

SPITRONICS

Electronic Throttle Control ETC

Callisto ETC - Standalone Drive-by-Wire Control

The Spitronics Electronic Throttle Control system provides accurate control between the accelerator pedal and electronic throttle body, with tunable throttle response, idle control and independent engine-protection functions.

Pedal Response

Shape throttle response from soft and progressive to direct.

RPM Protection

Progressively limit maximum throttle opening by engine speed.

Coolant Protection

Cold-engine and over-temperature throttle limiting.

Idle Control

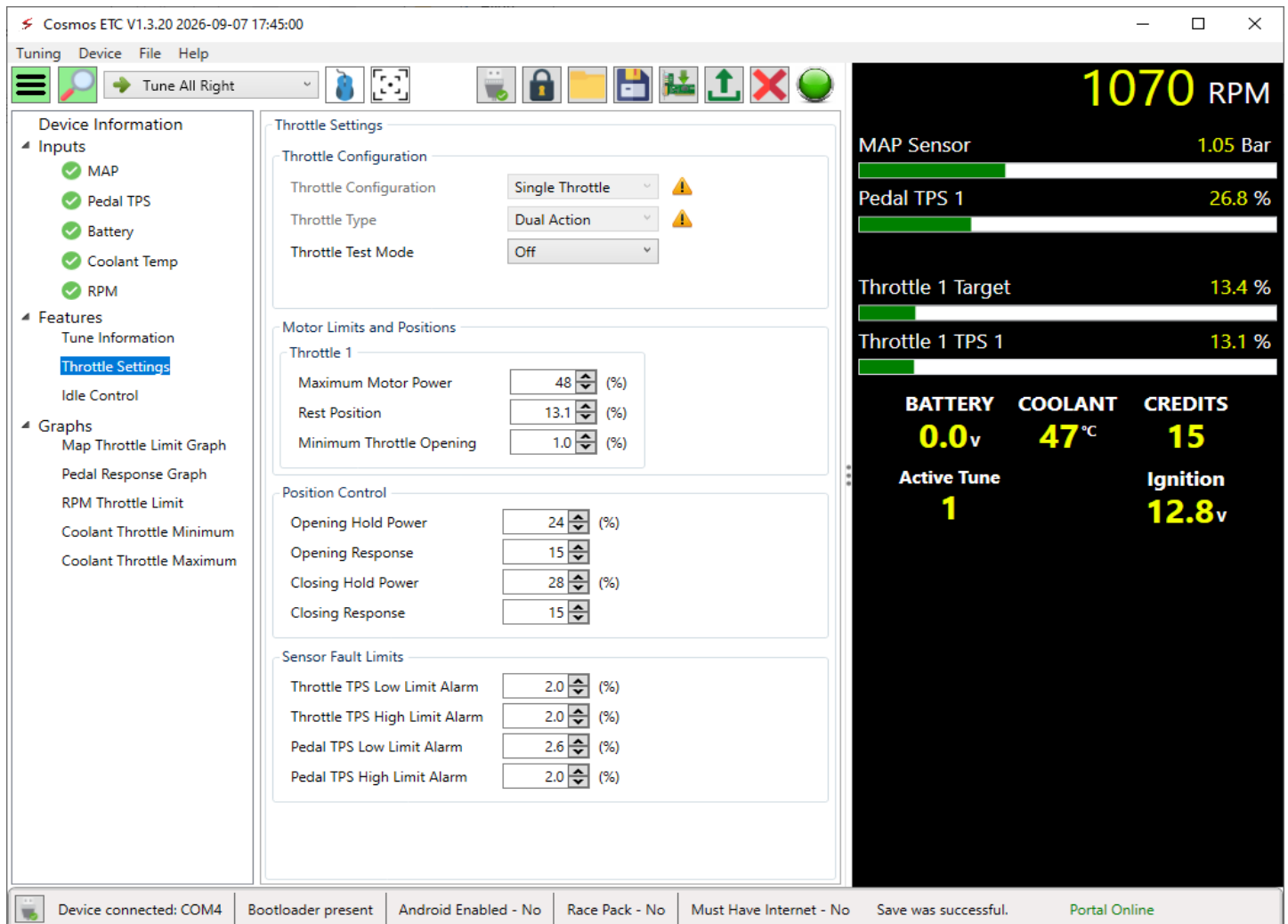
Use the electronic throttle to control target idle speed.

MAP / Boost Protection

Reduce throttle opening as manifold pressure approaches a tuned limit.

Diagnostics

Dual TPS monitoring and fault detection for pedal and throttle sensors.



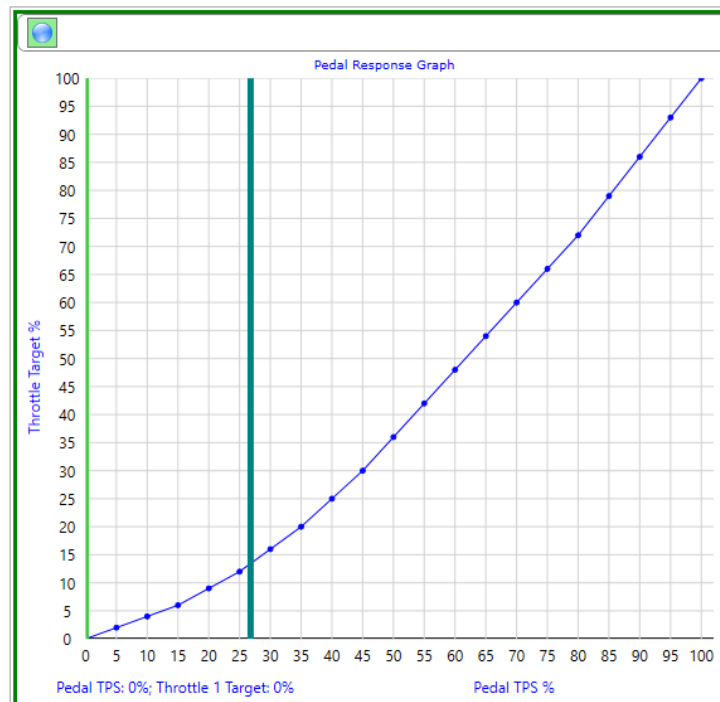


Tunable Throttle Control

The ETC does not simply copy pedal position to the throttle body. The pedal request can be shaped, idle control can take control when required, and protection graphs can reduce the maximum permitted throttle opening according to engine conditions.

Pedal Response Graph

Controls the relationship between Pedal TPS and Throttle Target. Low pedal movement can be softened for smooth driving while still reaching 100% throttle at full pedal.

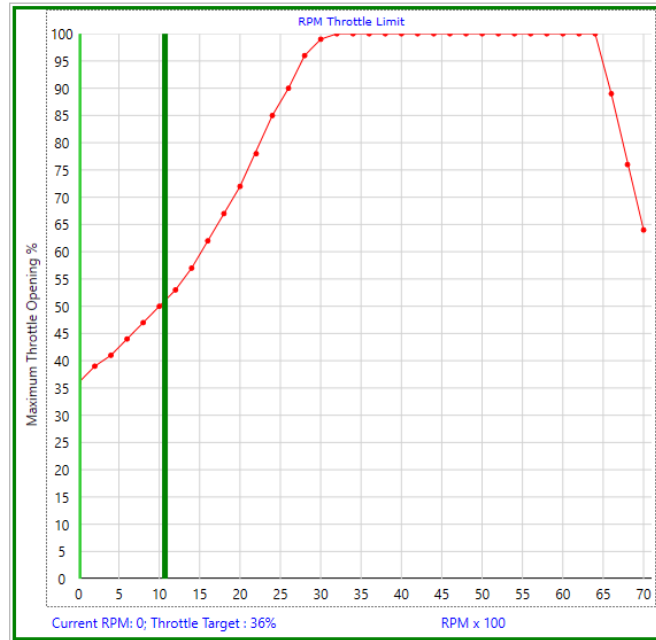


Temperature, Overrev and Boost Protection

A protection graph is a maximum limit, not a throttle command. If the pedal, idle controller or another function requests less throttle, the lower target remains in control.

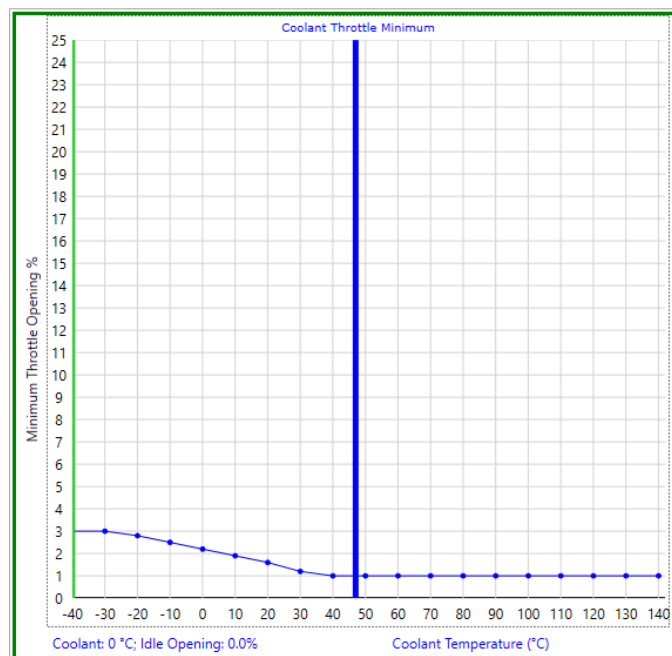
RPM Throttle Limit Graph

Sets the maximum throttle opening allowed at each engine speed. The graph can remain at 100% through the normal operating range and progressively reduce throttle where protection is required.



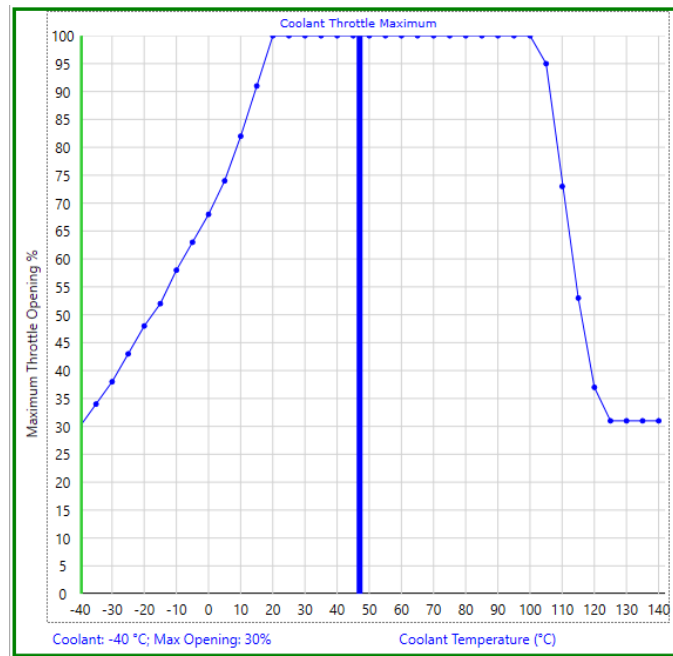
Coolant Throttle Minimum Graph

Provides additional minimum throttle opening while the engine is cold. This can assist cold idle and warm-up without changing the normal warm-engine minimum opening.



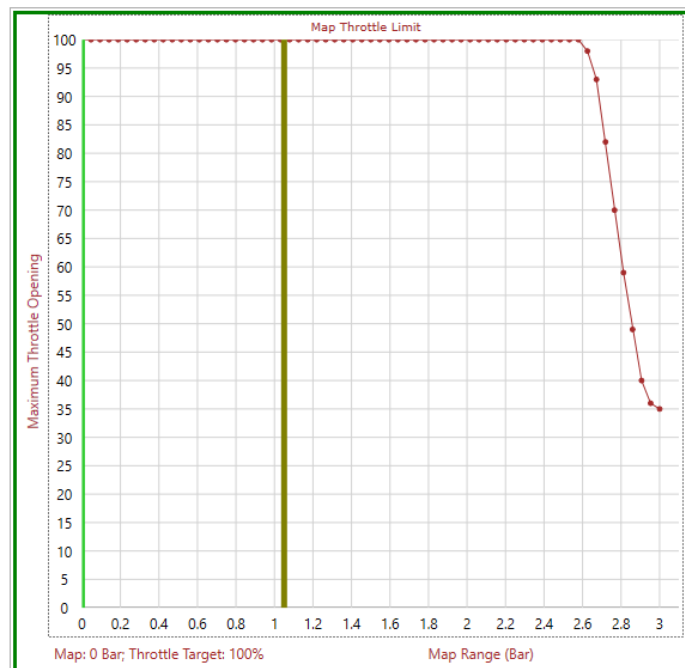
Coolant Throttle Maximum Graph

Limits the maximum throttle opening according to coolant temperature. It can protect a very cold engine and progressively reduce available throttle if the engine overheats.



MAP Throttle Limit Graph

Uses manifold absolute pressure to limit maximum throttle opening. On boosted engines the graph can stay at 100% during normal operation and progressively close the throttle as pressure approaches the selected protection area.



When several protection limits are active at the same time, the most restrictive permitted throttle opening becomes the effective limit.

Setup and Tuning with Cosmos Dashboard

Cosmos provides one interface for setup, calibration, graph tuning, RealTime monitoring and diagnostics. Inputs and functions are grouped logically so the installer can commission the system step by step.

Cosmos Dashboard V1.0.19 2026-08-17 19:45:00



Welcome to the Cosmos dashboard



Device Manager Software

	<u>Installed Version</u>	<u>Web Version</u>	<u>Status</u>	
☐ Cosmos Device Manager V1.1	V1.1.40	V1.1.40	Pending	Run
☐ Cosmos Device Manager V1.2	V1.2.27	V1.2.27	Pending	Run
☐ Cosmos Device Manager V1.3	V1.3.3	V1.3.3	Pending	Run

Engine Controller Unit Software

	<u>Installed Version</u>	<u>Web Version</u>	<u>Status</u>	
☐ Cosmos ECU V1.1	V1.1.65	V1.1.65	Pending	Run
☐ Cosmos ECU V1.2	V1.2.16	V1.2.16	Pending	Run

Transmission Controller Unit Software

	<u>Installed Version</u>	<u>Web Version</u>	<u>Status</u>	
☐ Cosmos TCU V1.1	V1.1.34	V1.1.34	Pending	Run
☐ Cosmos TCU V1.2	V1.2.9	V1.2.9	Pending	Run

Electronic Throttle Control Software

	<u>Installed Version</u>	<u>Web Version</u>	<u>Status</u>	
☒ Cosmos ETC V1.3	V1.3.20	V1.3.20	Pending	Run

Drivers

	<u>Status</u>
☐ UART USB Drivers	Pending

Download and Install

Main setup functions

- Pedal TPS and throttle TPS calibration.
- Single- or dual-throttle configuration, depending on hardware.
- Throttle motor power, rest position, hold power and response adjustment.
- Target idle speed and idle-control behaviour.
- MAP, RPM and coolant protection setup.
- RealTime display of pedal, target, throttle position, MAP, RPM and other operating values.
- Built-in DTC monitoring for sensor and control faults.

The detailed Electronic Throttle Control Manual covers installation, wiring, calibration and every software setting. A separate Electronic Throttle Control Calibration Guide provides the full commissioning procedure.

Control. Protect. Tune.