

E = Input, A = Output, M = Ground

MS41.0 Connection	MS41.0 Description/Function	MS41.0 Type	Pin	Match	MS41.2 Type	MS41.2 Description/Function	MS41.2 Connection	Colour	Function	Needed?
Ignition coil, cyl. 2	Ignition, terminal 1	A	1	Yes	A	Cyl. 2 ignition coil control	Cyl. 2 ignition coil			Yes
Ignition coil, cyl. 4	Ignition, terminal 1	A	2	Yes	A	Cyl. 4 ignition coil control	Cyl. 4 ignition coil			Yes
Ignition coil, cyl. 6	Ignition, terminal 1	A	3	Yes	A	Cyl. 6 ignition coil control	Cyl. 6 ignition coil			Yes
Ground connection	Ground	M	4	Yes	M	Ground	Ground point			Yes
Injection valve, cyl. 2	Injection valve, cyl. 2	A	5	Yes	A	Cyl. 2 fuel injection valve control	Cyl. 2 fuel injection valve			Yes
Injection valve, cyl. 1	Injection valve, cyl. 1	A	6	Yes	A	Cyl. 1 fuel injection valve control	Cyl. 1 fuel injection valve			Yes
Air mass meter	Air mass meter signal	E	7	No	M	Ground	Hot wire air mass meter			Yes
Air mass meter	Air mass meter ground	M	8	No	E	Hot wire air mass meter	Hot wire air mass meter			Yes
Instrument cluster	TI signal	A	9	No	E	TI-measurement signal (fuel consumption)	Instrument cluster		x20 Pin 24 (economy)	Yes
Coolant temperature sensor	Coolant temperature signal	E	10	Yes	E	Engine coolant temperature	Engine coolant temperature sensor			Yes
	not used		11	No	E	Fuel tank pressure	Fuel tank pressure sensor			?
Throttle potentiometer	Throttle (DK) signal	E	12	Yes	E	Throttle position signal	Throttle position sensor			Yes
	not used		13	Yes		Not used				No
Intake air temperature sensor	Intake air temperature signal	E	14	Yes	E	Intake air temperature	Intake air temperature sensor			Yes
ASC/ABS control unit	ASC/ABS signal	A	15	No	E	Speed signal right rear	ABS/ASC control module		x20 Pin 9 (speed)	Yes
Pressure switch	Air conditioning ON signal	A	16	No	E	Activate A/C	Pressure switch			Yes - Cut and wire to A/C Black/Violet wire under steering column
	not used		17	Yes		Not used				No
Electronic immobilizer control unit (EWS II)	Vehicle immobilization	E	18	Yes	E	Drive-away protection signal (code)	Electronic immobilizer control module (EWS II)			?
A/C control unit	Auxiliary fan signal	A	19	No	E	A/C-ON-signal	Air conditioning operating unit			Yes - Ground through relay when Pin 16 gets power
	not used		20	No	A	"Check engine" indicator control	Instrument cluster	Grey	CEL light on cluster	Yes
VANOS valve 1	Camshaft timing signal	A	21	Yes	A	Camshaft control	Variable camshaft control valve			Yes
Injection valve	Injection valve, cyl. 3	A	22	Yes	A	Cyl. 3 fuel injection valve control	Cyl. 3 fuel injection valve			Yes
Injection valve	Injection valve, cyl. 6	A	23	Yes	A	Cyl. 6 fuel injection valve control	Cyl. 6 fuel injection valve			Yes
Injection valve	Injection valve, cyl. 4	A	24	Yes	A	Cyl. 4 fuel injection valve control	Cyl. 4 fuel injection valve			Yes
Oxygen sensor 1	Oxygen sensor heating	M	25	Yes	M	Oxygen sensor heating ground	Oxygen sensor (in front of catalytic converter)			Yes
Jumper cable terminal point	Terminal 30	E	26	Yes	E	Battery voltage	B+ jump start junction point			Yes
Idle actuator	Idle actuator signal	A	27	Yes	A	Activate valve	Idle speed control valve			Yes
Ground connection	Ground	M	28	Yes	M	Ground	Ground point			Yes
Ignition coil, cyl. 1	Ignition, terminal 1	A	29	Yes	A	Cyl. 1 ignition coil control	Cyl. 1 ignition coil			Yes
Ignition coil, cyl. 3	Ignition, terminal 1	A	30	Yes	A	Cyl. 3 ignition coil control	Cyl. 3 ignition coil			Yes
Ignition coil, cyl. 5	Ignition, terminal 1	A	31	Yes	A	Cyl. 5 ignition coil control	Cyl. 5 ignition coil			Yes
Ground connection	Ground	M	32	Yes	M	Ground	Ground point			Yes
Injection valve	Injection valve, cyl. 5	A	33	Yes	A	Cyl. 5 fuel injection valve control	Cyl. 5 fuel injection valve			Yes
Ground connection	Ground	M	34	Yes	M	Ground	Ground point			Yes
	not used		35	No	A	Activate relay	Secondary air pump relay	Brown/Green	Relay Ground	No
Instrument cluster	Engine speed signal TD	A	36	Yes	A	Crankshaft RPM speed signal TD	Instrument cluster		x20 pin 20 (tacho)	Yes
	not used		37	Yes		Not used				No
Shield, knock sensor	Ground, shielding	M	38	Yes	M	Ground	Shield knock sensor			Yes
Temperature sensor	Component ground	M	39	Yes	M	Ground	Temperature sensors			?
Crankshaft sensor	Ground	M	40	Yes	M	Ground	Crankshaft position/RPM sensor, Fuel tank pressure sensor			Yes
Shield, camshaft sensor	Ground, shielding	M	41	Yes	M	Ground	Shield camshaft position sensor			Yes
Throttle potentiometer	Signal (-)	A	42	No	M	Ground	Throttle position sensor			Yes
Camshaft sensor	Signal (-)	E	43	Yes	E	Camshaft position	Camshaft position sensor			Yes
Throttle potentiometer	Signal (+)	A	44	Yes	A	Voltage supply	Throttle position sensor, Fuel tank pressure sensor			Yes
ASC control unit	ASC signal	A	45	Yes	A	Throttle position signal	ABS/ASC control module			?
	not used		46	No	E	TI-measurement signal (fuel consumption)	Instrument cluster			?
	not used		47	Yes		Not used				No
Crankshaft sensor	Signal (+), 5V	A	48	Yes	A	Voltage supply	Crankshaft position/RPM sensor			Yes
Ignition lock	Terminal 15	E	49	Yes	E	Terminal 15	Ignition switch			Yes
	not used		50	No	A	"Running losses"	Solenoid valve	Yellow/Blue	Ground	No
	not used		51	No	A	Activate valve	Charcoal filter shut off valve (Carbon Cannister)	Green/Blue	Ground	No
Exhaust flap valve	Exhaust flap signal	A	52	Yes	A	Signal exhaust flap	Exhaust gas flap valve			Yes
Idle actuator	Idle actuator signal	A	53	Yes	A	Activate valve	Idle speed control valve			Yes
DME main relay	>10V signal	E	54	Yes	E	Battery voltage, terminal 87	Engine control module relay			Yes
Oxygen sensor 2	Oxygen sensor heating	M	55	Yes	M	Oxygen sensor heating ground	Oxygen sensor II (in front of catalytic converter)			Yes
Resistor	Ignition feedback signal	M	56	Yes	M	Ground	Ground point			Yes
Knock sensor	Knock sensor signal, cyl. 1-3	A	57	No	E	Cyl. 1-3 knock sensor	Knock sensor			Yes
Knock sensor	Knock sensor signal, cyl. 1-3	E	58	Yes	E	Cyl. 1-3 knock sensor	Knock sensor			Yes
Knock sensor	Knock sensor signal, cyl. 4-6	A	59	No	E	Cyl. 4-6 knock sensor	Knock sensor			Yes

Diagnostic connector	Programming voltage	E	60	Yes	E	Programming voltage	Data link connector			Yes
	not used		61	No	M	Oxygen sensor heating ground	Oxygen sensor II (behind catalytic converter)	Brown	Ground	?
	not used		62	No	A	Activate valve	Secondary air pump valve	Brown/White	Ground	No
Knock sensor	Knock sensor signal, cyl. 4-6	E	63	Yes	E	Cyl. 4-6 knock sensor	Knock sensor			Yes
Camshaft sensor	Component ground	M	64	Yes	M	Ground	Camshaft position sensor			Yes
Camshaft sensor	Signal (+)	A	65	No	E	Camshaft position	Camshaft position sensor			Yes
	not used		66	Yes		Not used				No
Oxygen sensor 1	Oxygen sensor ground	M	67	Yes	M	Oxygen sensor signal ground	Oxygen sensor (in front of catalytic converter)			Yes
Fuel tank ventilation valve	Fuel tank ventilation valve	A	68	Yes	A	Activate valve	Evaporative emission valve	Brown	Ground	Yes
	Electric fuel pump relay and TR signal									
Fuel pump relay	(crankshaft reference)	A	69	Yes	A	Activate relay	Fuel pump relay			Yes
Oxygen sensor 2	Oxygen sensor ground	M	70	Yes	M	Oxygen sensor signal ground	Oxygen sensor II (in front of catalytic converter)			Yes
	not used		71	No	M	Oxygen sensor signal ground	Oxygen sensor (behind catalytic converter)	Black	Ground	Yes
	not used		72	No	M	Oxygen sensor signal ground	Oxygen sensor II (behind catalytic converter)	Black	Ground	Yes
DME relay	Relay activation	A	73	No	E	Activate relay	Engine control module relay			Yes
Relay, A/C compressor	Compressor ON signal	E	74	No	A	Activate A/C compressor	Compressor control relay			? Could be used to trigger aux fan when aircon on if needed
Oxygen sensor 1	Signal, oxygen sensor	E	75	Yes	E	Sensor signal	Oxygen sensor (in front of catalytic converter)			Yes
Oxygen sensor 2	Signal, oxygen sensor	E	76	Yes	E	Sensor signal	Oxygen sensor II (in front of catalytic converter)			Yes
	not used		77	No	E	Sensor signal	Oxygen sensor (behind catalytic converter)	Yellow	0-5V	Yes
	not used		78	No	E	Sensor signal	Oxygen sensor II (behind catalytic converter)	Yellow	0-5V	Yes
	not used		79	No	M	Oxygen sensor heating ground	Oxygen sensor (behind catalytic converter)	Brown	Ground	?
ASC control unit	ASC signal	A	80	Yes	A	ASC signal ZA	Slip control module (ABS/ASC)			No
ASC control unit	ASC signal	A	81	Yes	A	ASC signal ZWV	Slip control module (ABS/ASC)			No
ASC control unit	ASC signal	A	82	Yes	A	ASC signal MSR	Slip control module (ABS/ASC)			No
Crankshaft sensor	Crankshaft signal	E	83	Yes	E	Sensor signal	Crankshaft position/RPM sensor			Yes
	not used		84	Yes		Not used				No
EGS control unit	CANCA-L	E/A	85	Yes	E/A	CAN-LOW	Transmission control module (EGS)			No
EGS control unit	CANCA-H	E/A	86	Yes	E/A	CAN-HIGH	Transmission control module (EGS)			No
DME relay	Terminal 15	E	87	Yes	E	Battery voltage, terminal 87	Engine control module relay			Yes
Diagnostic connector	TxD diagnostic data link	E/A	88	Yes	E/A	TxD diagnosis data link	Data link connector			Yes