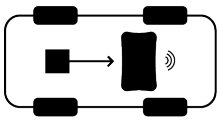
Apogee

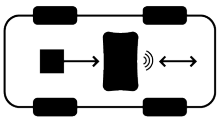
POWER DISTRIBUTION AND CONTROL, REDEFINED

Arboreal Systems - Apogee

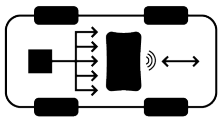
While the Apogee offers all the major features of the Element and Aurora, it takes it to the next level with massive expandability and CANbus connectivity. Apogee has 2 separate CANbuses, one to control up to 8 distribution modules for a total of 48 circuits and the other to monitor the host vehicle CANbus. With Apogee you can build a system with a control and up to 7 satellite modules, creating massive expandability for complex electrical systems. With 2 temperature probes per module it's possible to build a system that can track up to 16 discrete temperature levels, from 32 degrees to 300 degrees F. Temperature readings can be assigned to any number of controlled circuits using extensive automation. With its painless installation, massive expandability, CANbus connectivity, and user-friendly application, Apogee makes it possible to construct a truly world-class electrical distribution and control system.



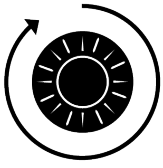
Host Vehicle CANbus Monitoring



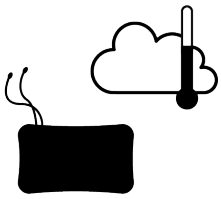
Apogee CANbus Control



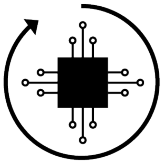
Multiple Relay Inputs



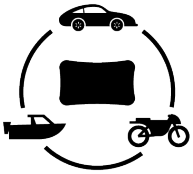
Analog Input



Multiple Temperature Probes

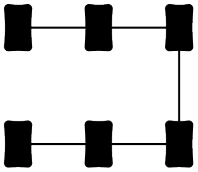


Field Upgradeable Firmware



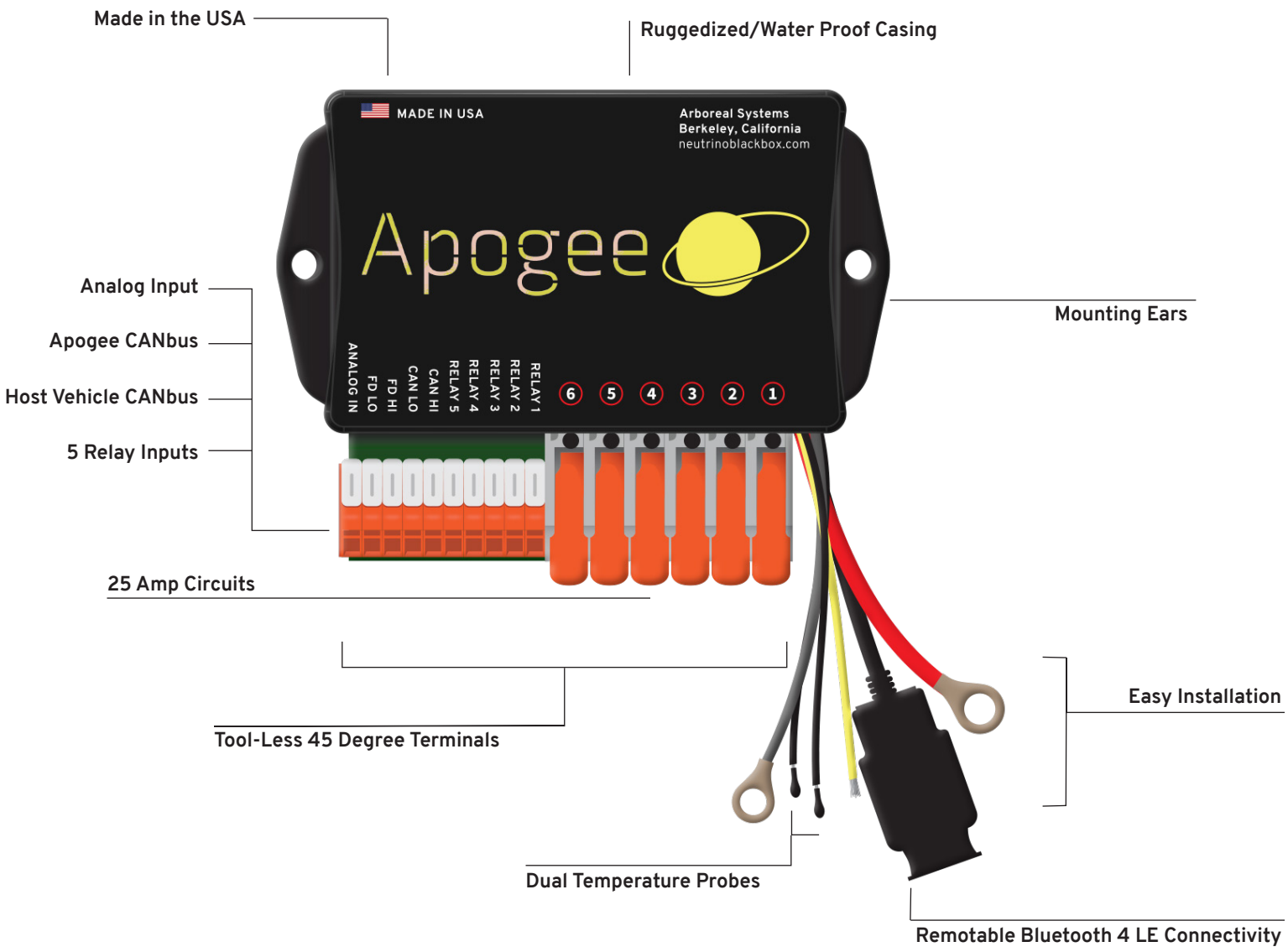
CAN pack Compatible

Tool-less Connections



Expandable up to 48 Circuits

Apogee - Overview



Apogee is unique in offering power distribution and control functionality that no other product can match.

- Dual temperature probes
- Remotable Bluetooth connectivity
- 25 amps max capacity per circuit
- Field upgradable firmware
- Six 12v relay inputs; five binary and one analog
- Host Vehicle CANbus cross-connection
- ApogeeCANbus control of Apogee satellite modules
- Analog input
- Tool-less connections
- CANpack compatible
- Speed/Temperature monitoring
- Ruggedized/Waterproof
- Smartphone configurable
- Variable and switch circuits
- Circuit memory
- Voltage Alert and Auto Shutdown
- Real-time electrical status
- Programmable circuit breakers

Apogee - Flexible Implementation

Motorcycles

Whether you're rebuilding an old bike with new electricals, looking to add electrical accessories to your newish bike, or wanting to fully integrate your 3rd party electrical accessories with your state of the art CANbus bike, Apogee has you covered.

Apogee offers ultimate flexibility, allowing direct touchscreen control, extensive circuit automation, 6 relay inputs, 5 binary and one analog, 2 temperature sensors, the ability to cross connect Apogee circuit activations to host vehicle CANbus activations, and allow control of up to 48 circuits.

3 Wheeled Vehicles

Apogee is simply awesome for Slingshots, Spyders and any other 3 wheeled vehicles where owners want to add all manner of lighting accessories, audio systems, and just about anything else. Offering variable rotary control capability, Apogee allows you to add dimmers and heated gear controllers as desired.

Apogee is field upgradeable, so as new vehicle-specific CAN packages are available you will be able to download and install these CAN-Packs with ease. With new CAN package rollouts, we'll have you covered giving you the most control and customization available in the PDM market.

Off Road

Apogee is a great solution for building race cars, campers, customizing vans, overlanding vehicles and side by sides. Whether you need to run fans and pumps, lighting, ventilation, refrigeration and be able to monitor the whole system from your smart phone or tablet, Apogee can do it. Whether your application requires 6 circuits or 48 circuits, Apogee can grow to meet the demand.

Apogee offers ultimate flexibility, allowing direct touchscreen control, extensive circuit automation, 6 relay inputs, 5 binary and one analog, 2 temperature sensors, cross connect Apogee circuit activations to host vehicle CANbus activations, and allow control of up to 48 circuits.

Marine

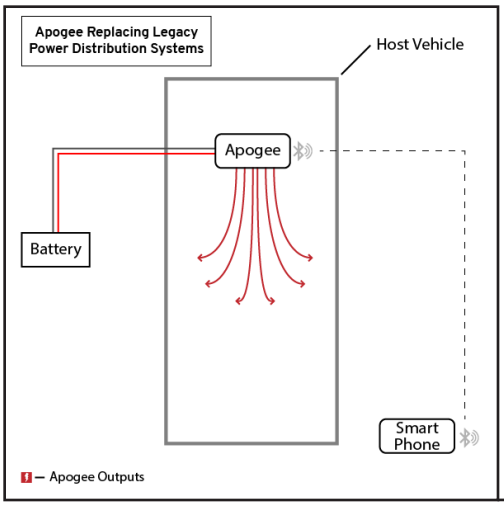
Apogee is an awesome solution for marine applications. Apogee can replace a legacy breaker panel/fuse block system with state of the art circuit protection and control in a tiny waterproof package at a very reasonable cost.

But it's way more than that. An Apogee system can be as small or as large as you need, just add satellite modules as required. Apogee includes CANbus monitoring of on board CANbus systems allowing you to easily "map" activities on the boat's CANbus to the Apogee system.

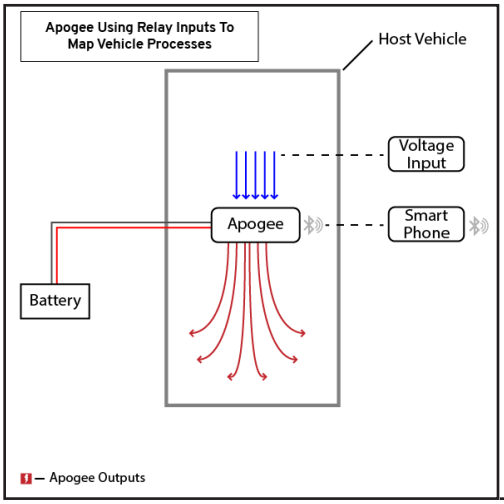
Apogee - Applications

Apogee

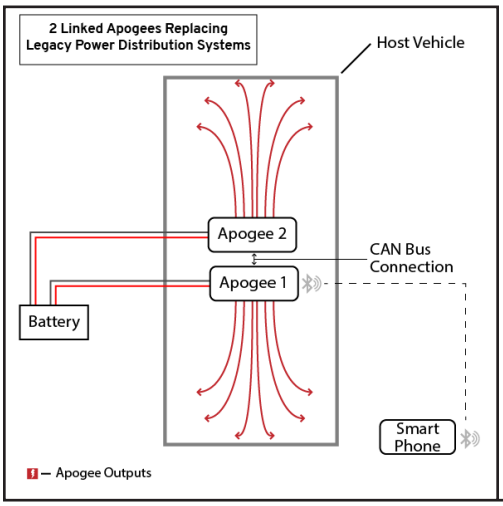
Apogee takes Neutrino to the next level. While maintaining the same user friendly operating system, and easy installation as our other models, Apogee adds extensive functionality and enormous expandability, CAN connectivity and a whole lot more. Apogee can be installed as a single control module or you can add up to 7 additional satellite modules, each capable of controlling 6 outputs. With its expandability and ability to control outputs using 12v inputs or CAN inputs, Apogee can grow as needed to accommodate the most complex electrical distribution systems. Whether it's a motorcycle, boat, car, truck RV, overlanding vehicle, camper, Apogee can handle it.



Apogee is small, has ruggedized form factor, 60 amp capacity, 25 amp per-circuit capacity, extensive manual and automated controls, outstanding circuit and battery-depletion protection, and really cool situational awareness information. Even when used in the simplest way, as an alternative to a fuse block, Apogee offers extensive compatibility, expandability and protection to your vehicles electrrical system.

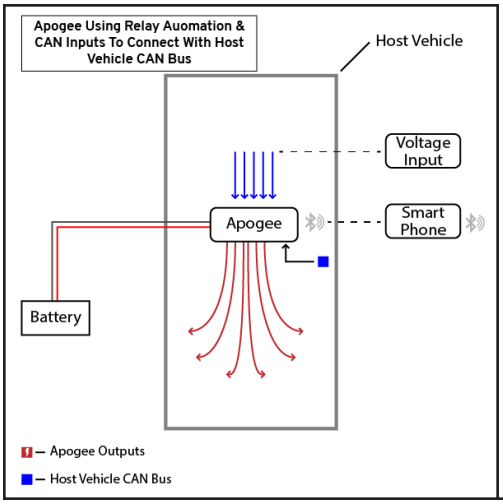


Adding to the CAN capabilities, each Apogee unit has 5 switched relay inputs and one analog input. So, for non-CANbus vehicles, you are free to tap into six 12V host vehicle circuits and map those to any combination of the up to 48 controlled circuits. The possibilities for automating Apogee circuit activations based on host vehicle circuit activations are extensive.



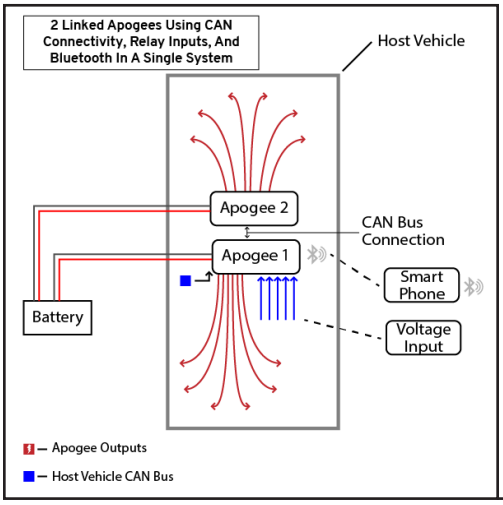
Apogee supports 2 separate CANbuses, one to manage up to 7 slave units and the other to monitor the host vehicle CANbus. Apogee is capable of using host vehicle CANbus messages to activate circuits on the Apogee system. Say you wanted to automatically activate a cooling fan or water pump or bilge pump based on a host vehicle CANbus activation, Apogee does that. You are free to associate host vehicle CANbus activations to one or many Apogee circuits on one or multiple Apogee slave units.

Each unit, whether it's a slave or a master has 2 separate analog temperature probes for a total of 16 distinct temperatures that can be monitored. Of course, not only are they monitored, but you can configure any combination of circuits to be controlled by any of the temperature probes.



Apogee is crazy configurable. Not only can you add slave units to your Apogee installation as needed, but the ability to mix and match host vehicle CAN inputs, host vehicle voltage inputs (both switched and variable) and map these inputs to any combination of outputs provides nearly limitless configuration options.

This flexibility allows for a wide range of installation configurations. Whether it's a motorcycle, an ATV, a mobile home, an off road vehicle, a race car, an overloading vehicle, a camper van or a boat, Apogee is a beautifully engineered system that can grow with your needs.



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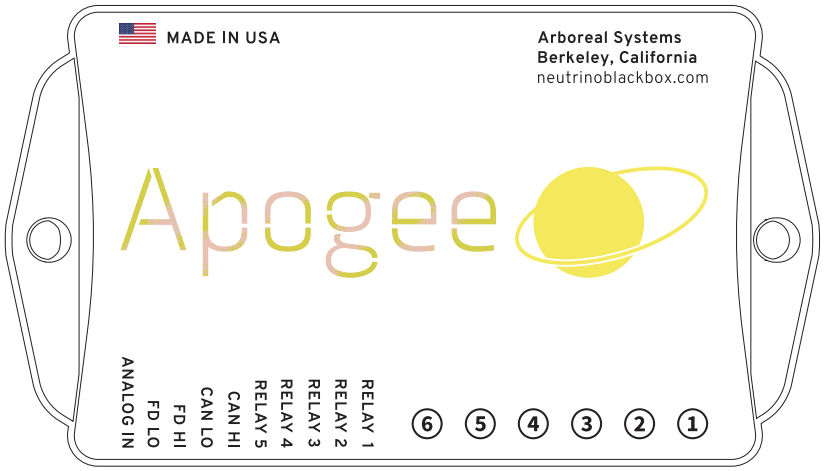
Apogee is user-upgradeable. Whether it's a free firmware update or a slave to master conversion or the installation of a CANpack, with Apogee you can easily keep your system updated as desired with nothing move than a computer and a USB flash thumb drive.

Apogee - Spec Sheet

Physical

Dimensions: 3” x 4”x .9”

Weight: 12 ounces



Electrical:

25 amps per-circuit current capacity

60 amps total capacity

9-16 volts operational range

Situational Awareness:

Vehicle voltage

Heading

Elevation

Temperature (2 probes)

Speed

Time

Individual circuit amperage draw

Total system amperage draw

Circuit faults (overcurrent or short circuit)

Features:

Smartphone controllable and programmable via Android and iOS devices via Bluetooth 4LE connectivity

Two temperature probes per module with 32 to 300°F range

Five 12v binary relay inputs & one 12v analog input per module

User-programmable host vehicle CANbus inputs

Flexible cross-connect software architecture. Any inputs can be assigned to one or many outputs

Extensive environmental monitoring, including: temperature, speed, time, altitude, and heading

Programmable low-voltage alarm with automatic shutdown

Voltage and by-circuit amperage monitoring with centralized status screen for entire system

Programmable circuit breakers with realtime fault reporting

User-updatable firmware

Maintains stored settings indefinitely without power

Programmable voltage alarm and automatic circuit shutdown

Programmable timed circuit shutdown

Selectable circuit memory

Super smooth variable circuit activation via 100 step pulse width modulation

Allows use of tactile switches with optional CAN interface

Will function with or without a connected smart phone (some automation features require a phone connection)

Automated Circuit Activation:

Simple speed controlled circuit activation

Automatically variable speed controlled circuit activation

Deceleration based circuit activation

Simple temperature controlled circuit activation (x2)

Automatic variable temperature controlled circuit activation (x2)

Sunrise/sunset controlled circuit activation (location updates automatically)

Servo motor control (with servo module)

Garage door remote (with garage door module)

Multiple circuit activation modes: switched, variable, momentary, pulse+, pulse-, brake flash

With it's multiple input and expandable output abilities, Apogee is an enormously capable power distribution and control system. With Apogee your system can be as small or as big as needed. Apogee can activate any combination of controlled circuits either via the touchscreen on your phone/tablet, extensive automation (temperature, speed, time-based), five voltage based relay inputs, an analog voltage input, or via CAN activity on the host vehicle. The applications are endless.

To learn more about Apogee, or our other products visit us online at: neutrinoblackbox.com