



ATHENA



“Nuovo polo dell’elettronica per il primo impianto.”

Con la creazione di Athena Evolution nel 2007 e l’acquisizione della divisione elettronica di Walbro Italy, si completa il programma di Athena di un polo d’eccellenza di prodotti meccanici e elettronici per motori endotermici.

Athena si propone ai produttori di motocicli e veicoli ricreazionali, quale partner in grado di offrire prodotti e servizi per il primo equipaggiamento di motori ad iniezione elettronica come di seguito esemplifica.

- L’esperienza a garanzia di qualità
- Analisi e progettazione di sistemi di primo impianto con soluzioni applicative personalizzate.

- Consulenza nella ricerca e scelta dei componenti.
- Centraline elettroniche per motori due e quattro tempi aspirati o ad iniezione elettronica.
- Supporto al cliente allo sviluppo dei prototipi e relative applicazioni.
- Fornitura di prodotti e strumenti indispensabili allo sviluppo
- Assistenza all’omologazione
- Supporto al cliente per l’aggiornamento costante dei prodotti.
- Sviluppo di prodotti destinati alle competizioni.

L’esperienza a garanzia di qualità.

I prodotti e le applicazioni sviluppate negli ultimi anni, sono la garanzia dei risultati e della qualità che Athena propone.

STRADA



OFF-ROAD



RICREATIVI

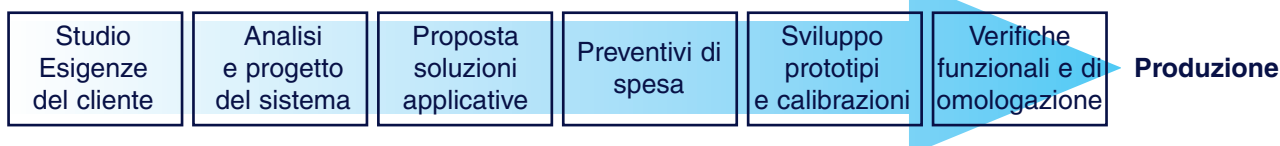


Analisi e Progettazione con soluzioni applicative personalizzate.

La visione globale di un intero progetto risulta spesso il fattore determinante del suo successo.

Già in fase progettuale, è determinante l'individuazione dei fattori di costo. Athena si fa inoltre garante dei risultati nel rispetto dei preventivi di spesa e dei tempi certi di realizzazione.

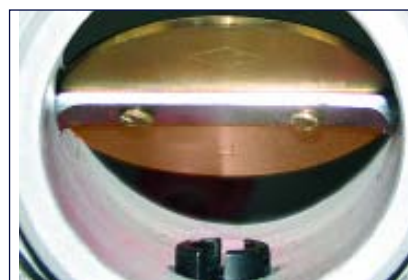
La flessibilità delle soluzioni Hardware e Firmware garantiscono al cliente applicazioni personalizzate in tempi brevi e lo guidano in tutte le fasi dello sviluppo e della produzione.



Consulenza nella ricerca e scelta dei componenti.

Un impianto si compone di molte parti che concorrono alla qualità complessiva del sistema. Athena propone

le soluzioni applicative più adatte al cliente.

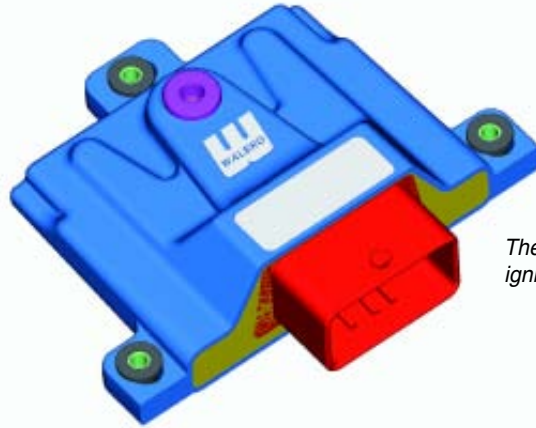


Centraline elettroniche.

L'affidabilità dei prodotti viene garantita da un Piano di Validazione severo e personalizzabile secondo le esigenze dei clienti. Il Piano di Validazione standard

prevede Cicli termici, Vibrazioni, Compatibilità Elettromagnetica e Impulsi ISO, Nebbia Salina, Agenti corrosivi, Polveri, Shock Termici ed Elettrici.

ECUG General Specification Preview



The ECUG provides the control of fuel and ignition of up to 2 cylinder engines.

Electrical specification

- Nominal supply voltage 13,5 V
- Supply voltage range 6 to 16 V
- Max Current Sink (*) 300 mA

Hardware Resources Summary

ECUG has the following hardware resources (standard functions are described):

- Renesas SH2 Family microcontroller 32 Bit RISC 50 MHz
- Memory: 128 Kb Flash 8Kb RAM
- 2 Low Side Injector Driver
- 2 IGBT Ignition Drivers
- 2 Low Side Drivers for direct control of Cooling Fan and Fuel Pump
- 1 DC Motor 6Amps H-Bridge Driver for Exhaust Valve Control
- 1 Stepper Motor Driver
- 6 Low Side 2Amps protected Driver :
 - Tacho
 - MIL
 - ECR Relay
 - Light Relay
 - Solenoid 1
 - Solenoid 2
- 1 VRS Sensor Input (Trigger Wheel)
- 6 Digital Inputs :
 - Hall Effect Camshaft
 - Speed 1
 - Speed 2
 - Tipover
 - Sidestand
 - Map Change
- Internal Barometric Pressure Sensor
- 6 Analog Input :
 - TPS1
 - TPS2
 - MAP
 - LAMBDA
 - AIRT
 - ENGINET
- Protected 5V Sensors Supply Voltage
- 1 RS232

Standard Functions of ECU

- Injection Ignition and Injection timing configurable parameters through a set of (32) x (16) calibration tables :
 - _ (1) Main fuel injection time based on Rpm vs. Load
 - _ (1) Fuel correction per cylinder based on Rpm vs. Load
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 - _ (1) Main ignition timing based on Rpm vs. Load

- _ (1) Ignition timing correction per cylinder based on Rpm vs. Load

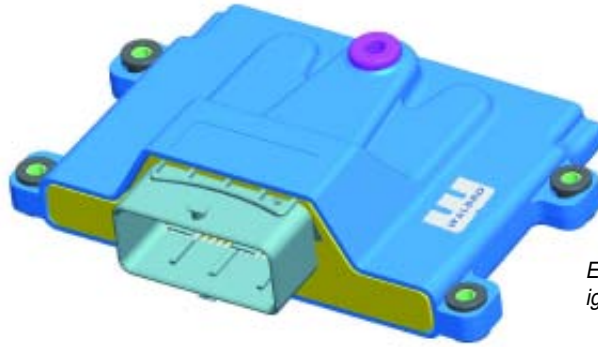
- Compensation provided for
 - _ Battery Voltage
 - _ Engine and Air Temperature
 - _ Barometric Pressure
- Acceleration and deceleration for Injection, Ignition and Bypass valve
- Cranking fuel adjustment table
- Internal barometric pressure sensor
- External manifold air pressure (MAP) sensor
- Adjustable engine speed limiter
- Load indicated by Throttle Position ("TPS") and/or MAP
- Selectable trigger wheel tooth count minus two
- Closed loop lambda control (narrow or wide band)
- Closed loop idle speed control
 - Adjustable cooling fan control
- Automatic and adjustable relay drive based on engine RPM
- Adjustable load calibration table points
- Adjustable RPM calibration table points
- User configurable for air and engine temperature and lambda Sensors

- End of Line Calibration:
Using the appropriate tool, setting the following parameters is possible:
 - _ TPS Limits
 - _ Idle CO correction
 - _ Idle speed Correction
 - _ Total injection correction
 - _ Total ignition correction
 - _ Chassis and Engine identification number
 - _ Assembly date

Special Features and Functions available

- Cam sensor elimination with sequential injection and ignition
- Electronic boost control
- Dashboard interface
- Warranty Unlocking Code
- Vehicle "Safe Start" control: (in gear or side stand down, etc)
- Vehicle "Safe Operation" control (tilt, etc)
- " Dual Calibration" Maps
- DC Motor Exhaust Valve
- Bypass Stepper Motor Idle Speed Control
- Marine applications
- Housing colors

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- MAP
- LAMBDA
- AIRT
- ENGINET
- SPARE 1
- SPARE 2
- SPARE 12V
- 2 Protected 5V Sensors Supply Voltage
- 1 CAN Bus
- 1 RS232

Standard Functions of ECU

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Special Features and Functions

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 - "Dual Calibration" Maps
 - DC Motor Exhaust Valve or Electric Throttle Body
 - Bypass Stepper Motor Idle Speed Control
 - Marine applications
- Housing colors

Supporto al cliente allo sviluppo dei prototipi e relative applicazioni.

Sotto il profilo applicativo, Athena offre le proprie competenze e le proprie strutture al servizio del cliente. Dalla costruzione del primo prototipo, alle calibrazioni

elettroniche, sino ai relativi collaudi, Athena assiste il cliente in ogni fase dello sviluppo.



Fornitura di prodotti e strumenti di sviluppo.

Athena propone ai propri clienti, l'intera gamma di strumenti di misura e sistemi di sviluppo. Con la linea di prodotti GET, Athena offre inoltre una

gamma completa di prodotti per l'acquisizione dati e sensori.

DATA ACQUISITION



SENSORS



SOFTWARE



Assistenza all'omologazione.

Athena accompagna e assiste i propri clienti nell'espletazione delle procedure di certificazione e

omologazione dei veicoli e loro impianti.

Supporto al cliente per l'aggiornamento costante dei prodotti.

Athena garantisce ai propri clienti, assistenza continua e puntuale finalizzata all'aggiornamento dei sistemi secondo le necessità del cliente. Un contratto d'assis-

tenza, garantisce il cliente di programmare le attività con la massima flessibilità a costi certi.



ATHENA



“New OEM electronic hub.”

After launching Athena Evolution in 2007 and then acquiring the electronics division of Walbro Italy, Athena Spa have successfully created an excellence hub for providing mechanical and electronic products for endothermic engines.

Indeed, Athena is in a position to provide the manufacturers of motorcycles and any vehicles with EOM injection products.

What Athena offer:

- Bring experience and quality to their customers
- Analyse and develop EOM systems according to customers' requirements.

- Support customer in searching and selecting the right components.
- Supply Engine Control Units for 2/4 stroke carburetor or injection engines.
- Support customers in developing prototypes and specific applications.
- Supply their customers with development products and instruments.
- Support customer in the homologation process.
- Support customer in updating products.
- Develop products for the racing world.

Bring experience and quality to their customers.

Many products were developed by Athena over the years, showing their commitment to results and quality.

ROAD



OFF-ROAD



FOR FUN

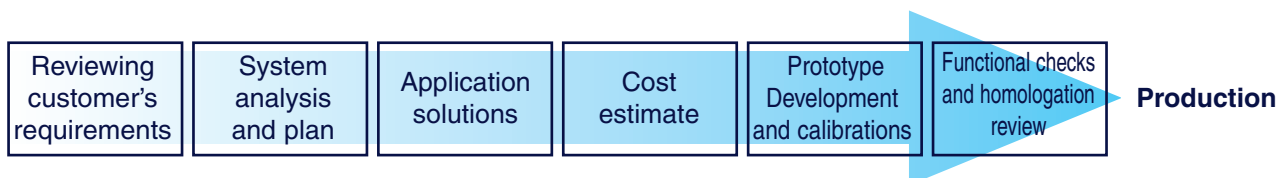


Analyse and develop systems according to customers' requirements.

A global approach to the project is the key to success.

For instance, estimating costs at an early stage of the project is crucial. Athena commit to meeting delivery times and quoted prices.

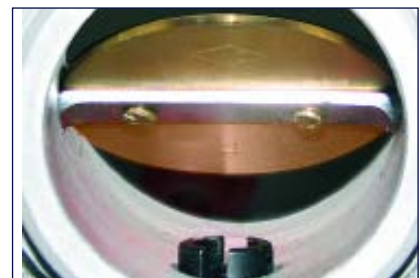
Athena's Hardware and Software solutions are highly flexible, thus allowing for quick customised applications and a smooth development process.



Support customer in searching and selecting the right components.

An efficient system is a complex combination of quality components. Athena offer suitable application solu-

tions in line with customers' needs.

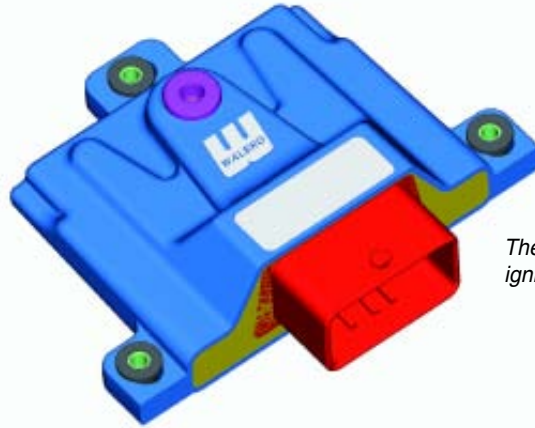


Engine Control Units.

A drastic Validation Programme guarantees Athena's product reliability. This programme can be customised according to customers' requirements if needed. The standard Validation Programme

includes Thermal cycles, Vibrations, Electromagnetic compatibility and ISO pulses, Salt spray, Corrosive agents, Powder, Thermal and Electric shocks.

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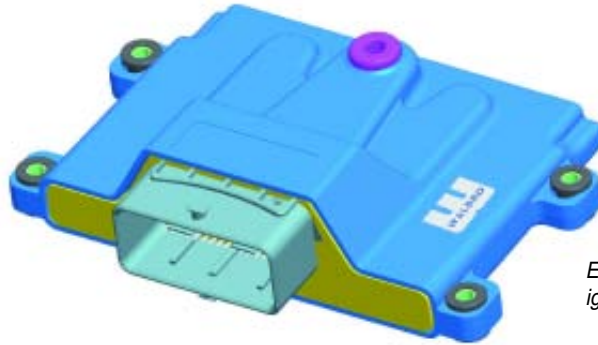
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- Housing colors

Support customers in developing prototypes and specific applications.

Athena offer their own competences and structures for any customer application. Besides, Athena support their customers at every step

of their product development: building the prototype, setting the electronic calibrations and testing the final product.



Supply their customers with development products and instruments.

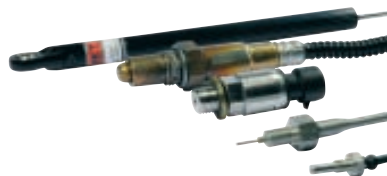
Athena offer their full range of measurement instruments and development systems for their customers.

Besides, Athena offer data acquisition systems and sensors under their famous GET brand.

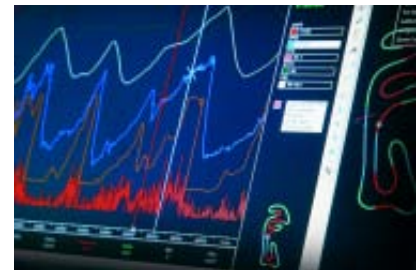
DATA ACQUISITION



SENSORS



SOFTWARE



Support customer in the homologation process.

Athena support their customers in filing all the certification and homologation procedures for

any vehicle and system.

Support customer in updating products.

Athena constantly support their customers in updating the systems according to their specific needs. A customer support contract is signed to make sure cus-

tomers can plan their activities in a flexible and cost-effective way.