AUDESSE

FlexCase - Connected Controls Platform

If you have great ideas, we want to empower you to bring those ideas into reality. Our controller's power and versatility make it suited for a wide variety of high-reliability applications, for research and industry.

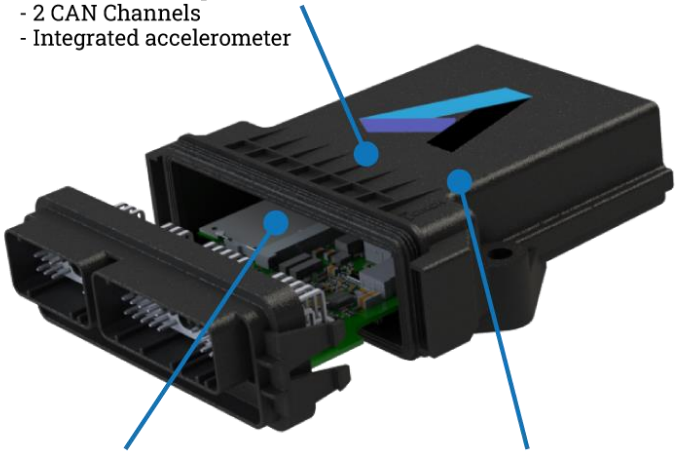
We make powerful systems easy to use

Use your existing MATLAB/Simulink® models, drive your hardware without additional electronics, and connect to a full OS with online access.

"I coded up a whole car in a weekend!"
– Powertrain conversion project

Control System

- Automotive grade microprocessor
- 28 hardened I/0 ports
- 2 CAN Channels
- Integrated accelerometer



Onboard Computer

- Edge computing
- Connect external USB devices
- Processor debugging over IP

Wireless Options

- LTE modem
- Wifi/Bluetooth
- Custom interfaces

Full development cycle

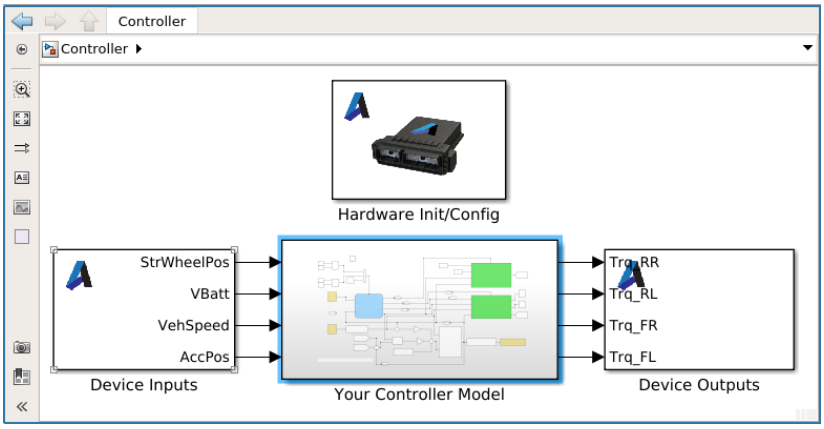
Flexible and expandable, to enable innovation during initial development. Robust and cost-effective, to support production deployments.

Industrial IoT

Blend your safety-critical controller software with the usability of a full-OS computer, and add connectivity to access more resources.

Ready to go, right away

Drop in your MATLAB/Simulink® controller design and connect our hardware interfaces, supported by NXP toolboxes.



Contact us to start building
labs@audesseinc.com
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High-Reliability Interfaces

Originally developed for automotive safety-critical applications, the base control system lets you implement your projects with confidence, and with minimal extra components. Our electrical specs allow you to operate across a large voltage range, drive high-current output directly, and operate in a large range of environmental conditions.

Processor	General purpose automotive and high reliability (ASIL B) Software: MATLAB Simulink, NXP S32DS platform (C with SDK)
Power	Accepts 8 - 36V supply Undervoltage, Overvoltage, Reverse Polarity protection Consumption: 2.5W nominal. 0.025W standby.
Analog Inputs	6 @ 0 - 36V
Digital Inputs	6 active low (default)
Digital/PWM Outputs	6 x 3A, High or Low side drive, 0 - 100 kHz
Digital Outputs	10 x 3A, High or Low side drive
Onboard hardware	3-axis accelerometer (± 4g) Buzzer
CAN	2 CAN Channels (J1939 Supported) Terminating resistors option
Physical	13 x 12 x 4.3 cm & 0.3 kg IP67 Resistant -40°C to 80°C
Field Readiness	Deployable with production-grade code using supported development environments. Certified for automotive EMC requirements

Enhanced Performance and Connectivity

Expand into the world of IoT with an onboard computer and wireless connectivity. The single-board computer interfaces directly with the microprocessor, allowing you to implement compute-intensive algorithms like model predictive control or machine learning. The wireless peripheral options allow you to quickly process and upload your project data, or to iterate your control design over-the-air.

Linux Co-Processor	Raspberry Pi CM3+ 8/16/32 GB Processor reprogramming over IP Additional Connectivity: SD card slot, USB A Linux OS re-flashing onboard
Remote Connectivity Options	Nimbelink Skywire Modem (LTE-M/NB-IoT + GPS or CAT 1/2/3/4) Wifi & Bluetooth Custom network/interface hardware additions

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