

SMART BOX



Digitax
AUTOMOTIVE ELECTRONICS

SMART BOX

EMPOWER YOUR SMARTPHONE MOBILE APPS WITH EVERY AUTOMOTIVE HW/SW INTERFACE

Smart Box is the revolutionary and innovative device produced by Digitax. It was created to transparently interface data from any vehicle HW/SW system to a specific Android APP installed on a standard SmartPhone or Tablet, making the consumer device a powerful mobile data terminal and/or telematics device, able to function as e.g. Display & Navigation, Job Dispatch, Driver Console/Communication, On-board Mobile Data Terminal, Monitor, Diagnostics etc.

Normally SmartPhone/Tablet based fleet management applications encounter some limitations in HW/SW interfacing with all the data of the vehicle's electronic systems, not allowing many interesting functionalities typical of dedicated black boxes or professional mobile data terminals to be developed on the APPs.

Basically it consists of an extension the functionality of Android apps on smartphones or tablets, enhancing the two-way communication with the vehicle, while the smart device battery recharges simultaneously with the data transmission (wired connection in USB-C).



SMART BOX



The Smart Box comes with a simple and ready-to-use Android SDK that allows you to easily integrate often complex interfaces like CAN bus and Inputs/Outputs with your Android Apps.

Exclusive AITP (Automotive Intense Task Processor) interfaces through SDK:

- Odometer input
- RS232
- OBDII ELM327 stack
- Can Bus with FMS and J1939 stack
- K-Line
- Digital I/O
- Analog inputs
- Digital Inputs
- Ignition input
- Lights input
- Power Outputs
- Panic button input
- One wire serial protocol
- Automotive 8/32V power input

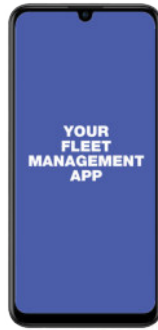
Android OS transparent standard interfaces:

- Ethernet
- USB Type A
- RS232
- RS485
- Audio In/Out
- HDMI Video Out (Option)

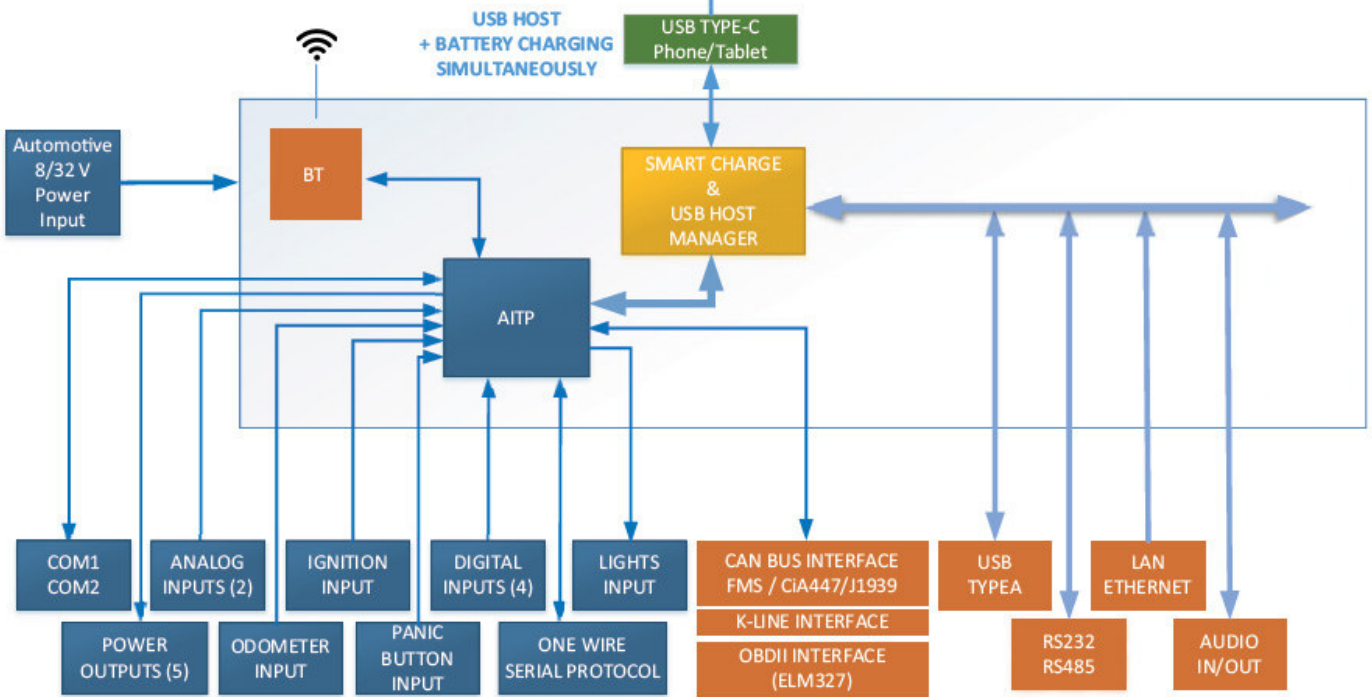
Available Versions:

- Wireless
- Bluetooth
- WiFi
- Digitax smart Box “Base”
- Digitax smart Box “Pro” Base + Smart Android platform, 4G modem, GPS, Bluetooth, WiFi

Your
Fleet Management App



■ FEATURES ALWAYS AVAILABLE
■ OPTIONAL FEATURES

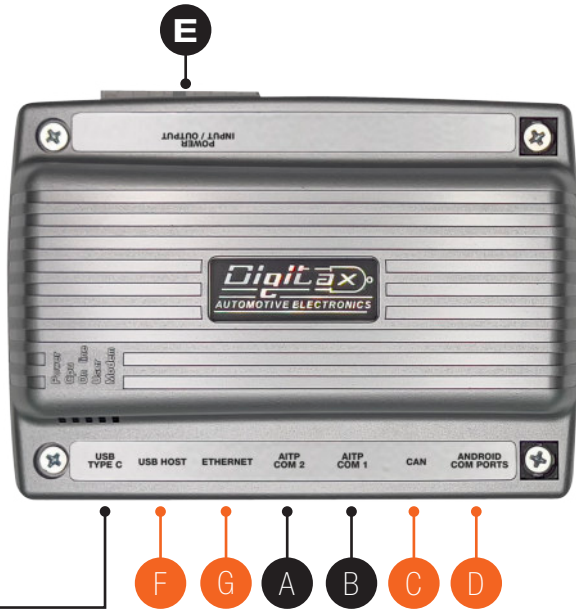


CONNECTIONS

TABLET



SMARTPHONE



Connector AITP COM 2 A	
PIN 1 = +12V/+5V	
PIN 2 = RX COM3 SPLIT	
PIN 3 = TX COM3 SPLIT	
PIN 4 = GND	
PIN 5 = PIO0	
PIN 6 = PIO1	
PIN 7 = GND	
PIN 8 = RX COM2	
PIN 9 = TX COM2	
PIN 10 = +12V/+5V	

Connector CAN BUS / ANALOG INPUT C	
PIN 1 = ANA3	
PIN 2 = ANA4	
PIN 3 = ANA5	
PIN 4 = ANA6	
PIN 5 = K-LINE	
PIN 6 = CAN2-L	
PIN 7 = CAN2-H	
PIN 8 = GND	
PIN 9 = CAN1- L	
PIN 10 = CAN1-H	

Connector J30 Can bus E	
1	GND
2	GND
3	+10V to + 24V External Power Supply
4	+10V to + 24V External Power Supply
5	Panic button
6	Digital input 1
7	Ignition input
8	Digital input 2
9	Vehicle wheel pulses (Odometer)
10	Digital input 3
11	+Light (Car light input)
12	Digital input 4
13	Passenger Sensor Input
14	Analog input 1
15	Power out 5 – Solid state relay 3A
16	Analog input 2
17	Power out 4 – Solid state relay 1A
18	Power out 1 – Solid state relay 1A
19	Power out 3 – Solid state relay 1A
20	Power out 2 – Solid state relay 1A

Connector AITP COM 1 B	
* PIN 1 = AUDIO IN -	
* PIN 2 = AUDIO IN +	
* PIN 3 = AUDIO OUT -	
* PIN 4 = AUDIO OUT +	
PIN 5 = AUX 1	
PIN 6 = AUX 2	
PIN 7 = GND AITP COM 1	
PIN 8 = RX COM 1 AITP UART 4	
PIN 9 = TX COM 1 AITP UART 4	
PIN 10 = +12V/ +5V by JUMPER	

Connector COM Ports D	
PIN 1 = +12V/+5V	
PIN 2 = RX COM2	
PIN 3 = TX COM2	
PIN 4 = GND	
PIN 5 = NOT USED	
PIN 6 = NOT USED	
PIN 7 = GND	
PIN 8 = RX COM1	
PIN 9 = TX COM1	
PIN 10 = +12V/+5V	

Connector USB HOST F	
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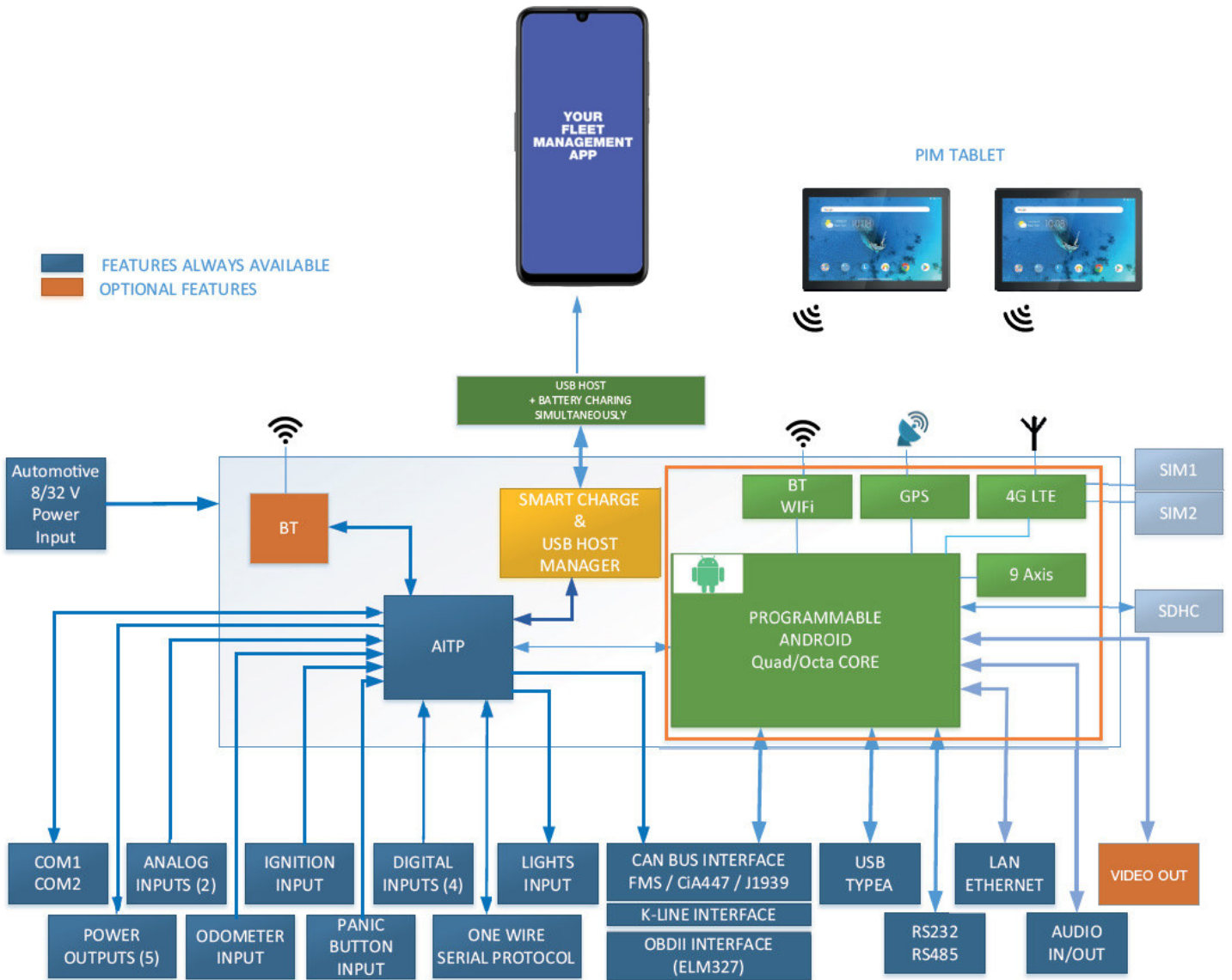
* Not yet implemented features

Connector ETHERNET LAN G	
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* Audio and video features are available only on some specific Android devices

Technical specifications and external appearance are subject to change without notice

Your
Fleet Management App

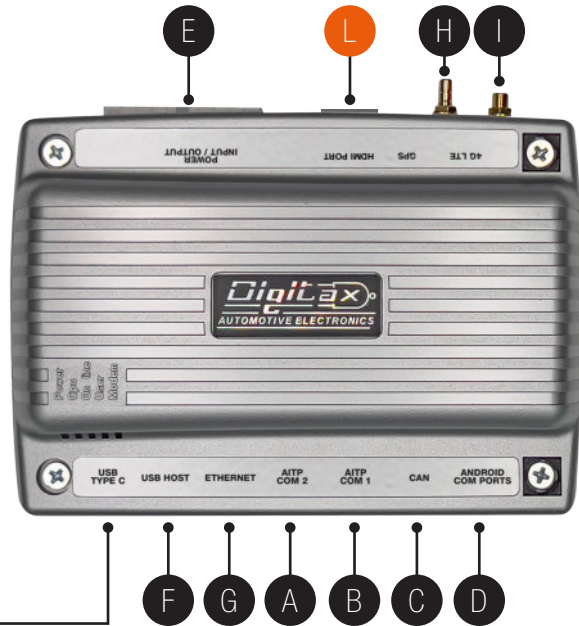


CONNECTIONS

TABLET



SMARTPHONE



Connector AITP COM 2 A	
PIN 1 = +12V/+5V	
PIN 2 = RX COM3 SPLIT	
PIN 3 = TX COM3 SPLIT	
PIN 4 = GND	
PIN 5 = PIO0	
PIN 6 = PIO1	
PIN 7 = GND	
PIN 8 = RX COM2	
PIN 9 = TX COM2	
PIN 10 = +12V/+5V	

Connector CAN BUS C	
PIN 1 = ANA3	
PIN 2 = ANA4	
PIN 3 = ANA5	
PIN 4 = ANA6	
PIN 5 = K-LINE	
PIN 6 = CAN2-L	
PIN 7 = CAN2-H	
PIN 8 = GND	
PIN 9 = CAN1- L	
PIN 10 = CAN1-H	

Connector J30 Can bus E	
1	GND
2	GND
3	+10V to + 24V External Power Supply
4	+10V to + 24V External Power Supply
5	Panic button
6	Digital input 1
7	Ignition input
8	Digital input 2
9	Vehicle wheel pulses (Odometer)
10	Digital input 3
11	+Light (Car light input)
12	Digital input 4
13	Passenger Sensor Input
14	Analog input 1
15	Power out 5 – Solid state relay 3A
16	Analog input 2
17	Power out 4 – Solid state relay 1A
18	Power out 1 – Solid state relay 1A
19	Power out 3 – Solid state relay 1A
20	Power out 2 – Solid state relay 1A

Connector AITP COM 1 B	
PIN 1 = ANDROID AUDIO IN -	
PIN 2 = ANDROID AUDIO IN +	
PIN 3 = ANDROID AUDIO OUT -	
PIN 4 = ANDROID AUDIO OUT +	
PIN 5 = AUX 1	
PIN 6 = AUX 2	
PIN 7 = GND AITP COM 1	
PIN 8 = RX COM 1 AITP UART 4	
PIN 9 = TX COM 1 AITP UART 4	
PIN 10 = +12V/ +5V by JUMPER	

Connector COM Ports D	
PIN 1 = +12V/+5V	
PIN 2 = RX COM2	
PIN 3 = TX COM2	
PIN 4 = GND	
PIN 5 = ANDROID DEBUG SERIAL TX	
PIN 6 = ANDROID DEBUG SERIAL RX	
PIN 7 = GND	
PIN 8 = RX COM1	
PIN 9 = TX COM1	
PIN 10 = +12V/+5V	

Connector USB HOST F	
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Connector ETHERNET LAN G	
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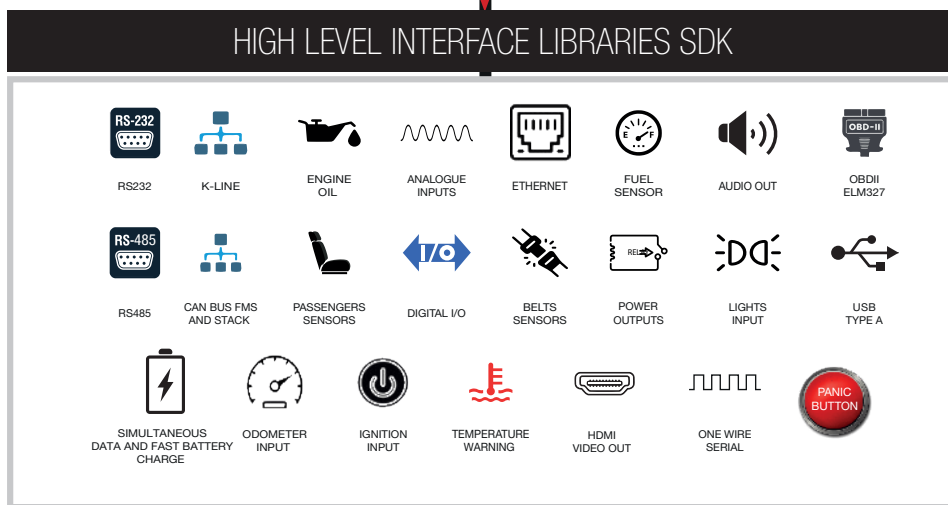
Connector GPS H	
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Connector 4G LTE I	
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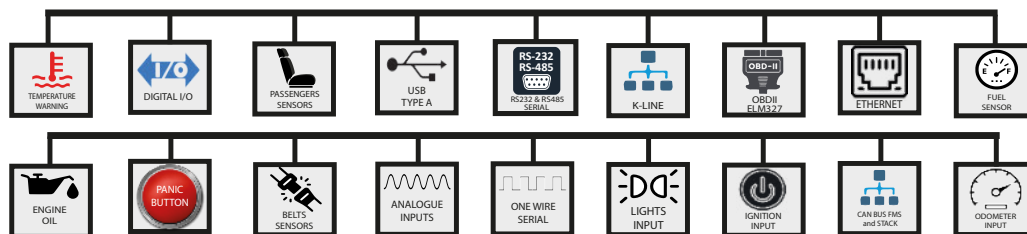
Connector Video Out (Optional) L	
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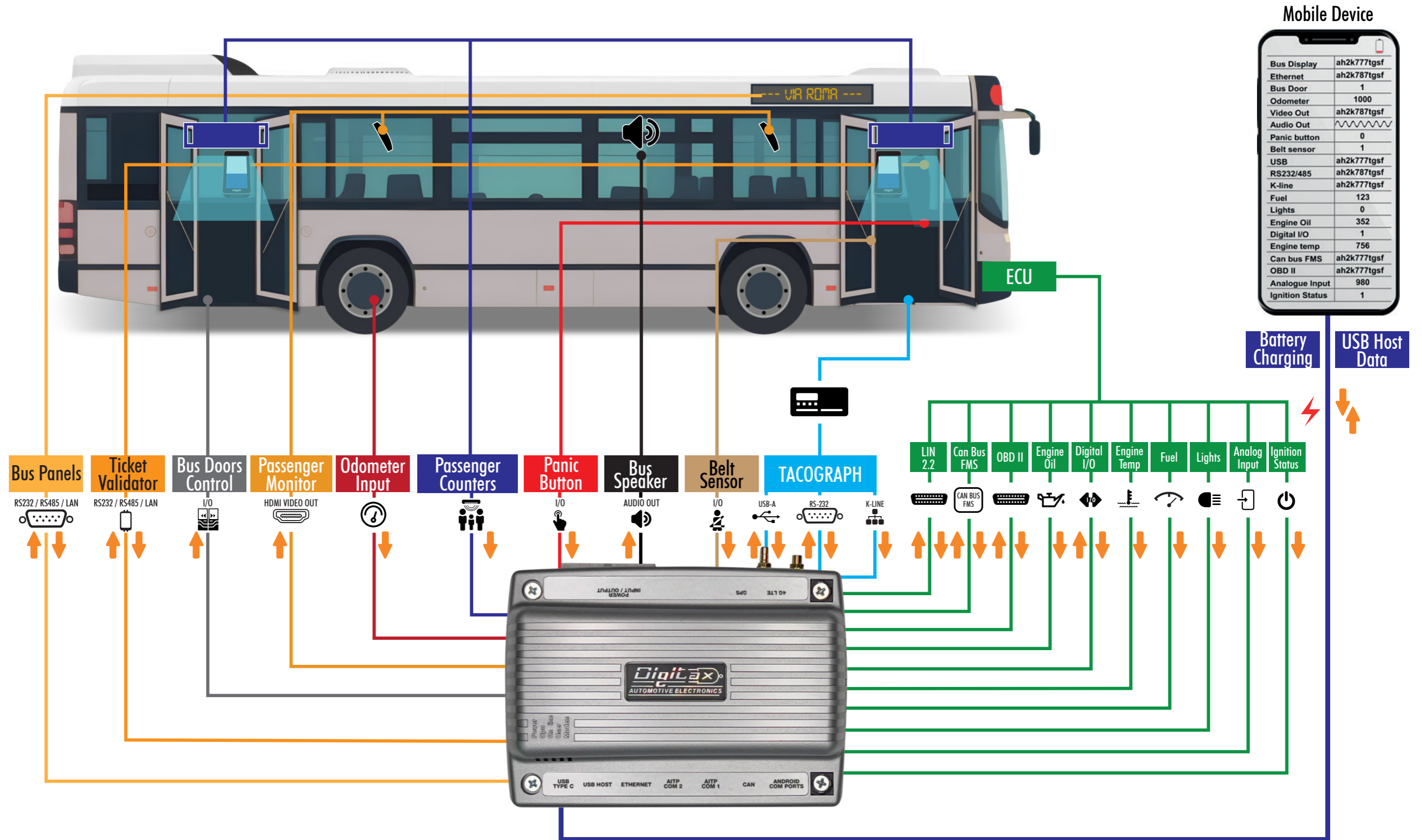
CPU (QuadCORE 20)	Android 7.1, ARM Cortex-A7 CPU, Quadcore 4 x 1.8 Ghz, GPU Adreno 304, Base 2Gb LPDR + 16Gb eMMC, Multi-constellation GNSS receiver, LTE-4G, Bluetooth 4.0, WiFi 2.4G/5.0G
CPU (OctaCORE 600)	Android 9-10, ARM Cortex-A53 64-bit Processor, Octacore 8 X 2 Ghz GPU Adreno 506, 2GB + 8GB uMCP(LPDDR4x) (default), 32GB + 3GB uMCP(LPDDR4x) (option), Multi-constellation GNSS receiver, 4G LTE Cat 6, Bluetooth 4.2, WiFi 2.4G/5.0G
CPU (OctaCORE 530)	Android 14, OCTACORE 2* A75@2.0GHz +6*A55@1.8GHz, GPU Mali G57 @750MHz, 2GB + 8GB uMCP(LPDDR4x) (default), 32GB + 3GB uMCP(LPDDR4x) (option), Multi-constellation GNSS receiver, 4G LTE Cat 4 + Bluetooth 5.0, WiFi 2.4G/5.0G
CPU (OctaCORE 927)	Android 14/16, CPU 64bit ARM, (4*A73 2.4GHz+4*A53 1.9GHz) GPU Adreno™ 610, 64GB + 4GB uMCP(LPDDR4x) (default), 32GB + 3GB uMCP(LPDDR4x) (option), Multi-constellation GNSS receiver, 4G LTE CAT.4, Bluetooth 5.1, WIFI 802.11 ax ready
CPU (OctaCORE 700 5G)	Android 13-16 CPU Kryo™ 670 CPU 8 core Kryo™ CPU (2* GoldA78 2.4GHz + 6* SliverA55 2.0GHz) GPU Adreno 613 - 812Ghz 32Gb + 6Gb 5G - mmWave/Sub-6 GHz Multi-constellation GNSS receiver Bluetooth 5.2 WiFi 6E
Ram Memory	+2GB LPDDR3
Can Bus	Double Can Bus interface OBD-II OBD2-FMS Stack LIN 2.2
Alarm and Security	Panic Button input / Emergency Switch input + Internal Anti Tamper sensor
Power Supply	8 - 32 V with Surge Protector
Battery	Internal Battery Package (option)
Inertial Platform	9-axis inertial platform to detect vehicle movement and crash situations
Multimedia	Audio: MP3, AAC+, eAAC, AMR-NB, -WB, G.711, WMA 9/10 Pro Video: Encode:30fps 720P (H.264), 30fps WVGA (MPEG-4/VP8) Decode:30fps 1080P (H.264/MPEG-4/VP8/H.265 DivX4/5/6), 30fps WVGA (H.263)
Remote Desktop Display	Possibility to view Android desktop from remote devices through Wi-Fi connection or wired LAN connection
Operating Temperature	-20°C to 75°C
Humidity	Humidity up to 95% non-condensing.
Vibration	Vibration Sine wave, 10 ~ 500 ~ 10Hz, 1.5G, 0.37oct/min 3 axis, 1hour/axis.
Storage SSD Memory	16GB EMMC
SD	Up to 256 GB for external storage
Communication Modem	LTE Cat 4 + GSM / GPRS Class 12 HSUPA Modem with 150Mbit/s downlink and 50Mbit/s uplink data rates based on LTE network (max) + 1 Sim Card slots
GPS Receiver	Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment.
Antennas	Internal GPS-WiFi-BT-LTE or External GPS-WiFi-BT-LTE Rugged Combo antenna (option)
USB Ports	1 USB 2.0 Host (with USB Support for Mouse and Keyboard) Hi-Speed 1 USB 2.0 / OTG Host / Device to debug and O.S. settings
API provided	Soft/Hard Reset + Soft Reset available through HW switch + Soft Reset available through API calls
Connectivity	Ethernet: 10/100 Mbps LAN Controller HDMI Video Out (Option) Wi-Fi Connection 2.4G/5.8G, 802.11 a/b/g/n Bluetooth class 2 BT2.1+EDR/3.0/4.1 LE
Operating System	Android 7, 9, 14, 16 Development Tools Adb/Android Studio IDE with USB debugging support SDK for Android O.S. Sample code for SDK Digitax Framework (Digitax Libraries): GPS, Odometer, Taximeter, Hardware Keys, WatchDog, OTA, Stealth Mode Controller, Logs, And Restore, Light Dimmer, Hardware Identification, Alarm, Card Reader and Windows Status Serial port driver and test tools Digital I/O driver
Dimension & Weight	155mm x 110mm x 45mm (WxHxD) - 325gr

AVAILABLE AN SDK
WITH HIGH LEVEL INTERFACE LIBRARIES
THAT ALLOW A FULL AND SIMPLE ACCESS
TO ALL RX/TX VEHICLE HW/SW DATA



VEHICLES HW/SW DATA SOURCE







Digitax Headquarter
Via dell'industria, 16 - 62017 Porto Recanati (MC) - ITALY
+39 071 7590984 - info@digitax.com - www.digitax.com

