

Document Information

Model	V020	Release Date	2024-07-29
Document Version	Rev 1.0	Firmware	V1.5

Scope

This specification applies to the V020 Bluetooth 4.0 OBD-II adapter. It is intended for OEM/ODM and wholesale customers for product evaluation, integration planning, and quality verification.

Purpose of Document

This document defines key hardware and interface characteristics, typical OBD-II functions, packaging information, and storage/transportation requirements for design review and quality verification.



Bluetooth 4.0 (BLE)
Wireless connectivity for iOS & Android devices with low power consumption

9 OBD-II Protocols
Universal support for all standard vehicle protocols and manufacturers

Real-Time Data Stream
Live vehicle parameters and diagnostic streaming via standard PIDs

DTC Management
Read and clear diagnostic trouble codes where permitted by vehicle

Wide Temperature Range
-20°C to +60°C operating range for harsh environments

Vehicle Powered
9-16V DC direct power from vehicle OBD-II port

Physical Specifications
62.45 × 46.4 × 23.5 mm
Weight: 27 g (net), 42 (gross)
OBD-II 16-pin Male Connector

App Compatible
Works with third-party OBD-II apps or custom software

Compact Design
Only 27g, fits discreetly in vehicle OBD-II port

OBD-II Diagnostic Features & Capabilities

- Read & Clear DTCs:** Reads and clears engine/emissions Diagnostic Trouble Codes (subject to vehicle conditions and regulations)
- OBD-II Standard Modes:** Access to live data, freeze frame, I/M readiness, O2 sensor test, Mode 6, and vehicle information (VIN/CID where supported)
- Real-Time Data Stream:** Supports standard PIDs including engine RPM, vehicle speed, coolant temperature, fuel trim, throttle position, and more (PID availability depends on vehicle)
- App Compatibility:** Works with compatible third-party OBD-II apps or customer-developed applications (app not included)

Note: Advanced diagnostics (ABS/SRS/TPMS/body modules, etc.) require vehicle- and app-specific support and are not part of the OBD-II standard.

Supported OBD-II Protocols (Vehicle Side)

- SAE J1850 PWM (41.6 Kbaud)
- SAE J1850 VPW (10.4 Kbaud)
- ISO 9141-2 (5-baud init, 10.4 Kbaud)
- ISO 14230-4 KWP (5-baud init, 10.4 Kbaud)
- ISO 14230-4 KWP (fast init, 10.4 Kbaud)
- ISO 15765-4 CAN (11-bit ID, 500 Kbaud)
- ISO 15765-4 CAN (29-bit ID, 500 Kbaud)
- ISO 15765-4 CAN (11-bit ID, 250 Kbaud)
- ISO 15765-4 CAN (29-bit ID, 250 Kbaud)

Supported Vehicle Data (Typical Standard PIDs)

- Diagnostic Trouble Codes (DTC)
- Clear DTCs / Turn off MIL
- Engine Speed (RPM)
- Vehicle Speed
- Coolant Temperature
- Calculated Load Value
- Fuel System Status
- Short-Term Fuel Trim
- Long-Term Fuel Trim
- Intake Manifold Pressure
- Ignition Timing Advance
- Intake Air Temperature
- Mass Air Flow Rate
- Throttle Position (Absolute)
- Oxygen Sensor Voltage/Trim
- Fuel Pressure (where supported)

* PID availability varies by vehicle make, model, year, and ECU implementation. Not all vehicles support all PIDs.

Technical Specifications (Detailed)

GENERAL

Product Model	V020
Product Type	Bluetooth Low Energy (BLE) OBD-II Diagnostic Adapter
Target Application	Vehicle diagnostics, real-time monitoring, OEM/ODM integration

COMMUNICATION

Wireless Technology	Bluetooth 4.0 (BLE)
Supported Devices	iOS (iPhone, iPad) and Android smartphones/tablets
Vehicle Connection	OBD-II 16-pin male connector (SAE J1962 standard)
Wireless Range	Up to 10 meters (33 feet) typical, varies by environment

ELECTRICAL

Operating Voltage	DC 9V to 16V (powered from vehicle OBD-II port, Pin 16)
Operating Current	28 mA to 42 mA; 25 mA(Standby)

ENVIRONMENTAL

Operating Temperature	-20°C to +60°C (-4°F to +140°F)
Storage Temperature	-20°C to +60°C (-4°F to +140°F)
Humidity	5% to 95% RH (non-condensing)

PHYSICAL

Dimensions (L × W × H)	62.45 × 46.4 × 23.5 mm (2.46 × 1.83 × 0.93 in)
Weight (Device Only)	27 g (0.95 oz)
Weight (with Packaging)	42 g (1.48 oz)
Housing Material	ABS plastic, automotive-grade

SOFTWARE & COMPATIBILITY

Supported Systems	iOS (iPhone 4S and later, iPad 3rd gen and later), Android 4.3+
Compatible Apps	Third-party OBD-II apps or customer-developed applications (app not included with device)
Supported Languages	English, German, French, Spanish, Italian, Russian, Chinese, Japanese, Portuguese, Korean (app-dependent)

CERTIFICATIONS & COMPLIANCE

Standards Compliance	CE, FCC, RoHS compliant
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OBD-II Interface Definition (16-pin SAE J1962)

Pin	Signal Description	Pin	Signal Description
1	Reserved	9	Reserved
2	J1850+ Bus Positive	10	J1850- Bus Negative
3	Reserved	11	Reserved
4	Chassis Ground	12	Reserved
5	Signal Ground	13	Reserved
6	CAN High (CANH)	14	CAN Low (CANL)
7	K-Line (ISO 9141-2 / ISO 14230-4)	15	L-Line (ISO 9141-2 / ISO 14230-4)
8	Reserved	16	Battery Power (+12V)

Packaging Information

Contents: Adapter ×1, Manual ×1, Box ×1

Package Size: 100x63x25.5mm

Carton Size: 42*27*34CM

Qty per Carton: 200 pcs

Net Weight: 27 g

Gross Weight: 42 g

Storage & Transportation

Storage: Store in a clean, ventilated, cool and dry environment. Moisture protection is required.

Handling: Handle with care during loading and unloading. Avoid strong vibration, impact, compression, contamination, or packaging damage.

Transport: Protect from rain and direct sunlight. Suitable for road, railway, sea, or air transport.

Supported Languages (10)

- English
- German
- French
- Chinese
- Japanese
- Spanish
- Italian
- Russian
- Portuguese
- Korean

Warnings & Precautions

- ▶ Do not clean the product with abrasive or corrosive detergents
- ▶ Do not expose the product to direct sunlight for extended periods
- ▶ Do not use the product in rain or under excessive moisture conditions
- ▶ Do not expose the product to heat sources or open flames
- ▶ Do not attempt to disassemble, modify, or repair the product
- ▶ Store in dry environment away from extreme temperatures and dust when not in use

 There are no user-serviceable parts inside. For technical support, contact authorized service centers only.