Hardware

Specifications | Connector Pinout | Wiring Harness | Regulatory Information & Certifications

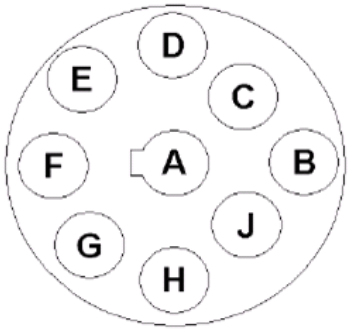
Hardware Specifications

Specification		Value
Power requirements	Power input/Power supply	9-36 VDC; +12 V battery systems
	Power consumption	Idle: 1.5W Max: 2.5W Sleep: 30mW
Temperature	Functional operating temperature*	-40° C to +70° C* (-40° F to +158° F) *70° C operating temperature achieved with 0.85 meters/sec of airflow.
	Touch temperature safety limits	-40° C to + 55° C (-40° F to 131° F) The upper temperature safety limit of + 55° C, per Standard UL/IEC 60950-1, is less than the upper limit of +70° C for functional operating temperature owing to the limitations on physical contact with product.
	Storage temperature	-40° C to +85° C (-40° F to +185° F)
Hardware Interfaces	Vehicle bus	J1939 - Two J1708 - One
	Diagnostic port connector	9-pin Deutsch connector; see pinout here.
	Internal sensors	Vibration: Wakes the WVA from sleep mode; feature configured through the Power Management - Wake on Movement configuration settings.
		Voltage: Wakes the WVA from sleep mode; feature onfigured through the Power Management - Wake on Alternator configuration settings.
	Vehicle voltage measurement	Maximum range of +33V
	Button	Performs several functions: • Resets the WVA to factory defaults: press and hold for ten seconds. • Silences the buzzer/audible alarm; only applicable when the alarm is enabled through applications. • Wakes the WVA from sleeping; must be configured through the WVA's Power Management configuration settings.
	Buzzer/audible alarm	Application-defined buzzer capability. The buzzer is controlled programmatically through the web services resource hw/buzzer.
	LEDs	Two LEDs: - Power: Green when power is applied to unit. - Application-defined: Amber when enabled. The use of this LED is controlled through the application programming interface (API).

		LEDs are controlled programmatically through two web services resources: hw/leds and hw/leds/*led_name*
	USB	High Speed Type A; Host Mode Only. 0.5A current available at port
Wi-Fi	802.11	b/g/n internet speeds
	Data rate	Up to 72.2 Mbps
	Transmit power	+12 dBm typical (varies by mode and channel)
	Receiver sensitivity	Varies by data rate: 1Mb: -91dBm 11Mb: -89dBm 54Mb: -75dBm 65Mb: -71dBm
	Security	WPA2
Firmware & software interfaces	Configuration and management interface	Web user interface
	Programming interface	RESTful web services interface
Security		WPA2 with pre-shared key (PSK) HTTP authentication See also Security in the WVA
Memory	Total memory	128 MB flash, 64 MB RAM
	Available user space	20 MB flash
Real time clock		Real time clock for setting system time; interface to setting system time is the web services resource /ws/hw/time.
Dimensions	Height	2.33 in (5.92 cm)
	Diameter	2.15 in (5.46 cm)
	Height, installed	2.57 in (6.53 cm)
	Weight	0.26 lb (0.12 kg)
Environmental/regulatory approvals	Automotive	ISO-10452, ISO-10605, SAE 1455, ISO 7637-2, -3
	International EMC (Electromagnetic Emissions/Immunity/Safety) standards	Emissions: CE, FCC PART 15 (Class B), CISPR25, EN5502 Immunity: EN55024, EN301, SAE J1113 Safety: UL 60950-1, EN 60950-1, CSA 22.2 No. 60950
	Environmental	Automotive Environmental tests per SAE 1455. Resistant to the following chemicals, per SAE J1455 Section 4.4: gasoline, fuel additives, diesel fuel.
	NEMA	IP54

Connector Pinout

The connector on the WVA is a 9-pin Deutsch connector with the following pin orientation and pinout.



WVA 9-pin connector pinout

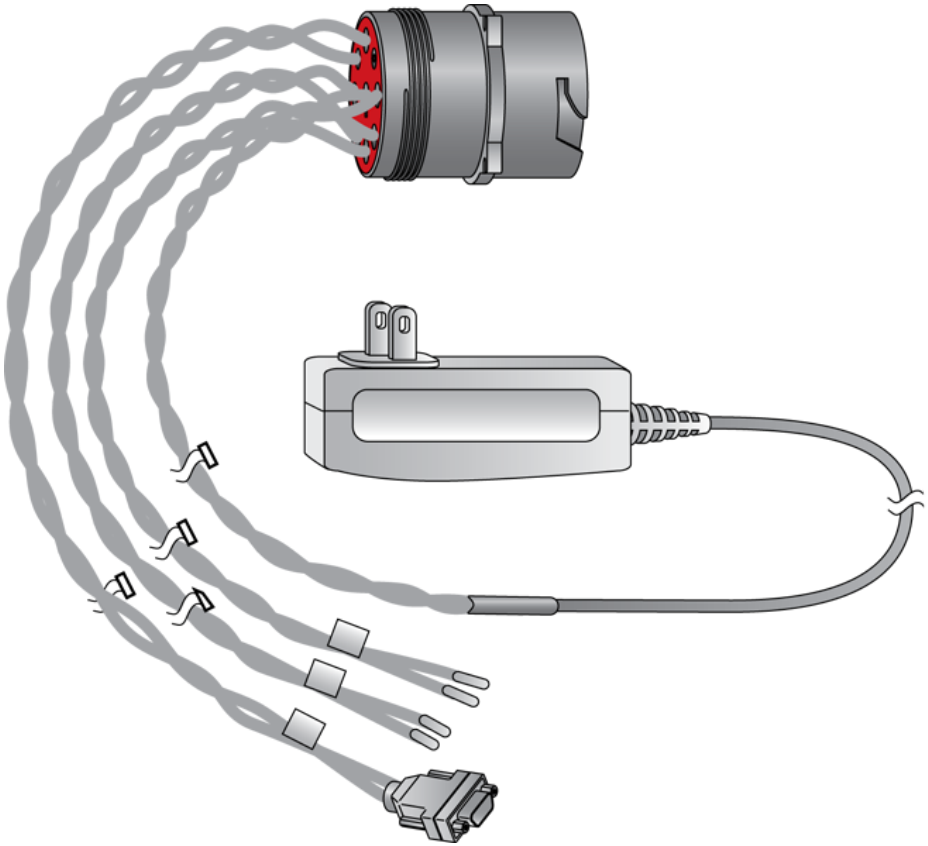
Pin	Signal
A	Power (-)
B	Power (+)
C	CAN J1939 HI (+)
D	CAN J1939 LO (+)
E	CAN J1939 Shield
F	J1708 (+)
G	J1708 (-)
H	CAN J1939 HI (+)
J	CAN J1939 LO (+)

Notes:

1. Reference Vehicle Wiring Schematics for additional wiring information: wire color, locations.
2. Consult vehicle manufacturer for recommended connection methods.

Available Interfaces On the Wiring Harness

The wiring harness for the WVA is available for purchase separately; Digi part number is 76000931. The wiring harness uses a 9-pin Deutsch connector.



The following interfaces are available on the wiring harness. Labels on the wires indicate their interface function.

- Power
  - Ground and 12V power for powering the WVA
  - Ground and 12V power for powering a CAN simulator
- J1939+ and J1939-
- A second J1939+ and J1939-
- J1708+ and J1708-

Regulatory Information and Certifications

RF Exposure Guidance

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and persons. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures.

FCC Part 15 Class B Certifications and Regulatory Information (USA Only)

All Wireless Vehicle Bus Adapter products comply with the FCC Part 15 Class B standards cited in this section:

Radio Frequency Interface (RFI) (FCC 15.105)

This device has been tested and found to comply with the limits for Class B digital devices pursuant to Part 15 Subpart B, of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Labeling Requirements (FCC 15.19)

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

If the FCC ID is not visible when installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module FCC ID.

Modifications (FCC 15.21)

Changes or modifications to this equipment not expressly approved by Digi may void the user's authority to operate this equipment.

Industry Canada (IC) Certifications

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Safety Statements

5.10 Ignition of Flammable Atmospheres

Warnings for Use of Wireless Devices

Observe all warning notices regarding use of wireless devices.

Potentially Hazardous Atmospheres

Observe restrictions on the use of radio devices in fuel depots, chemical plants, etc. and areas where the air contains chemicals or particles, such as grain, dust, or metal powders, and any other area where you would normally be advised to turn off your vehicle engine.

Safety in Hospitals

Wireless devices transmit radio frequency energy and may affect medical electrical equipment. Switch off wireless devices wherever requested to do so in hospitals, clinics, or healthcare facilities. These requests are designed to prevent possible interference with sensitive medical equipment.

Pacemakers

Pacemaker manufacturers recommended that a minimum of 15cm (6 inches) be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Persons with Pacemakers:

- Should ALWAYS keep the device more than 15cm (6 inches) from their pacemaker when turned ON.
- Should not carry the device in a breast pocket.
- If you have any reason to suspect that the interference is taking place, turn OFF your device.

Back to Introduction | Forward to Web Services

90001930_A