

Idle Settings

Idle Control Mode

Options:

- **Open Loop:** Sets a fixed idle position, meaning the bike will idle at the idle duty cycle % set in the open loop curve.
- **Open Loop + Closed Loop:** Uses the Open Loop Idle Curve position as a base and then Impact ECU makes adjustments in real time to the TPS % in order to maintain Target Idle RPM.

Recommendation:

Use Open Loop + Closed Loop for optimal idle stability, especially for engines with varying loads.

Idle Detection Thresholds

These thresholds define when the ECU determines the engine is in an idle state

- **TPS Threshold (%):**
Maximum throttle position to consider the engine idling.
- **RPM Upper/Lower Limits:**
Define the RPM range for idle control activation. (**Target Idle RPM + This Value = Maximum RPM considered as Idle**)
- **Max Vehicle Speed (kph):**
Sets a speed threshold below which idle control is active.

Open Loop Idle

Idle settings

File View

Idle control mode: Open Loop + Closed Loop

Solenoid idle control is disabled at zero RPM

Idle Detection Thresholds

- TPS threshold(%): 2
- RPM upper limit(RPM): 300
- RPM deadzone(RPM): 50
- Max vehicle speed(kph): 0

Open Loop Idle

- Fan #1 adder(%): 0
- Fan #2 adder(%): 0

Closed Loop Idle

- P-factor: 0.0050
- I-factor: 0.0040
- D-factor: 0.0001
- Min: -20
- Max: 20
- iTerm Min: -20
- iTerm Max: 20
- PID Extra for low RPM(%): 0
- Use IAC PID Multiplier Table: false

Extra Idle Features

- Use idle ignition table: true
- Override Idle VE table load axis: None
- Ramp target on return to idle: no
- Use idle tables for cranking taper: false
- Use coasting idle table: false
- Dashpot coasting-to-idle Initial idle Adder(percent): 0
- Dashpot coasting-to-idle Hold time(seconds): 0.0
- Dashpot coasting-to-idle Decay time(seconds): 0.0

See also idleRpmPid

Burn Close

- **Fan Adders (%)**: Compensate for additional electrical loads when fans are active.

Closed Loop Idle

These parameters are pre-set in the Impact ECU and should typically never be modified unless instructed otherwise by our support team!

- **PID Parameters**: These control how the ECU stabilizes idle RPM dynamically:
- **P-factor, I-factor, D-factor**: Parameters that tune proportional, integral, and derivative control.
- **Min/Max and I-Term Ranges**: Restrict corrections to prevent over- or under-compensation.

Extra Idle Features

1. **Use Idle Ignition Table**: Uses a specific ignition map to improve idle stability.
2. **Use Idle VE Table**: Activates a separate VE table for idle conditions, offering precise control.
3. **Override Idle VE Table Load Axis**: Advanced option; typically left at default.
4. **Dashpot Settings**:
 - **Dashboard/Taper IAC Adder (%)**: Adds airflow to stabilize transitions during open-loop operation.
 - **Dashpot Coasting-to-Idle Hold Time (seconds)**: Controls how long the idle valve holds an elevated position during a transition from coasting to idle. This helps prevent a sharp RPM drop that could stall the engine.
 - **Dashpot Coasting-to-Idle Decay Time (seconds)**: Determines how quickly the idle valve returns to its normal position after coasting.