

For several years now a professional and well-developed Traction Control System for motorbikes has only been available to those with larger budgets or with a top-level Superbike team behind them. **All of this has now changed !**

Using knowledge gained while working at the highest levels of bike sport, engineers at Competition Systems have created the worlds first professional 'Plug n Play' Traction Control System and a host of fully developed TC maps.

Fitted in an hour and programmed in seconds, and all without any specific user knowledge.

**... just plug it in  
and RIDE!**



## SPECIFICATION

- Compatible with most standard and aftermarket ECU systems and bikes from 1 to 4 cylinders.
- Intelligent control with nine levels as well as TC-Off. All available from the handlebar mounted push buttons.
- Rider display showing the Traction Control level and bar graph showing real-time TC activity.
- Adjustment for wheel size and trigger tooth quantity. But we provide documentation of this for most popular wheel / rim sizes.
- Intelligent slip correction response using one or more of the following to keep your bike in line.
  - *Variable ignition retard provides a soft progressive reaction to modulate power*
  - *Soft cut using only 1 or more cylinders*
  - *Soft Cut + Ignition retard*
  - *Pulsed irregular Cut cycle to provide a longer tyre recovery time without loss of forward momentum*
- Internal sensors are able to determine if the bike is at mid corner or at any point during the acceleration out of the corner, vital for applying the correct slip control.
- Unique wheelie detection strategies and 'virtual front wheel speed' makes Traction Control possible even with the front wheel in the air.
- Quick Shifter input with retard and cut strategies.
- Pit lane speed limiter using soft cut technology
- Installation hardware kit as well as 'plug n play' wiring for each bike model.
- Minimal user programming required via USB interface as we provide slip maps that have all been track tested for club or professional use.
- Integrates with existing bike CAN bus systems where necessary.
- Built in diagnostics continually monitor all internal and external system functions and sensors and will notify the rider via the TC-Pod display of any problem.

For more detailed information and user comments please go to [www.competitionssystems.co.uk](http://www.competitionssystems.co.uk)  
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# Traction Control...

**The ultimate 'Plug n Play'  
Traction Control System**

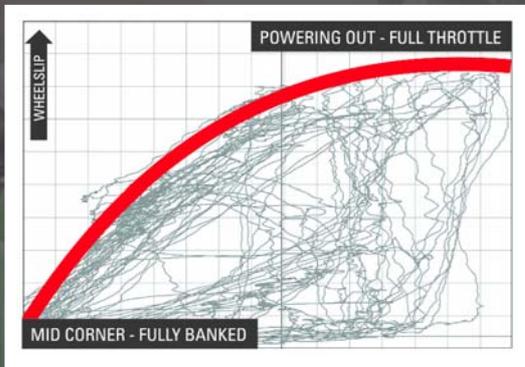
Perfect control from mid corner on the edge of the tyre, to flat out acceleration.

**Re-define the limits;  
re-define your expectations!**

**Safer  
Faster  
Affordable**

COMPETITION SYSTEMS LTD - UK

**NEMESIS • TCS**



Typical slip curve from fully banked over to hard acceleration at full throttle.

## Why does Traction Control make me faster?

Professional riders are able to exploit the optimum grip from their rear tyre using a great deal of skill and experience, they are also able to push the limit of the slip curve with the underlying confidence that if they push it too far, their abilities will help them to recover it. This can however go wrong even in the hands of professionals and the resulting 'high sides' are never pleasant.

**A well set up motorcycle traction control system allows all levels of rider to push these limits with more confidence, knowing that the electronics are there to back them up.**

## How quickly does Traction Control react, will I feel it cutting in?

The advanced slip control software within the Nemesis-TCS allows us to adjust the power output of your engine for each engine cycle, and even each cylinder independently of each other. Typically the rider never feels the system at all, just a strange sensation of grip and massive drive out of each corner propelling you to even greater speeds down the straight.

If a rider gets too enthusiastic or there is a sudden loss of mechanical grip the system immediately applies more extreme control measures giving the tyre just enough time to recover grip, closely followed by a smooth transition back to full power without any penalty on acceleration or lap times.

## How does Traction Control work on a motorcycle?

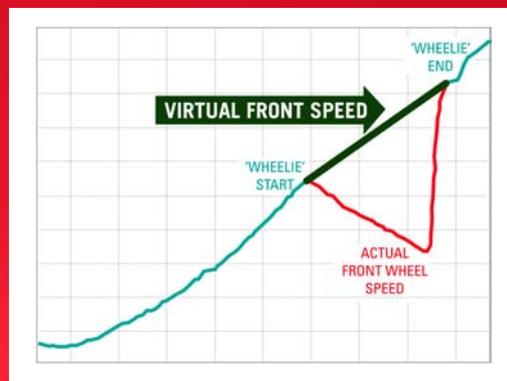
Bikes are never upright when cornering, tyre profiles change with the angle of lean, wheelies, power delivery from the engine, these and a host of other variables all combine to make the identification and control of motorcycle tyre slip very complex.

The Nemesis-TCS is able to take all of this into consideration before applying exactly the right amount of power to the rear wheel, all in the blink of an eye and with no loss of drive.

## What is 'Virtual Front Speed'?

Unlike cars, bikes pull wheelies and when this happens the front wheel speed can no longer be trusted for evaluating slip. Nemesis-TCS uses internal sensors and clever 'built in' mathematics to overcome this.

Perfect traction control even banked over driving hard out of the corner with the front wheel in the air; no problem!



The Nemesis-TCS creates a virtual front speed when the front wheel is off the ground



## Nemesis-TCS installation kit



## Programming kit

Not all users need the ability to access their Nemesis-TCS via a PC, most will be happy to use the settings applied by the dealers. But for those who want this kind of access we offer the WinTC application software and a dedicated WinTC-USB interface.

Using the WinTC application you are able to manipulate all of the following as well as reading internal sensor values:

- Front and rear speed calibration and trigger tooth quantity
- Pit lane speed limit
- Quick shifter settings

WinTC application software and dedicated WinTC-USB interface

