

X60001

Pin	Type	Name	Wire	Description	Connection / Measuring notes
1		U_15	0.5 GN	Relay, fuel injectors	
2					
3	A/E	D_TXD2	0.5 WS/VI	Signal, TXD	Transmission Control Unit
4	M	31E	1.5 BR/OR	Ground	Terminal 31 support, E-box
5	M	31L	1.5 BR	Ground	Ground connector
6	M	31L	1.5 BR	Ground	Ground connector
7	E	30H<102	1.5 RT	Supply, terminal 30	B+ potential distributor
8	E	U_HR<2	1.0 RT/WS/GE	Supply, terminal 87	Fuse carrier, engine electronics
9					

X60002

Pin	Type	Name	Wire	Description	Connection / Measuring notes
1	A	T_LHV1	0.5 GN	Negative activation, oxygen sensor heating	Oxygen sensor 1 before catalytic converter
2	A	T_LHV2	0.5 GN	Negative activation, oxygen sensor heating	Oxygen sensor 2 before catalytic converter
3	A/E	D_CAN_L	0.5 GE/BR	Signal, CAN high	CAN-bus connector (Transmission Control Unit)
4	A/E	D_CAN_H	0.5 GE/SW	Signal, CAN low	CAN-bus connector (Transmission Control Unit)
5					
6	A	T_LHH1	0.5 BR	Negative activation, oxygen sensor heating	Oxygen sensor 1 after catalytic converter
7	E	M_LSV1	0.5 SW	Negative signal, oxygen sensor	Oxygen sensor 1 before catalytic converter
8	E	M_LSH2	0.5 SW	Negative signal, oxygen sensor	Oxygen sensor 2 after catalytic converter
9	E	M_LSV2	0.5 SW	Negative signal, oxygen sensor	Oxygen sensor 2 before catalytic converter
10	E	M_LSH1	0.5 SW	Negative signal, oxygen sensor	Oxygen sensor 1 after catalytic converter
11					
12	A	T_LHH2	0.5 BR	Negative activation, oxygen sensor heating	Oxygen sensor 2 after catalytic converter
13	E	I_LSVP1	0.5 BL	Signal, oxygen sensor	Oxygen sensor 1 before catalytic converter, only with MS45.1
14	E	A_LSH2	0.5 GE	Signal, oxygen sensor	Oxygen sensor 2 after catalytic converter
15	E	I_LSVP2	0.5 BL	Signal, oxygen sensor	Oxygen sensor 2 before catalytic converter, only with MS45.1
16	E	A_LSH1	0.5 GE	Signal, oxygen sensor	Oxygen sensor 1 after catalytic converter
17					
18					
19	E	A_LSVP1	0.5 OR	Signal, oxygen sensor	Oxygen sensor 1 before catalytic converter, only with MS45.1
20	E	A_LSVR1	0.5 GE	Signal, oxygen sensor	Oxygen sensor 1 before catalytic converter
21	E	A_LSVP2	0.5 OR	Signal, oxygen sensor	Oxygen sensor 2 before catalytic converter, only with MS45.1
22	E	A_LSVR2	0.5 GE	Signal, oxygen sensor	Oxygen sensor 2 before catalytic converter
23	E	S_HR	0.5 BR/SW	Supply, terminal 87	DME relay
24					

X60003

Pin	Type	Name	Wire	Description	Connection / Measuring notes
1	E	A_HFM	0.5 GE	Signal, hot film air mass meter	Hot-film air mass meter
2					
3	E	P_KWG	0.5 GE	Signal, crankshaft sensor	Crankshaft sensor
4	A	U_HFMREF	0.5 RT/GN	Supply, air-mass flow sensor	Hot-film air mass meter
5	A	U_DKG	0.5 BR/WS	Supply, electric throttle valve	Throttle valve motor
6	A	P_EVZ2	0.75 BR/RT	Signal, fuel injector	Fuel injector, cylinder 2
7	A	P_EVZ4	0.75 BR/BL	Signal, fuel injector	Fuel injector, cylinder 4
8	A	P_EVZ6	0.75 BR/VI	Signal, fuel injector	Fuel injector, cylinder 6

9	A	T_NWA1	0.5 GN/VI	Signal, VANOS valve	VANOS solenoid valve, exhaust
10	A	T_NWE1	0.5 GN/BL	Signal, VANOS valve	VANOS solenoid valve, intake
11	A	P_EVZ5	0.75 BR/GN	Signal, fuel injector	Fuel injector, cylinder 5
12	A	S_KFK	0.5 GR/BR	Signal, thermostat heating	Characteristic map thermostat
13	A	P_EVZ1	0.75 BR/WS	Signal, fuel injector	Fuel injector, cylinder 1
14	M	M_ANALOG	0.5 SW	Ground, analogue	Hot-film air mass meter
15	M	M_DKG	0.5 BR/GR	Ground, electric throttle valve	Throttle valve motor
16	E	S_OLD	0.5 BR/GN	Signal, oil pressure switch	Oil pressure switch
17					
18					
19	E/A	D_BSD	0.5 BL	Bi-directional data interface	BSD alternator
20					
21	A	T_TEV	0.5 BR	Signal, fuel tank vent valve	Fuel tank vent valve
22	A	T_LLFSS	0.5 WS/GN	Signal, idle actuator	Idle actuator
23	A	T_LLFSSO	0.5 WS/GE	Signal, idle actuator	Idle actuator
24					
25					
26	A	P_EVZ3	0.75 BR/GE	Signal, fuel injector	Fuel injector, cylinder 3
27	E	A_TANS	0.5 GE/BL	Signal, intake air temperature	Hot-film air mass meter
28	E	A_TMOT	0.5 BR/RT	Signal, coolant temperature	Engine coolant temperature sensor
29	E	P_NWGE1	0.5 GE	Signal, camshaft sensor	Camshaft sensor I
30	E	P_NWGA1	0.5 GE	Signal, camshaft sensor	Camshaft sensor II
31	E	A_DKG1	0.5 BR/VI	Signal, throttle valve position	Throttle valve motor
32	E	A_DKG2	0.5 BR/BL	Signal, throttle valve position	Throttle valve motor
33	E	A_KS1B	0.5 SW	Signal, knock sensor	Double knock sensor
34	E	A_KS2B	0.5 BR	Signal, knock sensor	Knock sensor 2
35	M	M_TMOT	0.5 GR/BR	Ground, coolant temperature sensor	Engine coolant temperature sensor
36	M	M_NWGE1	0.5 BR	Camshaft sensor ground	Camshaft sensor I
37	M	M_KWG	0.5 BR	Ground, crankshaft sensor	Crankshaft sensor
38	E/A	D_LOCANH	0.5 SW	Signal, CAN high	CAN terminal resistor, only with M56
39	A	S_SLV	0.5 BR/WS	Signal, secondary air pump valve	Secondary air pump valve
40	A	S_DISA	0.5 BR/BL	Signal, DISA changeover valve	Valve, individual control intake system
41					
42	A	T_MDK1	0.75 GR/WS	Signal, actuator for electric throttle valve	Throttle valve motor
43	A	T_MDK2	0.75 BR/SW	Signal, actuator for electric throttle valve	Throttle valve motor
44	E	A_TOEL	0.5 RT/BL	Signal, oil temperature	Oil temperature sensor
45	M	M_TOEL	0.5 GR/BR	Signal, rear seat heating relay	Oil temperature sensor
46	E	A_KS1A	0.5 GE	Signal, knock sensor	Double knock sensor
47	E	A_KS2A	0.5 GN	Signal, knock sensor	Double knock sensor
48					
49	M	M_NWGA1	0.5 BR	Camshaft sensor ground	Camshaft sensor II
50	E	F_OLN	0.5 GR/BL	Signal, oil level sensor	Oil level sensor
51	E/A	D_LOCANL	0.5 GE	Signal, CAN low	CAN terminal resistor, only with M56
52					

X60004

Pin	Type	Name	Wire	Description	Connection / Measuring notes
1					
2	A	S_DMTLH	0.75 SW/RT	Activation, fuel tank leakage, heating	Diagnostic module, fuel tank leakage, only with MS45.1
3	A	S_SLP	0.35 BR/BL	Signal, secondary air pump	Secondary air pump relay
4	A	T_ELUE	0.5 SW/GN	Signal, electric fan	Electric fan

5	M	M_SHFM	0.5 SW/GE	Negative supply Secondary air - hot-film air-mass meter	Secondary air - hot-film air-mass meter, only with MS45.1
6					
7	M	M_FWG1	0.35 BR/GN	Ground, accelerator pedal position sensor	Accelerator pedal module
8	E	A_FWG1	0.35 WS	Signal, accelerator pedal position sensor	Accelerator pedal module
9	A	U_FWG1	0.35 GE	Supply, accelerator pedal position sensor	Accelerator pedal module
10	A	S_EKP	0.35 SW/VI	Activation, fuel pump relay	Fuel pump relay
11					
12	M	M_FWG2	0.35 BR	Ground, accelerator pedal position sensor	Accelerator pedal module
13	E	A_FWG2	0.35 WS/GN	Signal, accelerator pedal position sensor	Accelerator pedal module
14	A	U_FWG2	0.35 GE/GN	Supply, accelerator pedal position sensor	Accelerator pedal module
15	E	A_SHFM	0.5 SW/RT	Signal, secondary air/hot-film air mass meter	Secondary air - hot-film air-mass meter, only with MS45.1
16					
17	A	TD	0.35 SW	Speed signal	OBDII socket
18	A	S_AKL	0.5 GR/VI	Signal, exhaust flap	Exhaust flap solenoid
19	A	S_EBOXL	0.5 BR/OR	Signal, E-box fan	E-box fan
20	A	S_DMTLP	0.75 BR/BL	Activation, fuel tank leakage pump	Diagnostic module, fuel tank leakage, only with MS45.1
21	A	S_GLF	0.5 BR/WS	Signal, radiator shutter solenoid	Solenoid, radiator shutter
22	E	F_DFAHR	0.35 WS/GN	Signal, processed wheel speed, rear right	Connector X10186 (rear right wheel speed)
23	E	S_KUP	0.35 BL/BR	Signal, clutch switch	Clutch switch
24	E	S_BLS	0.35 BL/RT	Brake light signal	Brake light switch
25	E	S_EAC	0.5 BL/GE	Signal, EAC sensor	EAC sensor, only with M56
26	E	15<29	0.5 GN/SW	Wake-up signal, terminal 15	Connector , terminal 15 wake-up signal
27	A/E	FGRS	0.35 BL/SW	Signal, Data Link Multi Function Steering Wheel	Volute Spring Steering Wheel
28	E	S_BLTS	0.35 BR/GR	Brake light test signal	Brake light switch
29	A	S_KOREL	0.5 SW/BL	Activation, A/C compressor	A/C compressor relay
30	A	S_DMTLV	0.5 SW/GN	Activation, fuel tank leakage valve	Diagnostic module, fuel tank leakage, only with MS45.1
31	A/E	D_LOCANL	0.5 GN	Signal, CAN low	Fuel pump control (EKPS), only with M56
32	A/E	D_TXD2	0.5 WS/VI	Signal, TXD	OBDII socket
33	E	D_EWS	0.35 SW/VI	Signal, electronic vehicle immobilizer	EWS / Car access system
34					
35	A/E	D_LOCANH	0.5 BL/GN	Signal, CAN high	Fuel pump control (EKPS), only with M56
36	A/E	D_CAN_H	GE/RT	Signal, CAN high	CAN-bus connector
37	A/E	D_CAN_L	GE/BR	Signal, CAN low	CAN-bus connector
38	E	M_TKA	0.35 SW/GN	Signal, coolant temperature	Temperature sensor at radiator outlet
39	E	A_TKA	0.35 SW/GR	Signal, coolant temperature	Temperature sensor at radiator outlet
40	E	S_START	0.35 GE/BR	Start signal	Car access system

X60005

Pin	Type	Name	Wire	Description	Connection / Measuring notes
1	A	P_ZSZ5	1.5 SW/RT/WS	Signal, ignition coil	gnition coil, cylinder 5
2					
3					
4	A	P_ZSZ3	1.5 SW/GE	Signal, ignition coil	Ignition coil, cylinder 3
5	M	31L	2.5 BR	Ground	Terminal 31 support, E-box
6	A	P_ZSZ1	1.5 SW/WS	Signal, ignition coil	Ignition coil, cylinder 1
7	A	P_ZSZ2	1.5 SW/RT	Signal, ignition coil	Ignition coil, cylinder 2
8	A	P_ZSZ4	1.5 SW/BL	Signal, ignition coil	Ignition coil, cylinder 4
9	A	P_ZSZ6	1.5 SW/VI	Signal, ignition coil	Ignition coil, cylinder 6