



OVERVIEW

The Infinity Plug & Play programmable ECU for the manual transmission 2003-'06 Nissan 350Z/Infiniti G35 (Infinity 708 PN 30-7110 and Infinity 710 PN 30-7107) includes an application-specific start-up calibration and connects via a Plug & Play harness (sold separately, PN 30-3520) that is designed to fit in the factory location (requires AEM bracket on G35 models, PN 30-5936). Begin by determining which Infinity ECU will best support the ancillary components in your manual transmission Nissan 350Z/G35 using the Infinity Specifications Chart (see "Specs" tab). The M/T 03-06 Nissan 350Z/G35 Plug & Play Infinity ECUs have unique part numbers and include several unique features that incorporate the Nissan factory electronics system (see "Features" tab).

Complete Stand Alone Engine Control

The Infinity ECU combines with the Plug & Play harness to replace the 350Z/G35's factory ECU. It controls all of the engine functions including up to four cam variable cam control (VQ35DE-RU) and the Drive by Wire (DBW) system. An AEM MAP sensor (sold separately) is required for proper operation of the Infinity ECU on this application.

Plug & Play Harness with Expansion Port

AEM's sealed, weatherproof Plug & Play harness (sold separately) includes dual Lambda connectors, an AEMnet connector for communication with other AEMnet enabled devices and an auxiliary connector with a High Performance DTM-Style 12P connector for adding common aftermarket sensors. Visit the "Features" tab for more information about the 350Z/G35 Infinity Plug & Play harness expansion port.

Nissan 350Z/Infiniti G35 Plug & Play Harness with Expansion Port

Once you have determined which Infinity ECU will best support your Nissan 350Z/G35, you will need to purchase the Nissan 350Z/G35 Plug & Play adapter harness (PN 30-3520). AEM's engineers have designed the Infinity ECU and harness to fit in the Nissan 350Z/G35 factory ECU location to maintain overall weather resistance of the electronics and deliver a clean look in the engine compartment.

PLEASE NOTE: Infiniti G35 MT owners will require a custom bracket that will allow the Infinity to fit in the factory ECU location. AEM manufactures this bracket and the part number is 30-3596. This bracket is not required for the Infinity to fit in the 350Z factory ECU location.

Uses Factory Wideband Sensors

On 2004.5-up VQ35DE and VQ35DE-RU 350Z/G35 models, the Infinity is able to use the factory wideband air/fuel ratio sensors, eliminating the need for additional sensors and cables. A fuse and relay for battery positive is integrated into the adapter harness for models that require ancillary wideband sensors.

Map Switching via Cruise Control Buttons

For 350Z/G35s equipped with cruise control, AEM incorporated the Infinity's map switching capability into the factory cruise control buttons on the steering wheel, eliminating the need to

wire in and mount an ancillary position switch. Using InfinityTuner software, users can now select from 8 modes for boost control maps, fuel maps, timing maps and Lambda target, and select maps on the fly using the factory cruise UP (ACCEL/RES) and DOWN (COAST/SET) toggle button.

To ensure that drivers know which mode they are in when not connected to the Infinity ECU, when the vehicle is keyed ON the tachometer moves to a specific RPM point to indicate which map the Infinity is using (for example 3k RPM indicates Mode 3, 4k RPM indicates mode 4, etc.). When the driver changes maps while driving, the tachometer will momentarily change from revs to the RPM point that indicates the switched mode and then resume normal tachometer operation. Actual engine RPM will not be affected during this brief period.

Three-Step Rev Limiter

Users can configure the 350Z/G35's CRUISE ON/OFF as a temporary three step limiter switch through the InfinityTuner software (vehicle speed or time after launch dependent), and can set rev limits at specific rpm by points or set a flat limiter and use it as an RPM hold for launches.

Traction Control

The Infinity is able to use the 350Z/G35's factory wheel speed/ABS sensors for traction control via fuel cut, spark cut, spark retard or retracting DBW throttle response in 350Z/G35s equipped with factory cruise control, eliminating the need to install additional sensors for traction control (in applications without cruise control, these functions can be incorporated through the 12 pin auxiliary port on the plug & play harness with a trim position switch).

The cruise control CANCEL button can be configured as a traction control enable or disable button through the InfinityTuner software. Users can define a specific slip target for traction control in the software and turn it on or off using this button, or set two slip targets and use it for a mild and aggressive traction control strategy.

User Definable DBW Throttle Response

Users can define throttle curves in the InfinityTuner DBW software and take full control of throttle response. Using an ancillary switch via the 12 pin auxiliary port, drivers can change throttle response rate on the fly via two DBW settings (ideal for setting rain mode throttle curves).

Communicates with Factory CAN bus

The Infinity ECU communicates with the 350Z/G35's factory CAN bus system and retains full functionality of the tachometer, speedometer, coolant temp gauge, fuel economy meter, MIL light, coolant fan control and vehicle speed sensors. On 350Z/G35s using Nissan's Vehicle Dynamic Control (VDC), the Infinity is able to log steering angle and brake pressure.

200MHz Processor and Real Time Operating System

Late model vehicle ECU's all run on faster processors. The Infinity ECU is built around a latest-generation 32 bit floating point 200MHz automotive processor and Real Time Operating System (RTOS), which is capable of processing 400 MIPS (millions of instructions per second). By comparison, common competitive systems typically use 20MHz to 50MHz processors. To our knowledge, the Infinity ECU currently has the fastest processing speed of any aftermarket Motorsports ECU available. This allows the Infinity to do more, faster, in a more stable programming environment.

- The Infinity's 200MHz processor and RTOS makes the Infinity more responsive, for a better driving experience

- The Infinity's 200MHz processor and RTOS allows for more accurate ignition timing, which enables an engine to create more power
- The Infinity's faster processor allows it to perform more computational features with no sacrifice in processing performance
- The Infinity's RTOS ensures strategic processing with optimized load balancing. This means that tuning one feature will not affect the performance of another feature

- Airflow model based (VE) tuning
- ECU Set Up Wizard simplifies start up
- Flex fuel compatible
- Multi fuel capable
- Drive by wire
- Variable valve control
- Multiple boost control strategies
- Nitrous control
- Map switching
- Dual internal Lambda controllers
- Dual knock sensing circuits
- Data logging up to 64GB, up to 100 channels at 1KHz
- Outputs to 3rd party dashes and data loggers
- Industry leading data transfer speed (up to 480Mb/sec)
- Integrated engine protection strategies
- Sealed enclosure and IP67 rated comms ports

The Infinity 708, (PN 30-7110) or Infinity 710 (PN 30-7107) is used for the Nissan/Infiniti 350Z/G35 Plug & Play application. Please note the unique Infinity part numbers when ordering.

SPECIFICATIONS	INFINITY 708 PN: 30-7109	INFINITY 710 PN: 30-7105
2-Stroke Engines	Yes	Yes
4-Stroke Engines	Yes	Yes
Cylinders	Up to 8	Up to 10
High Impedence Injectors (Sequential)	Up to 8	Up to 10
Low Impedence Injectors(Sequential)	Up to 8	Up to 10
Coils (0-5V Falling Edge)	Up to 8	Up to 10
Digital Inputs	Up to 8	Up to 8
VR/Mag Inputs	Up to 6	Up to 6
Analog Voltage Inputs	Up to 17	Up to 17
Analog Temp Inputs	Up to 6	Up to 6
Knock Control	2-Channel	2-Channel
On Board Wideband Air/Fuel Controllers	2	2
Drive-By-Wire	Dual	Dual
H-Bridge Channels	2	2
High Side Outputs	Up to 2	Up to 2
Low Side Outputs	10	10

Low Side Outputs that can be PWM	10	10
4-Wire Stepper Motor Control	Yes	Yes
CAN Channels	2	2
Boost Control (RPM, Time, Gear, VSS, Switch Input, Flex Fuel Content)	Yes	Yes
Variable Cam Control	Up to 4	Up to 4
Engine Protection*	Yes	Yes
Launch Control	Yes	Yes
Nitrous Control	Up to 4-Stage	Up to 4-Stage
Traction Control	Up to 4-Wheel Speed	Up to 4-Wheel Speed
Data Logging	Up to 64GB	Up to 64GB
Weather Resistant Sealed Electronics	Yes	Yes
Connector Pins	129	129
Enclosure Dimensions	6.75" x 6" x 1.8"	6.75" x 6" x 1.8"
Weight	24oz / 680.4g	24oz / 680.4g