

The original list was retrieved from http://en.wikipedia.org/wiki/OBD-II_PIDs

Highlighted = supported by 86/BRZ/FR-S

Standard PIDs

The table below shows the standard OBD-II PIDs as defined by SAE J1979. The expected response for each PID is given, along with information on how to translate the response into meaningful data. Again, not all vehicles will support all PIDs and there can be manufacturer-defined custom PIDs that are not defined in the OBD-II standard.

Note that modes 1 and 2 are basically identical, except that Mode 1 provides current information, whereas Mode 2 provides a snapshot of the same data taken at the point when the last [diagnostic trouble code](#) was set. The exceptions are PID 01, which is only available in Mode 1, and PID 02, which is only available in Mode 2. If Mode 2 PID 02 returns zero, then there is no snapshot and all other Mode 2 data is meaningless.

Please, note that when using Bit-Encoded-Notation, quantities like C4 means bit 4 from data byte C. Each bit is numerated from 0 to 7, so 7 is the most significant bit and 0 is the least significant bit.

Mode (hex)	PID (hex)	Data bytes returned	Description	Min value	Max value	Units	Formula
01	00	4	PIDs supported [01 - 20]				Bit encoded [A7..D0] == [PID \$01..PID \$20] See below.
01	01	4	Monitor status since DTCs cleared. (Includes malfunction indicator lamp (MIL) status and number of DTCs.)				Bit encoded. See below.
01	02	2	Freeze DTC				
01	03	2	Fuel system status				Bit encoded. See below.
01	04	1	Calculated engine load value	0	100	%	A*100/255
01	05	1	Engine coolant temperature	-40	215	°C	A-40
01	06	1	Short term fuel %	-100	99.22	%	(A-128) * 100/128

			trim—Bank 1	Subtracting Fuel (Rich Condition)	Adding Fuel (Lean Condition)		
01	07	1	Long term fuel % trim—Bank 1	-100 Subtracting Fuel (Rich Condition)	99.22 Adding Fuel (Lean Condition)	%	$(A-128) * 100/128$
01	08	1	Short term fuel % trim—Bank 2	-100 Subtracting Fuel (Rich Condition)	99.22 Adding Fuel (Lean Condition)	%	$(A-128) * 100/128$
01	09	1	Long term fuel % trim—Bank 2	-100 Subtracting Fuel (Rich Condition)	99.22 Adding Fuel (Lean Condition)	%	$(A-128) * 100/128$
01	0A	1	Fuel pressure	0	765	kPa (gauge)	$A * 3$
01	0B	1	Intake manifold absolute pressure	0	255	kPa (absolute)	A
01	0C	2	Engine RPM	0	16,383.75	rpm	$((A * 256) + B) / 4$
01	0D	1	Vehicle speed	0	255	km/h	A
01	0E	1	Timing advance	-64	63.5	° relative to #1 cylinder	$A / 2 - 64$
01	0F	1	Intake air temperature	-40	215	°C	$A - 40$
01	10	2	MAF air flow rate	0	655.35	grams/sec	$((A * 256) + B) / 100$
01	11	1	Throttle position	0	100	%	$A * 100 / 255$
01	12	1	Commanded secondary air status				Bit encoded. See below.
01	13	1	Oxygen sensors present				$[A0..A3] ==$ Bank 1, Sensors 1-4. $[A4..A7] ==$ Bank

01	14	2	Bank 1, Sensor 1: Oxygen sensor voltage, Short term fuel trim	0 -100(lean)	1.275 99.2(rich)	Volts %	2... A/200 (B-128) * 100/128 (if B==\$FF, sensor is not used in trim calc)
01	15	2	Bank 1, Sensor 2: Oxygen sensor voltage, Short term fuel trim	0 -100(lean)	1.275 99.2(rich)	Volts %	A/200 (B-128) * 100/128 (if B==\$FF, sensor is not used in trim calc)
01	16	2	Bank 1, Sensor 3: Oxygen sensor voltage, Short term fuel trim	0 -100(lean)	1.275 99.2(rich)	Volts %	A/200 (B-128) * 100/128 (if B==\$FF, sensor is not used in trim calc)
01	17	2	Bank 1, Sensor 4: Oxygen sensor voltage, Short term fuel trim	0 -100(lean)	1.275 99.2(rich)	Volts %	A/200 (B-128) * 100/128 (if B==\$FF, sensor is not used in trim calc)
01	18	2	Bank 2, Sensor 1: Oxygen sensor voltage, Short term fuel trim	0 -100(lean)	1.275 99.2(rich)	Volts %	A/200 (B-128) * 100/128 (if B==\$FF, sensor is not used in trim calc)
01	19	2	Bank 2, Sensor 2: Oxygen sensor voltage, Short term fuel trim	0 -100(lean)	1.275 99.2(rich)	Volts %	A/200 (B-128) * 100/128 (if B==\$FF, sensor is not used in trim calc)
01	1A	2	Bank 2, Sensor 3: Oxygen sensor voltage, Short term fuel trim	0 -100(lean)	1.275 99.2(rich)	Volts %	A/200 (B-128) * 100/128 (if B==\$FF, sensor is not used in trim calc)
01	1B	2	Bank 2, Sensor 4: Oxygen sensor voltage, Short term fuel trim	0 -100(lean)	1.275 99.2(rich)	Volts %	A/200 (B-128) * 100/128 (if B==\$FF, sensor is not used in trim calc)
01	1C	1	OBD standards this vehicle conforms to				Bit encoded. See below.
01	1D	1	Oxygen sensors				Similar to PID 13,

			present				but [A0..A7] == [B1S1, B1S2, B2S1, B2S2, B3S1, B3S2, B4S1, B4S2] A0 == Power Take Off (PTO) status (1 == active) [A1..A7] not used
01	1E	1	Auxiliary input status				
01	1F	2	Run time since engine start	0	65,535	seconds	(A*256)+B
01	20	4	PIDs supported [21 - 40]				Bit encoded [A7..D0] == [PID \$21..PID \$40] See below.
01	21	2	Distance traveled with malfunction indicator lamp (MIL) on	0	65,535	km	(A*256)+B
01	22	2	Fuel Rail Pressure (relative to manifold vacuum)	0	5177.265	kPa	((A*256)+B) * 0.079
01	23	2	Fuel Rail Pressure (diesel, or gasoline direct inject)	0	655,350	kPa (gauge)	((A*256)+B) * 10
01	24	4	O2S1_WR_lambda(1): Equivalence Ratio Voltage	0 0	1.999 7.999	N/A V	((A*256)+B)*2/655 35 or ((A*256)+B)/32768 ((C*256)+D)*8/655 35 or ((C*256)+D)/8192
01	25	4	O2S2_WR_lambda(1): Equivalence Ratio Voltage	0 0	2 8	N/A V	((A*256)+B)*2/655 35 ((C*256)+D)*8/655 35
01	26	4	O2S3_WR_lambda(1): Equivalence Ratio Voltage	0 0	2 8	N/A V	((A*256)+B)*2/655 35 ((C*256)+D)*8/655 35
01	27	4	O2S4_WR_lambda(1): Equivalence Ratio Voltage	0 0	2 8	N/A V	((A*256)+B)*2/655 35 ((C*256)+D)*8/655 35
01	28	4	O2S5_WR_lambda(1):	0 0	2 8	N/A V	((A*256)+B)*2/655 35

			Equivalence Ratio				$((C*256)+D)*8/655$
			Voltage				35
			O2S6_WR_lambda($((A*256)+B)*2/655$
01	29	4	1):	0	2	N/A	35
			Equivalence Ratio	0	8	V	$((C*256)+D)*8/655$
			Voltage				35
			O2S7_WR_lambda($((A*256)+B)*2/655$
01	2A	4	1):	0	2	N/A	35
			Equivalence Ratio	0	8	V	$((C*256)+D)*8/655$
			Voltage				35
			O2S8_WR_lambda($((A*256)+B)*2/655$
01	2B	4	1):	0	2	N/A	35
			Equivalence Ratio	0	8	V	$((C*256)+D)*8/655$
			Voltage				35
01	2C	1	Commanded EGR	0	100	%	$A*100/255$
01	2D	1	EGR Error	-100	99.22	%	$(A-128) * 100/128$
01	2E	1	Commanded evaporative purge	0	100	%	$A*100/255$
01	2F	1	Fuel Level Input	0	100	%	$A*100/255$
01	30	1	# of warm-ups since codes cleared	0	255	N/A	A
01	31	2	Distance traveled since codes cleared	0	65,535	km	$(A*256)+B$
01	32	2	Evap. System Vapor Pressure	-8,192	8,192	Pa	$((A*256)+B)/4$ (A is signed)
						kPa	
01	33	1	Barometric pressure	0	255	(Absolute)	A
			O2S1_WR_lambda($((A*256)+B)/32,768$
01	34	4	1):	0	1.999	N/A	$((C*256)+D)/256 -$
			Equivalence Ratio	-128	127.99	mA	128
			Current				
			O2S2_WR_lambda($((A*256)+B)/32,768$
01	35	4	1):	0	2	N/A	$((C*256)+D)/256 -$
			Equivalence Ratio	-128	128	mA	128
			Current				
			O2S3_WR_lambda($((A*256)+B)/32768$
01	36	4	1):	0	2	N/A	$((C*256)+D)/256 -$
			Equivalence Ratio	-128	128	mA	128
			Current				
			O2S4_WR_lambda($((A*256)+B)/32,768$
01	37	4	1):	0	2	N/A	$((C*256)+D)/256 -$
			Equivalence Ratio	-128	128	mA	128

			Current				
01	38	4	O2S5_WR_lambda(1): Equivalence Ratio Current	0 -128	2 128	N/A mA	$((A*256)+B)/32,768$ $((C*256)+D)/256 - 128$
01	39	4	O2S6_WR_lambda(1): Equivalence Ratio Current	0 -128	2 128	N/A mA	$((A*256)+B)/32,768$ $((C*256)+D)/256 - 128$
01	3A	4	O2S7_WR_lambda(1): Equivalence Ratio Current	0 -128	2 128	N/A mA	$((A*256)+B)/32,768$ $((C*256)+D)/256 - 128$
01	3B	4	O2S8_WR_lambda(1): Equivalence Ratio Current	0 -128	2 128	N/A mA	$((A*256)+B)/32,768$ $((C*256)+D)/256 - 128$
01	3C	2	Catalyst Temperature Bank 1, Sensor 1	-40	6,513.5	°C	$((A*256)+B)/10 - 40$
01	3D	2	Catalyst Temperature Bank 2, Sensor 1	-40	6,513.5	°C	$((A*256)+B)/10 - 40$
01	3E	2	Catalyst Temperature Bank 1, Sensor 2	-40	6,513.5	°C	$((A*256)+B)/10 - 40$
01	3F	2	Catalyst Temperature Bank 2, Sensor 2	-40	6,513.5	°C	$((A*256)+B)/10 - 40$
01	40	4	PIDs supported [41 - 60]				Bit encoded [A7..D0] == [PID \$41..PID \$60] See below.
01	41	4	Monitor status this drive cycle				Bit encoded. See below.
01	42	2	Control module voltage	0	65.535	V	$((A*256)+B)/1000$
01	43	2	Absolute load value	0	25,700	%	$((A*256)+B)*100/255$
01	44	2	Command equivalence ratio	0	2	N/A	$((A*256)+B)/32768$
01	45	1	Relative throttle position	0	100	%	$A*100/255$

01	46	1	Ambient air temperature	-40	215	°C	A-40
01	47	1	Absolute throttle position B	0	100	%	A*100/255
01	48	1	Absolute throttle position C	0	100	%	A*100/255
01	49	1	Accelerator pedal position D	0	100	%	A*100/255
01	4A	1	Accelerator pedal position E	0	100	%	A*100/255
01	4B	1	Accelerator pedal position F	0	100	%	A*100/255
01	4C	1	Commanded throttle actuator	0	100	%	A*100/255
01	4D	2	Time run with MIL on	0	65,535	minutes	(A*256)+B
01	4E	2	Time since trouble codes cleared	0	65,535	minutes	(A*256)+B
01	4F	4	Maximum value for equivalence ratio, oxygen sensor voltage, oxygen sensor current, and intake manifold absolute pressure	0, 0, 0, 0	255, 255, , V, mA, 255, 2550 kPa		A, B, C, D*10
01	50	4	Maximum value for air flow rate from mass air flow sensor	0	2550	g/s	A*10, B, C, and D are reserved for future use
01	51	1	Fuel Type				From fuel type table see below
01	52	1	Ethanol fuel %	0	100	%	A*100/255
01	53	2	Absolute Evap system Vapor Pressure	0	327.675	kPa	((A*256)+B)/200
01	54	2	Evap system vapor pressure	-32,767	32,768	Pa	((A*256)+B)-32768
01	55	2	Short term secondary oxygen sensor trim bank 1 and bank 3	-100	99.22	%	(A-128)*100/128 (B-128)*100/128
01	56	2	Long term secondary oxygen sensor trim bank 1 and bank 3	-100	99.22	%	(A-128)*100/128 (B-128)*100/128
01	57	2	Short term secondary	-100	99.22	%	(A-128)*100/128

			oxygen sensor trim bank 2 and bank 4				(B-128)*100/128
01	58	2	Long term secondary oxygen sensor trim bank 2 and bank 4	-100	99.22	%	(A-128)*100/128 (B-128)*100/128
01	59	2	Fuel rail pressure (absolute)	0	655,350	kPa	((A*256)+B) * 10
01	5A	1	Relative accelerator pedal position	0	100	%	A*100/255
01	5B	1	Hybrid battery pack remaining life	0	100	%	A*100/255
01	5C	1	Engine oil temperature	-40	210	°C	A - 40
01	5D	2	Fuel injection timing	-210.00	301.992	°	((A*256)+B)- 26,880)/128
01	5E	2	Engine fuel rate	0	3212.75	L/h	((A*256)+B)*0.05
01	5F	1	Emission requirements to which vehicle is designed				Bit Encoded
01	60	4	PIDs supported [61 - 80]				Bit encoded [A7..D0] == [PID \$61..PID \$80] See below.
01	61	1	Driver's demand engine - percent torque	-125	125	%	A-125
01	62	1	Actual engine - percent torque	-125	125	%	A-125
01	63	2	Engine reference torque	0	65,535	Nm	A*256+B
01	64	5	Engine percent torque data	-125	125	%	A-125 Idle B-125 Engine point 1 C-125 Engine point 2 D-125 Engine point 3 E-125 Engine point 4
01	65	2	Auxiliary input / output supported				Bit Encoded
01	66	5	Mass air flow sensor				

01	67	3	Engine coolant temperature	
01	68	7	Intake air temperature sensor	
01	69	7	Commanded EGR and EGR Error	
01	6A	5	Commanded Diesel intake air flow control and relative intake air flow position	
01	6B	5	Exhaust gas recirculation temperature	
01	6C	5	Commanded throttle actuator control and relative throttle position	
01	6D	6	Fuel pressure control system	
01	6E	5	Injection pressure control system	
01	6F	3	Turbocharger compressor inlet pressure	
01	70	9	Boost pressure control	
01	71	5	Variable Geometry turbo (VGT) control	
01	72	5	Wastegate control	
01	73	5	Exhaust pressure	
01	74	5	Turbocharger RPM	
01	75	7	Turbocharger temperature	
01	76	7	Turbocharger temperature	
01	77	5	Charge air cooler temperature (CACT)	
01	78	9	Exhaust Gas temperature (EGT) Bank 1	Special PID. See below.
01	79	9	Exhaust Gas	Special PID. See

			temperature (EGT) Bank 2				below.
01	7A	7	Diesel particulate filter (DPF)				
01	7B	7	Diesel particulate filter (DPF)				
01	7C	9	Diesel Particulate filter (DPF) temperature				
01	7D	1	NOx NTE control area status				
01	7E	1	PM NTE control area status				
01	7F	13	Engine run time				
01	80	4	PIDs supported [81 - A0]				Bit encoded [A7..D0] == [PID \$81..PID \$A0] See below.
01	81	21	Engine run time for Auxiliary Emissions Control Device(AECD)				
01	82	21	Engine run time for Auxiliary Emissions Control Device(AECD)				
01	83	5	NOx sensor				
01	84		Manifold surface temperature				
01	85		NOx reagent system				
01	86		Particulate matter (PM) sensor				
01	87		Intake manifold absolute pressure				
01	A0	4	PIDs supported [A1 - C0]				Bit encoded [A7..D0] == [PID \$A1..PID \$C0] See below.
01	C0	4	PIDs supported [C1 - E0]				Bit encoded [A7..D0] == [PID \$C1..PID \$E0] See below.
01	C3	?	?	?	?	?	Returns numerous

							data, including Drive Condition ID and Engine Speed* B5 is Engine Idle Request B6 is Engine Stop Request*
01	C4	?	?	?	?	?	
02	02	2	Freeze frame trouble code				BCD encoded, See below.
03	N/A	n*6	Request trouble codes				3 codes per message frame, BCD encoded. See below.
04	N/A	0	Clear trouble codes / Malfunction indicator lamp (MIL) / Check engine light				Clears all stored trouble codes and turns the MIL off.
05	0100		OBD Monitor IDs supported (\$01 – \$20)				
05	0101		O2 Sensor Monitor Bank 1 Sensor 1	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	0102		O2 Sensor Monitor Bank 1 Sensor 2	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	0103		O2 Sensor Monitor Bank 1 Sensor 3	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	0104		O2 Sensor Monitor Bank 1 Sensor 4	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	0105		O2 Sensor Monitor Bank 2 Sensor 1	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	0106		O2 Sensor Monitor Bank 2 Sensor 2	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	0107		O2 Sensor Monitor Bank 2 Sensor 3	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	0108		O2 Sensor Monitor Bank 2 Sensor 4	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage

05	0109	O2 Sensor Monitor Bank 3 Sensor 1	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	010 A	O2 Sensor Monitor Bank 3 Sensor 2	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	010 B	O2 Sensor Monitor Bank 3 Sensor 3	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	010 C	O2 Sensor Monitor Bank 3 Sensor 4	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	010 D	O2 Sensor Monitor Bank 4 Sensor 1	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	010 E	O2 Sensor Monitor Bank 4 Sensor 2	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	010F	O2 Sensor Monitor Bank 4 Sensor 3	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	0110	O2 Sensor Monitor Bank 4 Sensor 4	0.00	1.275	Volts	0.005 Rich to lean sensor threshold voltage
05	0201	O2 Sensor Monitor Bank 1 Sensor 1	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	0202	O2 Sensor Monitor Bank 1 Sensor 2	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	0203	O2 Sensor Monitor Bank 1 Sensor 3	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	0204	O2 Sensor Monitor Bank 1 Sensor 4	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	0205	O2 Sensor Monitor Bank 2 Sensor 1	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	0206	O2 Sensor Monitor Bank 2 Sensor 2	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	0207	O2 Sensor Monitor	0.00	1.275	Volts	0.005 Lean to Rich

			Bank 2 Sensor 3				sensor threshold voltage
05	0208		O2 Sensor Monitor Bank 2 Sensor 4	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	0209		O2 Sensor Monitor Bank 3 Sensor 1	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	020A		O2 Sensor Monitor Bank 3 Sensor 2	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	020B		O2 Sensor Monitor Bank 3 Sensor 3	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	020C		O2 Sensor Monitor Bank 3 Sensor 4	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	020D		O2 Sensor Monitor Bank 4 Sensor 1	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	020E		O2 Sensor Monitor Bank 4 Sensor 2	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	020F		O2 Sensor Monitor Bank 4 Sensor 3	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
05	0210		O2 Sensor Monitor Bank 4 Sensor 4	0.00	1.275	Volts	0.005 Lean to Rich sensor threshold voltage
09	00	4	mode 9 supported PIDs 01 to 20				Bit encoded
09	01	1x5	VIN Message Count in command 09 02				Returns 1 line/packet (49 01 05 00 00 00 00), where 05 means 05 packets will be returned in VIN digits.
09	02	5x5	Vehicle identification number (VIN)				Returns the VIN as a multi-frame response using the ISO 15765-2 protocol. This is typically five

frames, with the first frame encoding the size and count.

Returns multiple lines, ASCII coded

09	04	varies	calibration ID
09	06	4	calibration

In the formula column, letters A, B, C, etc. represent the decimal equivalent of the first, second, third, etc. bytes of data. Where a (?) appears, contradictory or incomplete information was available. Someone with a copy of the 2006 SAE HS-3000 should fact-check these.