	Voltmeter Battery (UBA)	2050-116-MES	Voltmeter Battery (UBA)	
1.5	2050-116-MES	Voltmeter Battery (UBA)	2050-74---BEL	Catenary Voltmeter (U)	
1.5	3502-74-+BEL	Catenary Voltmeter (U)	3502-79.1- +BEL	Tractive/Braking Effort Meter Bogie (Bogie 1)	
1.5	2050-74--BEL	Catenary Voltmeter (U)	2050-79.1--BEL	Tractive/Braking Effort Meter Bogie (Bogie 1)	
1.5	3502-79.1- +BEL	Tractive/Braking Effort Meter Bogie (Bogie 1)	3502-79.2- +BEL	Tractive/Braking Effort Meter Bogie (Bogie 2)	
1.5	2050-79.1-- BEL	Tractive/Braking Effort Meter Bogie (Bogie 1)	2050-79.2--BEL	Tractive/Braking Effort Meter Bogie (Bogie 2)	
1.5	2050-79.2--	Tractive/Braking	2050-137.3-X2	Indicating Lamp MCB	

Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
	BEL	Effort Meter Bogie (Bogie 2)		(LSDJ)	
1.5	2050-137.3-X2-	Indicating Lamp MCB (LSDJ)	2050-169.3-X2-	Indicating Lamp Hotel Load Supply (LSHO)	
1.5	2050-169.3-X2	Indication Lamp Hotel Load Supply (LSHO)	2050-92-X2-	Indicating Lamp Wheel Slipping (LSP)	
1.5	2050-92-X2-	Indication Lamp Wheel Slipping (LSP)	2050-81.5-X2-	Indicating Lamp Train Parting (LSAF)	
1.5	2050-81.5-X2-	Indicating Lamp Train Parting (LSAF)	2050-242.1-X2-	Indication Vigilance Warning (LSVW)	
1.5	2111-153-1	Switch Braking Operation	2111-125-1	Cab Activating Switch (BL)	
1.5	2050-166-X2-	Indicating Lamp Temp. of Control (LSCE)	2050-151.4-X2-	Illumination Push Button Const. Speed Control (BPCS)	
1.5	2111-125-1	Cab Activating Switch (BL)	2111-125-3	Cab Activating Switch (BL)	
1.5	2111-125-3	Cab Activating Switch (BL)	2111-129-B1	Spring Loaded Switch Pantograph (ZPT)	
1.5	2061-125-5	Cab Activating Switch (BL)	2061-244-11	Push Button Emergency Stop (Emergency Stop)	
1.5	2063-125-6	Cab Activating Switch (BL)	2063-244-12	Push Button Emergency Stop (Emergency Stop)	
1.5	3108-125-7	Cab Activating Switch (BL)	3108-244-31	Push Button Emergency Stop (Emergency Stop)	
1.5	3001-125-8	Cab Activating Switch (BL)	3001-244-32	Push Button Emergency Stop (EMERGENCY STOP)	
1.5	2309-125-11	Cab Activating Switch (BL)	2309-129-A1	Spring Loaded Switch Pantograph (ZPT)	
1.5	2300-125-12	Cab Activating Switch (BL)	2300-129-A4	Spring Loaded Switch Pantograph (ZPT)	
1.5	2313-125-13	Cab Activating Switch (BL)	2313-134-A1	Spring Loaded Switch Main Circuit Breaker (BLDJ)	
1.5	2313-134-A4	Spring Loaded Switch Main Circuit Breaker (BLDJ)	2313-Addl. BLDJ-A1	Additional BLDJ	RDSO MS 495
1.5	2310-125-14	Cab Activating Switch (BL)	2310- Additional BLDJ-A4	Additional BLDJ	RDSO MS 495
1.5	2111-129-B1	Spring Loaded Switch Pantograph (ZPT)	2111-134-B1	Spring Loaded Switch Main Circuit Breaker (BLDJ)	

Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
1.5	2111-134-B1	Spring Loaded Switch Main Circuit Breaker (BLDJ)	2111-Addl. BLDJ-B1	Additional BLDJ	RDSO MS 495
1.5	2111-134-B1	Spring Loaded Switch Main Circuit Breaker (BLDJ)	2111-172-A1	Spring Loaded Switch Compressor (BLCP)	
1.5	2111-172-A1	Spring Loaded Switch Compr. (BLCP)	2111-172-B1	Spring Loaded Switch Compressor (BLCP)	
1.5	2111-172-B1	Spring Loaded Switch Compr. (BLCP)	2111-169.1-B1	Spring Loaded Switch for Hotel Load Sup (BLHO)	
1.5	2111-169.1-A1	Spring Loaded Switch for Hotel Load Sup (BLHO)	2111-151.1-2	Switch Maximum Tractive Effort Limit (ZTEL)	
1.5	2111-169.1-A1	Spring Loaded Switch for Hotel Load Sup (BLHO)	2111-169.1-B1	Spring Loaded Switch for Hotel Load Sup (BLHO)	
1.5	2111-151.1-2	Switch Maximum Tractive Effort Limit (ZTEL)	2111-151.4-13	Illuminated Push Button Const. Speed Control (BPCS)	
1.5	2111-151.4-13	Illuminated Push Button Const. Speed Control (BPCS)	2111-268-13	Illuminated Push Button Parking Brake (BPPB)	
1.5	2050-151.4-X2-	Illuminated Push Button Const. Speed Control (BPCS)	2050-268-X2	Illuminated Push Button Parking Brake (BPPB)	
1.5	2111-268-13	Illuminated Push Button Parking Brake (BPPB)	2111-244-51	Push Button Emergency Stop (EMERGENCY STOP)	
1 Sq. mm Cable 2P + S	2536-2101-QE	Plug XE*A01 (Sub-D)	2536-79.1-Free	Tractive/Braking Effort Meter Bogie (BOGIE 1)	
	2534-2101-1	Plug XE*A01 (Sub-D)	2534-79.1-+MES	Tractive/Braking Effort Meter Bogie (BOGIE 1)	
	2533-2101-6	Plug XE*A01 (Sub-D)	2533-79.1--MES	Tractive/Braking Effort Meter Bogie (BOGIE 1)	
1 Sq. mm Cable 2P + S	2546-2100-QE	Plug XE*A02 (Sub-D)	2546-79.2-Free	Tractive/Braking Effort Meter Bogie (BOGIE 2)	O. K
	2544-2100-1	Plug XE*A02 (Sub-D)	2544-79.2-+MES	Tractive/Braking Effort Meter Bogie (BOGIE 2)	O. K
	2543-2100-6	Plug XE*A02 (Sub-D)	2533-79.2--MES	Tractive/Braking Effort Meter Bogie (BOGIE 2)	O. K

**Cable Connection chart of Complete Panel C for WAP7/WAG9/WAP5 as per
CLW Spec no. CLW/ES/3/0240**

Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
1.5	0-96 XK**C - 1	Plug XK**C (Plug)	0-96-435-M	Terminal Failure Indication and Diagnostic (Screen)	
1.5	2050 XK**C - 2	Plug XK**C (Plug)	2050-163.1-X2	Illuminated Push Button Fault Indication (BPFA)	
1.5	3054 XK**C - 3	Plug XK**C (Plug)	3054-324-2	Switch Driver's Cab Lighting (ZLC)	
1.5	2097 XK**C - 5	Plug XK**C (Plug)	2097-324.21-2	Switch Driver's Desk Illumination (ZLDD)	
1.5	2099 XK**C - 6	Plug XK**C (Plug)	2099-324.1-1	Switch Instrument Lighting (ZLI)	
1.5	2111 XK**C - 7	Plug XK**C (Plug)	2111-163.1-13	Illuminated Push Button Fault Indication (BPFA)	
1.5	3080 XK**C - 8	Plug XK**C (Plug)	3080-324.21-1	Switch Driver's Desk Illumination (ZLDD)	
1.5	3501 XK**C - 9	Plug XK**C (Plug)	3501-317-3	Switch Head Light Intensity (ZPRD)	
1.5	3502 XK**C - 10	Plug XK**C (Plug)	3502-324.1-2	Switch Instrument Lighting (ZLI)	
1.5	3512 XK**C - 11	Plug XK**C (Plug)	3512-324-1-	Switch Driver's Cab Lighting (ZLC)	
1.5	3543C XK**C - 24	Plug XK**C (Plug)	3543A-317-2	Switch Head Light Intensity (ZPRD)	LED Headlight modification
1.5	3542 XK**C - 12	Plug XK**C (Plug)	3542-317-4	Switch Head Light Intensity (ZPRD)	
1.5	3543 XK**C - 13	Plug XK**C (Plug)	3543-316-12	Switch Head Light (BLPR)	
1.5	3544 XK**C - 14	Plug XK**C (Plug)	3544-316-22	Switch Head Light (BLPR)	
1.5	3551 XK**C - 17	Plug XK**C (Plug)	3551-316.2-14	Illuminated Push Button Emergency Flash Light (BPFL)	
1.5	3554 XK**C - 18	Plug XK**C (Plug)	3554-316.2-24	Illuminated Push Button Emergency Flash Light (BPFL)	
1.5	4232 XK**C	Plug XK**C	4232-238-	Buzzer Overspeed/Fire	

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Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
	- 19	(Plug)	Red	Alarm/Vigilance (BZ-V-O-F)	
1.5	4237 XK**C - 20	Plug XK**C (Plug)	4237-238- Black	Buzzer Overspeed/Fire Alarm/Vigilance (BZ-V-O-F)	
1.5	5671 XK**C - 21	Plug XK**C (Plug)	5672-163.1- 14	Illuminated Push Button Fault Indication (BPFA)	
1.5	5672 XK**C - 22	Plug XK**C (Plug)	5672-163.1- X1+	Illuminated Push Button Fault Indication (BPFA)	
1.5	5673 XK**C - 23	Plug XK**C (Plug)	5673-163- X1+	Failure Indication Lamp (LSF1)	
1.5	2050-163.1- X2-	Illuminated Push Button Fault Indication (ZLI)	2050-163- X2-	Failure Indication Lamp (LSF1)	
1.5	2099-324.1- 1	Switch Instrument Lighting (ZLI)	2099-316.2- 23	Illuminated Push Button Emergency Flash Light (BPFL)	
1.5	2050-163- 238-White	Buzzer Overspeed/Fire Alarm/Vigilance (BZ-V-O-F)	2050-163- 316.2-X2-	Illuminated Push Button Emergency Flash Light (BPFL)	
1.5	2050-163- X2-	Failure Indica Lamp (LSF1)	2050-316.2- X2-	Illuminated Push Button Emergency Flash Light (BPFL)	
1.5	3501-316-11	Switch Head Light (BLPR)	3501-316-21	Switch Head Light (BLPR)	
1.5	3501-316-21	Switch Head Light (BLPR)	3501-317-3	Switch Head Light (BLPR) Switch Head Light Intensity (ZPRD)	
1.5	3543A-316- 12	Switch Head Light (BLPR)	3543A-317- 1	Switch Head Light Intensity (ZPRD)	LED Headlight modification
1.5	3501-317-3	Switch Head Light Intensity (ZPRD)	3501-316.2- 13	Illuminated Push Button Emergency Flash Light (BPFL)	
1.5	3554-316.2- 24	Illuminated Push Button Emergency Flash Light (BPFL)	3554-316.2- X1+	Illuminated Push Button Emergency Flash Light (BPFL)	
MODIFICATIONS AS PER MS-411					
1.5	3530 XK**C- 4	Plug XK**C (Plug)	3530- 316.12-1	Switch Tail Marker Light(ZLFR)	
1.5	3545 XK**C- 15	Plug XK**C (Plug)	3545- 316.11-2	Switch Front Marker Light(ZLFW)	
1.5	3546 XK**C- 16	Plug XK**C (Plug)	3546- 316.12-2	Switch Tail Marker Light(ZLFR)	
1.5	316.11-1	Switch Front Marker Light(ZLFW)	316.12-4	Switch Tail Marker Light(ZLFR)	

**Cable Connection chart of Complete Panel D for WAP7/WAG9/WAP5 as per
CLW Spec no. CLW/ES/3/0241**

Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
1.5	0-91 XK**D - 1	Plug XK**D (Plug)	0-91-334.1-M	Socket Head Lamp (PCLH)	
1.5	2050 XK**D - 2	Plug XK**D (Plug)	2050-334.1-N	Socket Head Lamp (PCLH)	
2.5	2050 334.1-N	Plug XK**D (Plug)	LSTM-Y ₁	LSTM LED Indication Lamp	RDSO MS 496 TMDDS (For loco fitted with Cab AC)
1.5	3054 XK**D - 3	Plug XK**D (Plug)	3054-337-2	Switch Hand Lamp (ZLH)	
1.5	2097 XK**D - 5	Plug XK**D (Plug)	2097-324.22-2	Sw. Assistant Desk Illumination (ZLDA)	
1.5	3081 XK**D - 6	Plug XK**D (Plug)	3081-324.22-1	Sw. Assistant Desk Illumination (ZLDA)	
1.5	3534-337-1	Switch Head Lamp (ZLH)	3534-334.1-1	Socket Head Lamp (PCLH)	
1.5	HL01 (from ALP side IV Coupler pin no. 7 & 10)	XK**D-8	HLC-1 (+VE)	HOG ON Command Indication Lamp (HLC-1)	RDSO MS 489 HOG ind. Lamp (for WAP-7&5 loco)
1.5	HL02 (from LP side IV Coupler pin no. 7 & 10)	XK**D-9	HLC-2 (+VE)	HOG ON Command Indication Lamp (HLC-2)	RDSO MS 489 HOG ind. Lamp (for WAP-7&5 loco)
1.5	2050	XK**D-10	HLC-1 (-VE) & HLC-2 (-VE)	HOG ON Command Indication Lamp (HLC-1 & HLC-2)	RDSO MS 489 HOG ind. Lamp (for WAP-7&5 loco)
2.5	067 TM	XK**D-11	LSTM-X ₁	LSTM LED Indication Lamp	RDSO MS 496 TMDDS (For loco fitted with Cab AC)

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CABLE CONNECTIONS FOR ADDITIONAL BLDJ AS PER RDSO MS
RDSO/2023/EL/MS/0495 Rev. '0'

PANEL A

Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
1.5	2111-134-B1	Spring Loaded Switch Main Circuit Breaker (BLDJ)	2111-Addl. BLDJ-B1	Additional BLDJ	RDSO MS 495
1.5	2334 134-B2	Spring Loaded Switch Main Circuit Breaker (BLDJ)	2334-Addl. BLDJ-B2	Additional BLDJ	RDSO MS 495
1.5	2313-134-A4	Spring Loaded Switch Main Circuit Breaker (BLDJ)	2313-Addl. BLDJ-A1	Additional BLDJ	RDSO MS 495
1.5	2310-125-14	Cab Activating Switch (BL)	2310-Additional BLDJ-A4	Additional BLDJ	RDSO MS 495

Note: Spring Loaded Switch Hotel Load BLHO has been used as additional BLDJ.

CONNECTION TO BE REMOVED

Wire Size	Marker 1 st End	From	Marker 2 nd End	To	Remarks
1.5	2310-125-14	Cab Activating Switch (BL)	2310-134-A4	Spring Loaded Switch Main Circuit Breaker (BLDJ)	O. K

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**CABLE CONNECTION FOR HOG INDICATION LAMP IN DRIVER DESK
FOR HOG ON COMMAND FROM POWER CAR (RDSO/2022/EL/MS/0489)**

(Only for WAP-7 & 5)

Sl. No.	Cable Size	Cable no.	From	To	REMARKS
1	2.5	HL 01 (From ALP side IV Coupler Pin no. 7 & 10 shorted)	ALP side IV Coupler, Pin no. 7 & 10 shorted	XF**A:05-1	Cub F (To be done by cable connection section)
2	2.5	HL 01	XF**A:05-1	XK**D-08	Cub F
3	2.5	HL 01	XF**A:05-1	XK**A:02-51	Cub F
4	Harness will insert 1.5 sqmm cable from XK77A:02-51 (SB2) to XK86A:02-51 (Cub F2)				
5	1.5	HL 01	XK77A:02-51	XF77S:01-53	SB2
6	Harness will insert 1.5 sqmm cable from XK22A:02-51 (SB1) to XK13A:02-51 (Cub F1)				
7	1.5	HL 01	XK22A:02-51	XF22S:01-53	SB1
8	2.5	HL 02 (From LP side IV Coupler Pin no. 7 & 10 shorted)	LP side IV Coupler, Pin no. 7 & 10 shorted	XF**A:05-02	Cub F (To be done by cable connection section)
9	2.5	HL 02	XF**A:05-02	XK**D-09	Cub F
10	2.5	HL 02	XF**A:05-02	XK**A:02-52	Cub F
11	Harness will insert 2.5 sqmm cable from XK77A:02-52 (SB2) to XK86A:02-52 (Cub F2)				
12	1.5	HL 02	XK77A:02-52	XF77S:01-54	SB2
13	Harness will insert 2.5 sqmm cable from XK22A:02-52 (SB1) to XK13A:02-52 (Cub F1)				
14	1.5	HL 02	XK22A:02-52	XF22S:01-54	SB1

PANEL-D

Sl no	Wire Size	Marker 1 st End	From	Marker 2 nd End	To
1	1.5	HL01 (from ALP side IV Coupler pin no. 7 & 10 shorted)	XK**D-8	HLC-1 (+VE)	HOG ON Command Indication Lamp (HLC-1)
2	1.5	HL02 (from LP side IV Coupler pin no. 7 & 10 shorted)	XK**D-9	HLC-2 (+VE)	HOG ON Command Indication Lamp (HLC-2)
3	1.5	2050	XK**D-10	HLC-1 (-VE) & HLC-2 (-VE)	HOG ON Command Indication Lamp (HLC-1 & HLC-2)

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MODIFICATIONS SHEET FOR HOG INDICATION LAMP IN DRIVER DESK
FOR HOG ON COMMAND FROM POWER CAR (RDSO/2022/EL/MS/0489)
(Only for WAP-7 & 5)

Sl. No.	Cable Size	Cable no.	From	To	REMARKS
1	2.5	Hl 01	XF**A:05-1	XK**D-08	Cub F
2	2.5	Hl 01	XF**A:05-1	XK**A:02-51	Cub F
3	2.5	Hl 02	XF**A:05-02	XK**D-09	Cub F
4	2.5	Hl 02	XF**A:05-02	XK**A:02-52	Cub F

Cubicle F only.

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MODIFICATIONS SHEET FOR HOG INDICATION LAMP IN DRIVER DESK
FOR HOG ON COMMAND FROM POWER CAR (RDSO/2022/EL/MS/0489)
(Only for WAP-7 & 5)

Sl. No.	Cable Size	Cable no.	From	To	REMARKS
1			Harness will insert 1.5 sqmm cable from XK77A:02-51 (SB2) to XK86A:02-51 (Cub F2)		
2			Harness will insert 1.5 sqmm cable from XK22A:02-51 (SB1) to XK13A:02-51 (Cub F1)		
3			Harness will insert 2.5 sqmm cable from XK77A:02-52 (SB2) to XK86A:02-52 (Cub F2)		
4			Harness will insert 2.5 sqmm cable from XK22A:02-52 (SB1) to XK13A:02-52 (Cub F1)		

Only for Cable Harnessing Section.

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MODIFICATIONS SHEET FOR HOG INDICATION LAMP IN DRIVER DESK
FOR HOG ON COMMAND FROM POWER CAR (RDSO/2022/EL/MS/0489)
(Only for WAP-7 & 5)

Sl. No.	Cable Size	Cable no.	From	To	REMARKS
1	1.5	Hl 01	XK77A:02-51	XF77S:01-53	SB2
2	1.5	Hl 01	XK22A:02-51	XF22S:01-53	SB1
3	1.5	Hl 02	XK77A:02-52	XF77S:01-54	SB2
4	1.5	Hl 02	XK22A:02-52	XF22S:01-54	SB1

Only for SB1 and SB2.

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MODIFICATIONS SHEET FOR HOG INDICATION LAMP IN DRIVER DESK
FOR HOG ON COMMAND FROM POWER CAR (RDSO/2022/EL/MS/0489)
(Only for WAP-7 & 5)

Sl. No.	Cable Size	Cable no.	From	To	REMARKS
1	2.5	Hl 01 (From ALP side IV Coupler Pin no. 7 & 10 shorted)	ALP side IV Coupler, Pin no. 7 & 10 shorted	XF**A:05-1	Cub F (To be done by cable connection section)
2	2.5	Hl 02 (From LP side IV Coupler Pin no. 7 & 10 shorted)	LP side IV Coupler, Pin no. 7 & 10 shorted	XF**A:05-02	Cub F (To be done by cable connection section)

To be done by Cable Connection section.

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MODIFICATION OF LED TYPE TWIN BEAM HEADLIGHT FOR ALL TYPE OF LOCOMOTIVES

Wire Size	Cable no.	From	To	Remarks
1.5	3543A	316-12 (BLPR Panel C)	317-1 (ZPRD Panel C)	Panel C
1.5	3543C	317-2 (ZPRD Panel C)	XK**C-24	Panel C
2.5	3543C	XK**C-24 (Cubicle F)	XF**A-04-27 (Cubicle F)	Cubicle F

Note: From the Active cab, only Rear cab LED based Twin Beam Headlight -Bright mode can be operated not the Dimmer. This has been done with due consultation of different loco shed.

EXISTING WIRES TO BE REMOVED DURING MODIFICATION OF LED BASED TWIN BEAM HEADLIGHT

Wire Size	Cable no.	From	To	Remarks
1.5	3549A	XK22A:02-59	XF22S:03-30	SB1
1.5	3549A	XK**A:02-59	XF**A:04-27	Cubicle F
1.5	3549B	XK77A:02-59	XF77S:03-28	SB2

**CABLE CONNECTION CHART FOR DEVELOPMENT OF LED TYPE LIGHT
FOR SIGNAL EXCHANGE SYSTEM (RDSO/2018/EL/MS/0470) (For all
types of loco fitted with CAB AC)**

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1	1.5	2068	48.1-2	2 Amps MCB SES-1	SB2
2	1.5	3555	2 Amps MCB SES-2	XK77A:02-60	SB2
3	Harness will insert 1.5 sqmm cable from XK77A:02-60 (SB2) to XK86A:02-60 (Cub F2)				
4	1.5	3555	XK86A:02-60	XF86A:04-14 & 15 to Push Button Switch Units (04 cable)	Cub F2
5	1.5	3555	2 Amps MCB SES-2	XK77V:02-60	SB2
6	Harness will insert 1.5 sqmm cable from XK77V:02-60 (SB2) to XK22V:02-60 (SB1)				
7	1.5	3555	XK22V:02-60	XK22A:02-60	SB1
8	Harness will insert 1.5 sqmm cable from XK22A:02-60 (SB1) to XK13A:02-60 (Cub F1)				
9	1.5	3555	XK13A:02-60	XF13A:04-14 & 15 to Push Button Switch Units (04 cable)	Cub F1

Negative wire i.e. 2050 may be connected from XF **A:01-8, 9, 10, 11.

SES- Signal Exchange System

**MODIFICATIONS SHEET FOR DEVELOPMENT OF LED TYPE LIGHT FOR
SIGNAL EXCHANGE SYSTEM (RDSO/2018/EL/MS/0470) (For all types of
loco fitted with CAB AC)**

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1	1.5	2068	48.1-2	2 Amps MCB SES-1	SB2
2	1.5	3555	2 Amps MCB SES-2	XK77A:02-60	SB2
3	1.5	3555	2 Amps MCB SES-2	XK77V:02-60	SB2

Only for SB2.

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**MODIFICATIONS SHEET FOR DEVELOPMENT OF LED TYPE LIGHT
FOR SIGNAL EXCHANGE SYSTEM (RDSO/2018/EL/MS/0470) (For all
types of loco fitted with CAB AC)**

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1	1.5	3555	XK22V:02-60	XK22A:02-60	SB1

Only for SB1

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**MODIFICATIONS SHEET FOR DEVELOPMENT OF LED TYPE LIGHT FOR
SIGNAL EXCHANGE SYSTEM (RDSO/2018/EL/MS/0470) (For all types of
loco fitted with CAB AC)**

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1	1.5	3555	XK86A:02-60	XF86A:04-14 & 15 to Push Button Switch Units (04 cable)	Cub F2
2	1.5	3555	XK13A:02-60	XF13A:04-14 & 15 to Push Button Switch Units (04 cable)	Cub F1

Cubicle F Only

Negative wire i.e. 2050 may be connected from XF **A:01-8, 9, 10, 11.

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**MODIFICATIONS SHEET FOR DEVELOPMENT OF LED TYPE LIGHT
FOR SIGNAL EXCHANGE SYSTEM (RDSO/2018/EL/MS/0470) (For all
types of loco fitted with CAB AC)**

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1			Harness will insert 1.5 sqmm cable from XK77A:02-60 (SB2) to XK86A:02-60 (Cub F2)		
2			Harness will insert 1.5 sqmm cable from XK77V:02-60 (SB2) to XK22V:02-60 (SB1)		
3			Harness will insert 1.5 sqmm cable from XK22A:02-60 (SB1) to XK13A:02-60 (Cub F1)		

For Cable harnessing section Shop-19

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**CABLE CONNECTION CHART FOR DEVELOPMENT TRACTION MOTOR
DROPPING DETECTION SYSTEM (RDSO/2023/EL/MS/0496 Rev. '0') (For
WAP-7,WAG 9, WAG-9H, WAG-9HC)**

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1	2.5	2096	S.2096	2 Amps MCB TMDDS-1	SB2
2	2.5	008 TM	2 Amps MCB TMDDS-2	New Terminal block M5-1	04 nos. of M5 Screw Type Terminal Block are to be introduced. Connection points are designated as 1&2, 3&4, 5&6, 7&8. SB2
3	2.5	----	New Terminal block M5-2	New Terminal block M5-5	
4	2.5	----	New Terminal block M5-4	New Terminal block M5-7	
5	2.5	067 TM	New Terminal block M5-3	XF77S:01-44	SB2
6	2.5	067 TM	XF77S:01-44	XK77A:02-58	SB2
7	2.5	067 TM	XK77A:02-58	XK**A:02-58	SB2 to Cubicle F (2)
8	2.5	067 TM	XK**A:02-58	XF**A:01-28	Cubicle F (2)
9	2.5	067 TM	XF**A:01-28	XK**D-11	Cubicle F (2)
10	2.5	067 TM	XK**D-11 (Panel D)	LSTM2-X ₁	Panel D (2)
11	2.5	2050	LSTM2-Y ₁	334.1-N	Panel-D (2)
12	2.5	067 TM	XF77S:01-44	XK77V:02-59	SB2
13	2.5	067 TM	XK77V:02-59	XK22V:02-59	SB2 to SB1
14	2.5	067 TM	XK22V:02-59	XF22S:03-35	SB1
15	2.5	067 TM	XF22S:03-35	XK22A:02-58	SB1
16	2.5	067 TM	XK22A:02-58	XK**A:02-58	SB1 to Cubicle F (1)
17	2.5	067 TM	XK**A:02-58	XF**A:01-28	Cubicle F (1)
18	2.5	067 TM	XF**A:01-28	XK**D-11	Cubicle F (1)
19	2.5	067 TM	XK**D-11 (Panel D)	LSTM1-X ₁	Panel D (1)
20	2.5	2050	LSTM1-Y ₁	334.1-N	Panel D (1)
21	2.5	067 TM	XF77S:01-44	VSTM Diode-Back	SB2

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22	2.5	067 TM	VSTM Diode-Front	QEMS-A1 (Type no. LC1D128FD)	SB2
23	2.5	2050	QEMS-A2	XB77S	SB2
FOR PANTO AND VCB CIRCUIT					
24	2.5	2064	XK77A:01-3	XF77S:01-55	SB2
25	2.5	2064	XF77S:01-55	QEMS-R1	SB2
26	2.5	2064/1	QEMS-R2	XF77S:01-1	SB2
FOR BUZZER CIRCUIT					
27	2.5	2097B	XF77S:03-2	QEMS-01	SB2
28	2.5	4238	QEMS-02	XF77S:02-38	SB2
FOR EP VALVE EMERGENCY BRAKE CIRCUIT					
29	2.5	3000	XK77V:01-4	XF77S:01-56 (Spare)	SB2 (as per RDSO, connection from V:02-5 does not able to drop the BP for Emergency Brake, so, it has been taken from V:01-4)
30	2.5	3000	XF77S:01-56 (Spare)	QEMS-R3	SB2
31	2.5	3000/1	QEMS-R4	XF77S:01-16	SB2
32		067TM	XF77S:01-44	XF77S:01-57	Shorting link added

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**MODIFICATIONS SHEET FOR DEVELOPMENT TRACTION MOTOR
DROPPING DETECTION SYSTEM (RDSO/2023/EL/MS/0496 Rev. '0') (For
WAP-7,WAG 9, WAG-9H, WAG-9HC)**

Sl. No.	Cable Size in Sq. mm	Cable no.	From	To	REMARKS
1	2.5	2096	S.2096	2 Amps MCB TMDDS-1	SB2
2	2.5	008 TM	2 Amps MCB TMDDS-2	New Terminal block M5-1	04 nos. of M5 Screw Type Terminal Block are to be introduced. Connection points are designated as 1&2, 3&4, 5&6, 7&8. SB2
3	2.5	----	New Terminal block M5-2	New Terminal block M5-5	Terminals are shorted. SB2
4	2.5	----	New Terminal block M5-4	New Terminal block M5-7	Terminals are shorted. SB2
5	2.5	067 TM	New Terminal block M5-3	XF77S:01-44	SB2
6	2.5	067 TM	XF77S:01-44	XK77A:02-58	SB2
7	2.5	067 TM	XF77S:01-44	XK77V:02-59	SB2
8	2.5	067 TM	XF77S:01-44	VSTM Diode-Back	SB2
9	2.5	067 TM	VSTM Diode-Front	QEMS-A1 (Type no. LC1D128FD)	SB2
10	2.5	2050	QEMS-A2	XB77S	SB2
FOR PANTO AND VCB CIRCUIT					
11	2.5	2064	XK77A:01-3	XF77S:01-53	SB2
12	2.5	2064	XF77S:01-53	QEMS-R1	SB2
13	2.5	2064/1	QEMS-R2	XF77S:01-1	SB2
1FOR BUZZER CIRCUIT					
14	2.5	2097B	XF77S:03-2	QEMS-01	SB2
15	2.5	4238	QEMS-02	XF77S:02-38	SB2
FOR EP VALVE EMERGENCY BRAKE CIRCUIT					
16	2.5	3000	XK77V:02-5	XF77S:01-54	SB2
17	2.5	3000	XF77S:01-54	QEMS-R3	SB2
18	2.5	3000/1	QEMS-R4	XF77S:01-16	SB2

Only for SB2.

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**MODIFICATIONS SHEET FOR DEVELOPMENT TRACTION MOTOR
DROPPING DETECTION SYSTEM (RDSO/2023/EL/MS/0496 Rev. '0') (For
WAP-7,WAG 9, WAG-9H, WAG-9HC)**

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1	2.5	067 TM	XK**A:02-58	XF**A:01-28	Cubicle F (2)
2	2.5	067 TM	XF**A:01-28	XK**D-11	Cubicle F (2)
3	2.5	067 TM	XK**A:02-58	XF**A:01-28	Cubicle F (1)
4	2.5	067 TM	XF**A:01-28	XK**D-11	Cubicle F (1)

For Cubicle F Cab 1 and Cubicle F Cab 2.

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**MODIFICATIONS SHEET FOR DEVELOPMENT TRACTION MOTOR
DROPPING DETECTION SYSTEM (RDSO/2023/EL/MS/0496 Rev. '0') (For
WAP-7,WAG 9, WAG-9H, WAG-9HC)**

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1	2.5	067 TM	XK**D-11 (Panel D)	LSTM2-X ₁	Panel D (2)
2	2.5	2050	LSTM2-Y ₁	334.1-N	Panel-D (2)
3	2.5	067 TM	XK**D-11 (Panel D)	LSTM1-X ₁	Panel D (1)
4	2.5	2050	LSTM1-Y ₁	334.1-N	Panel D (1)

For Panel D Cab 1 and Panel D Cab 2 in loco.

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**MODIFICATIONS SHEET FOR DEVELOPMENT TRACTION MOTOR
DROPPING DETECTION SYSTEM (RDSO/2023/EL/MS/0496 Rev. '0') (For
WAP-7,WAG 9, WAG-9H, WAG-9HC)**

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1	2.5	067 TM	XK77A:02-58	XK**A:02-58	SB2 to Cubicle F (2)
2	2.5	067 TM	XK77V:02-59	XK22V:02-59	SB2 to SB1
3	2.5	067 TM	XK22A:02-58	XK**A:02-58	SB1 to Cubicle F (1)

For Cable harnessing section Shop-19

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MODIFICATIONS SHEET FOR DEVELOPMENT TRACTION MOTOR
DROPPING DETECTION SYSTEM (RDSO/2023/EL/MS/0496 Rev. '0') (For
WAP-7,WAG 9, WAG-9H, WAG-9HC)

Sl. No.	Cable Size Sq. mm	Cable no.	From	To	REMARKS
1	2.5	067 TM	XK22V:02-59	XF22S:03-35	SB1
2	2.5	067 TM	XF22S:03-35	XK22A:02-58	SB1

Only for SB1.

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**MODIFICATIONS IN CABLE CONNECTION CHART FOR SHIFTING OF
ADDL. B L KEY TO PANEL D (Only for WAP-7 & 5)**

CUBICLE F

Sl. No.	Cable Size	Cable no.	From	To	REMARKS
1	2.5	2111AR	XK**D-12	XF**A:05-14	(Modified for shifting of Addl. BL Key in Panel D for in-house production of WAP-5&7)
2	2.5	2500AR	XK**D-13	XF**A:05-10	
3	2.5	2503AR	XK**D-14	XF**A:05-11	
4	2.5	4242AR	XK**D-15	XF**A:05-13	
5	2.5	2067	XK**D-16	XF**A:01-15	

PANEL-D

Sl no	Wire Size	Marker 1 st End	From	Marker 2 nd End	To
1	1.5	2111AR XK**D-12	Plug XK**D (Plug)	2111AR-Addl. BL Key 1	(Modified for shifting of Addl. BL Key in Panel D for in-house production of WAP-5&7)
2	1.5	2111AR XK**D-12	Plug XK**D (Plug)	2111AR Addl. BL Key 3	
3	1.5	2500AR XK**D-13	Plug XK**D (Plug)	2500AR-Add BL Key 2	
4	1.5	2503AR XK**D-14	Plug XK**D (Plug)	2503AR-Add BL Key 10	
5	1.5	4242AR XK**D-15	Plug XK**D (Plug)	4242AR-Add BL Key 4	
6	1.5	2067 XK**D-16	Plug XK**D (Plug)	2067 Addl. BL Key 9	

WIRES WHICH ARE NOT REQUIRED FOR WAP-7 & 5

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	1.5	2500AR	XK**A-43	XF**A:05-10
2	1.5	2503AR	XK**A-44	XF**A:05-11
3	1.5	4242AR	XK**A-46	XF**A:05-13

WIRES WHICH ARE REQUIRED FOR WAP-7 & 5

Sl. No.	Cable Cross Section	Cable no.	Connection From	Connection To
1	1.5	2331AR	XK**A-45	XF**A:05-12
2	1.5	2111AR	XK**A-49	XF**A:05-14
3	1.5	5671AR	XK**A-48	XF**A:05-15
4	1.5	5672AR	XK**A-50	XF**A:05-16
5	1.5	2050AR	XK**A-53	XF**A:05-17

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