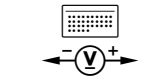
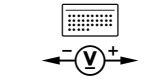
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0	B1119	**Center console switch group (S21)** Voltage supply	S21 ⊥ V+ → 6 (2)	Ignition: **OFF**	11 – 14 V	Wiring, ⇒ 1.1
1.1		Center console switch group (S21) Voltage supply	S21 4 (2) V+ → 6 (2)	Ignition: **OFF**	11 – 14 V	Wiring, ⇒ 1.2
1.2		Center console switch group (S21) Illumination	S21 ⊥ V+ → 1 (1)	Connector disconnected at S21. Parking lamps: ON	11 – 14 V	Voltage supply, circuit 58d, S21
2.0	B1015 B1017	**Combinationcontrol module (N10-1)** Voltage supply Circuit 30C	N10-1 ⊥ V+ → 6	Ignition: **OFF**	11 – 14 V	Wiring, ⇒ 2.1
2.1		Combinationcontrol module (N10-1) Voltage supply Circuit 31B	N10-1 43 (A) V+ → 6 (A)	Ignition: **OFF**	11 – 14 V	Wiring, ⇒ 2.2

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
2.2	B1013	Combinationcontrol module (N10-1) Voltage supply Circuit 15R	N10-1 ⊥ — V — 3 (A)	Ignition: **ON**	11 – 14 V	Wiring, ⇒ 2.3
3.0	B1119	**Outside rearview mirror-vertical adjustment (S21s6) switch** Activate combination control module (N10-1)	N10-1 69 (A) — V — 52 (A)	Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To left mirror S21s6: Press forward S21s6: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, ⇒ 1.0 ⇒ 3.1 Center console switch group (S21)
3.1		Outside rearview mirror-horizontal adjustment (S21s7) switch Activate combination control module (N10-1)	N1-01 ⊥ — V — 69 (A)	Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To left mirror S21s7: Press left S21s7: Press right	 4 – 7 V < 1 V 11 – 14 V	Wiring, S21

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.0	B1119	**Outside rearview mirror-vertical adjustment (S21s6) switch** Activate combination contro l module (N10-1)	N10-1  68 (A) — 52 (A)	Ignition: **ON** Set outside rearview mirror-left/right (s21s8): To right mirror S21s6: Press forward S21s6: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, ⇒ 4.1, Center console switch group (S21).
4.1		Outside rearview mirror-horizontal adjustment (S21s7) switch Activate combination contro l module (N10-1)	N10-1  ⊥ — 68 (A)	Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To right mirror S21s7: Press left S21s7: Press right	 4 – 7 V < 1 V 11 – 14 V	Wiring, S21

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.0	B1408	**Activation of vertical adjustment motor (M21/5m1) (front passenger mirror) by combination control module (N10-1)**	M21/5m1 4 (1) — (V) — 5 (1)	Disconnect connector (1) at front passenger outside rearview mirror (M21/5). Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To right mirror S21s7: Press left S21s7: Press right	 11 – 14 V – 11 to – 14 V	Wiring, S21, N10-1
6.0	B1408	**Activation of horizontal adjustment motor (M21/5m2) (front passenger mirror) by combination control module (N10-1)**	M21/5m2 4 (1) — (V) — 3 (1)	Disconnect connector (1) at front passenger rearview mirror (M21/5). Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To right mirror S21s6: Press forward S21s6: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, S21, N10-1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.0	81408	**Vertical adjustment motor (M21/5m1) (front passenger mirror) vertical adjustment**	M21/5m1 3 (1) — 1 (1) 2 (1) — 4 (1)	⚠ **CAUTION!** Disconnect connector (1) at front passenger outside rearview mirror (M21/5). Bridge sockets 5 and 1 with fused jumper wire 124 589 37 63 00 Ignition: **ON**	Motor runs.	M21/5m1
8.0	81409	**Horizontal adjustment motor (M21/5m2) (front passenger mirror) horizontal adjustment**	M21/5m2 5 (1) — 1 (1) 2 (1) — 4 (1)	⚠ **CAUTION!** Disconnect connector (1) at front passenger rearview mirror (M21/5). Bridge sockets 3 and 1 with fused jumper wire 124 589 37 63 00 Ignition: **ON**	Motor runs.	M21/5m2
9.0	81213	**Electrically adjustable and heated front passenger outside rearview mirror (M21/5) (Memory)** Potentiometer voltage supply	N10-1 ⊥ — V — 53	Ignition: **ON**	4 – 5 V	Wiring, ⇒ 9.1, Combination control module (N10-1).

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
9.1		Electrically adjustable and heated front passenger outside rearview mirror (M21/5) potentiometer	N10-1 76 (A) — V — 32 (A) N10-1 76 (A) — V — 33 (A)	Ignition: **ON** Adjust mirror in various directions using vertical/horizontal adjustment (S21s7, or S21/s8).	Values change within the range of 0 – 5 V	Wiring, M21/5m1, M21/5m2
10.0	B1409	**Horizontal adjustment motor (M21/5m2) (Driver-side mirror) horizontal adjustment by combination control module (N10-1)**	M21/4m2 4 (1) — V — 3 (1)	Disconnect connector (1) at driver-side rearview mirror (M21/4). Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To left mirror S21s7: Press forward S21s7: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, Center consle switch group (M21), N10-1

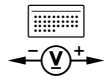
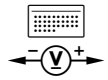
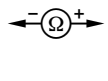
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
11.0	81409	**Vertical adjustment motor (M21/4m1) (Driver-side mirror) vertical adjustment by combination control module (N10-1)**	M21/4m1 4 (1) — V — 5 (1)	Disconnect connector (1) at passenger-side mirror (M21/4). Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To left mirror. S21s6: Press forward S21s6: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, Center console switch group (M21), N10-1
12.0	81214 81409	**Vertical adjustment motor (M21/4m1) (Driver-side mirror)**	M21/4m1 5 (1) — 1 (1) 2 (1) — 4 (1)	⚠ **CAUTION!** Disconnect connector (1) at driver-side rearview mirror (M21/4). Bridge sockets 5 and 1 with fused jumper wire 124 589 37 63 00 Ignition: **ON**	Motor runs.	M21/4m1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
13.0	B1214 B1409	**Vertical adjustment motor (M21/4m2) (Driver-side mirror)**	M21/4m1 3 (1) — (1) 1 2 (1) — (1) 4	⚠ **CAUTION!** Disconnect connector (1) at driver-side rearview mirror (M21/4). Bridge sockets 3 and 1 with fused jumper wire 124 589 37 63 00 Ignition: **ON**	Motor runs.	M21/4m2
14.0	B1214	**Electrically adjustable and heated driver-side outside rearview mirror (M21/4) Memory** Potentiometer voltage supply	N10-1 ⊥ — V — 70 (A)	Ignition: **ON**	4 – 5 V	Actual values reached, ⇒ 14.1 Wiring, Combination control module (N10-1).
14.1		Electrically adjustable and heated driver-side outside rearview mirror (M21/4) Memory Potentiometer	N10-1 76 (A) — V — 33 (A) N10-1 76 (A) — V — 32 (A)	Ignition: **ON** Adjust mirror in various directions using vertical/horizontal adjustment (S21s7, or S21/s8).	Values change within the range of 0 – 5 V	Wiring, M21/4m1, M21/4m2

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
15.0		**Mirror heating (driver-side outside mirror)** Voltage supply	M21/4  2 (1) — V — 1 (1)	Disconnect connector (1) from driver-side outside rearview mirror (M21/4). Ignition: **ON**	11 – 14 V	Wiring.
16.0		**Mirror heating (front passenger outside mirror)** Voltage supply	M21/5  2 (1) — V — 1 (1)	Disconnect connector (1) from front passenger rearview outside mirror (M21/5). Ignition: **ON**	11 – 14 V	Wiring.
17.0	B1114	**Steering column in/out switch (S91s12)** Resistance	N32/1  12 (1) — Ω — 8 (1)	Disconnect connector (1) at left front ESA control module (N32/1). S91s12: Rest position S91s11: Press forward Press backward	 approx. 470 Ω approx. 39 Ω approx. 16 Ω	Wiring, ⇒ 17.1, D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 2.0, Left front ESA switch group (S91).

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
17.1		Steering column up/down switch (S91s11) Resistance	N32/1 12 (1) — Ω — 8 (1)	Disconnect connector (1) at left front ESA control module (N32/1). S91s11: Press up Press down	 approx. 124 Ω approx. 65 Ω	Wiring, D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 2.0, ⇒ 18.1, S91
18.0		**Activation of telescopic adjustment motor (M20m1) by combination control module (N10-1)**	M20m1 2 (4) — V — 1 (4)	Disconnect connector (4) from ESC motor group (M20). Ignition: **ON** S91s12: Press forward Press backward	 For 1– 2 sec.: 11 – 14 V – 11 to – 14 V	Wiring, D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 2.0, ⇒ 18.1, Left front ESA switch group (S91), N10-1
18.1		Voltage supply to M20m1 potentiometer from N10-1	M20m1 ⊥ — V — 2 (3)	Disconnect connector (3) from ESC motor (M20). Ignition: **ON**	4 – 5 V	Wiring, ⇒ 18.2
18.2		Voltage supply to M20m1 potentiometer from N10-1	M20m1 1 (3) — V — 2 (3)	Disconnect connector (3) from ESC motor (M20). Ignition: **ON**	4 – 5 V	Wiring, ⇒ 18.3, N10-1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
18.3		Potentiometer	N10-1 28 (A) — V — 54 (A)	Ignition: **ON** Press S91s12 forward or backward.	While motor is running, values change within range of 0 – 5 V.	Wiring, M20m1
19.0		**Activation of tilt adjustment motor (M20m2) by combination control module (N10-1)**	M20m2 2 (1) — V — 1 (1)	Disconnect connector (1) from ESC motor group (M20). Ignition: **ON** S91s11: Press up Press down	For 1– 2 sec.: – 11 to – 14 V 11 – 14 V	Wiring, D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 2.0, ⇒ 19.1, Left front ESA switch group (S91), N10-1
19.1		Voltage supply to M20m2 potentiometer from N10-1	M20m1 ⊥ — V — 3 (3)	Disconnect connector (2) from ESC motor (M20). Ignition: **ON**	4 – 5 V	Wiring, ⇒ 19.2
19.2		Voltage supply to M20m1 potentiometer from N10-1	M20m2 4 (2) — V — 3 (2)	Disconnect connector (3) from ESC motor (M20). Ignition: **ON**	4 – 5 V	Wiring, ⇒ 19.3, N10-1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
19.3		Potentiometer	N10-1  29 —()— 54 (A) (A)	Ignition: **ON** Press S91s12 up or down.	While motor is running, values change within range of 0 – 5 V.	Wiring, M20m2
20.0		**RCL receiver (interior rearview mirror) (A26/7)** Voltage supply Electronic dimming	A26/6 2 —()— 5	Disconnect connector on A26/7. Ignition: **ON**	11 – 14 V	Wiring.