

DATASHEET

010113P1-01

12/09/06

Tacho Interface Module

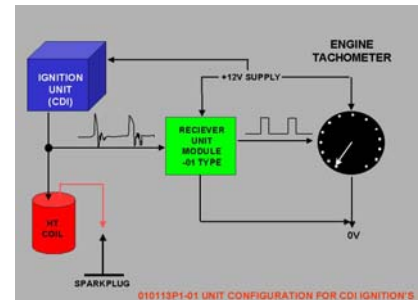
Description:

The Tachometer interface module is used wherever there is an application for converting either the host machine's ignition system or where the machine's Tachometer is an optional add-on unit from another model.

A typical example here is the Yamaha R1 Road bike combined Tachometer / Speedo shown in the above pictures being converted for DIRECT connection to the Ignition system (inductive type), which bypasses the diagnostic functions that are in the Yamaha ECU. The Ignition ECU on many production machines now monitors certain functions and signals the driver/rider by forcing the tachometer to display certain RPM levels to warn the operator of a fault.

In many cases the elements that are being monitored are removed for racing, e.g. the EXUP power valve system on many R1 machines is removed for weight reduction and ultimate power o/p increase purposes, and the ECU will see this as a fault and cause the Tachometer to register this by being jammed at a certain RPM value when power is applied, hence the need for a direct electrical connection to the ignition system to overcome this problem.

The diagram shows how the CDI version of the module is connected to the host machine, where there is either a conventional production Tachometer (Inductive) fitted or a non-standard factory "Kit" type Tachometer fitted for weight reduction.

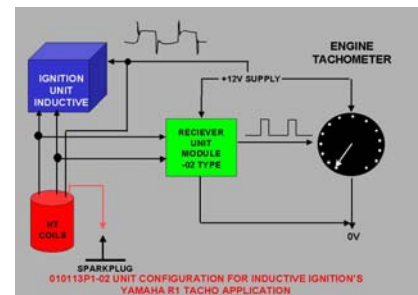


The INDUCTIVE type receiver Module again performs two critical functions.

(A) It allows a DIRECT connection to the INDUCTIVE ignition wiring which connects to the ignition coils. The voltage present here is typically 12V with up to 300v superimposed, and again as for the CDI application would damage a tachometer if it were connected directly to this wire.

(B) It performs a filtering function such that only valid ignition pulses are allowed to pass through to the Tachometer and also doubles the pulses, which for example the YAMAHA R1 tacho assembly needs to see in order to read correctly.

In many cases the "ghost" pulses are seen as valid signals, which is why in many cases a distorted or double value reading is observed when the new Tachometer is connected up in this fashion.



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Unit Installation:

The Tachometer interface module is a small rubber encapsulated unit that can in most cases fit inside of a conventional analogue tachometer, as per the pictures, where a unit is being fitted to a Yamaha R1 speedo / tacho assembly.

If internal fitting is not possible then the unit can be fixed to the rear of the Tachometer unit using double sided tape or a suitable adhesive as the figure shows where a type 2 IF unit is fitted to the rear of a YAMAHA R1 tacho assembly:

Connections:

Tacho IF Unit Type 1 (010113P1-01);

RED = +12V Connection

BLACK = 0V (CHASSIS) Connection

YELLOW = I/P Signal from Coil High Voltage / Switched Line

BLUE = O/P to Tachometer (Voltage Typically +12V, 500uS pulse width)

Tacho IF Unit Type 2 (010113P1-02);

RED = +12V Connection

BLACK = 0V (Chassis) Connection

YELLOW = I/P Signal from Left Coil High Voltage / Switched Line

GREEN = I/P Signal from Right Coil High Voltage / Switched Line

BLUE = O/P to Tachometer (Voltage Typically +12V, 500uS pulse width)



Module Part No:	Ignition Type	Machine Examples
010113P1-01	CDI	Yamaha R6, Suzuki GSX600
010113P1-02	INDUCTIVE	Yamaha R1, Suzuki GSX750. Suzuki GSX1000