

# Peripheral Products.

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Perfect Power Peripheral Product Range.

# Perfect Power Products.

All products are manufactured by Digital Data Systems (Pty) Ltd in Johannesburg, South Africa. Digital Data Systems is a proudly South African company being the holding company for the Perfect Power brand of products and we have been in business since 1972. With German engineers at the helm, you can expect quality at an affordable price with innovative features.

Perfect Power specializes in the design and manufacture of fuel injection systems for every application from your everyday street car to your high-tech performance car.

All our products are made to the highest international standards with our advanced production facilities. We strive in making our products better and better each time. We do offer our spare production capacity out to our clients and we also offer custom made OEM products that suit our client's requirements and budgets. Please inquire at [info@ddsystems.co.za](mailto:info@ddsystems.co.za) with OEM in the subject for more information.

Brought to you by dds.

The logo features a large, stylized white letter 'P' on a red background. To the right of the 'P', the words 'erfect' and 'Power' are stacked in a white, italicized, sans-serif font. The 'erfect' is smaller and positioned above 'Power'.

All our products are assembled by SMT (Surface Mount Technology) machine and then computer tested against a go / fail test procedure. Only once they pass all the tests, then only do they enter into the next phase. All products are then heat soaked for a period of 24 hours and then re-tested to make sure there are no component failures. This process ensures that the product you buy will last forever and give you years of service.

All Perfect Power products are powerful "real time" programmable fuel injection and ignition computer systems. High speed communication is achieved from USB communication. LetRipp II tuning software is used to manage the tuning, in real time, with all of our modern tuning units. The software was designed with tuners in mind and has many features to assist in the chip tuning process. All our products have extensive help documentation, application notes, FAQ and manuals that will answer almost every question you might have. Email [info@perfectpower.com](mailto:info@perfectpower.com) for support.

The Perfect Power range of products falls into three major categories: Stand Alone Systems and "Piggy Back" or Add-on Systems and "Accessories and Peripherals".

# Warranty.

Perfect Power unit(s) come with a 12 month warranty on the electronics, excluding the drivers, from shipment date. The warranty will fall away if:

- The unit(s) has / have been tampered with.
- The unit(s) has / have been abused, misused or incorrectly maintained.
- The unit(s) has / have been incorrectly installed.
- The unit(s) was / were not tested on receipt.

If the unit(s) was / were damaged in transit, then the dealer from whom the unit(s) was / were purchased, will replace it as soon as possible.

Please note that if the unit(s) has / have been working fine for a while and then fails, it could be because of one of the following:

- The unit(s) has / have been damaged in installation (not covered by warranty)
- One of the internal drivers has been destroyed (not covered by warranty)
- Malfunction of electronics (warranty claim)

The damaged unit(s) will need to be sent back to the factory, by your dealer, for inspection and a new unit(s) needs to be purchased to replace it. If the problem is a manufacturing fault, the cost of the unit(s) and shipping fees will be refunded. However, Perfect Power will not be held liable for the cost of removal, reinstallation, dyno time and mapping of the unit(s).

Perfect Power unit(s) need to be returned to your relevant dealer before any claims procedure can begin. PRS and SMT units CANNOT be repaired

## DISCLAIMER

Under no circumstances will Perfect Power be held responsible for any incidental, indirect, specific or consequential damages arising from the use of the unit(s).

## RETURNS

All returns need to be authorized in advance. Please contact us on +27 11 792 9805, or [info@perfectpower.com](mailto:info@perfectpower.com) for authorization.

# Warranty.

Please return the goods to one of the following addresses:

For returns by post :

Digital Data Systems (Pty) Ltd  
P O Box 1577 Bromhof  
2154 South Africa

For returns by shipping company :

Digital Data Systems (Pty) Ltd  
22 Arbeid Avenue  
Strijdom Park, Randburg  
South Africa

All returns must be sent prepaid and no collect shipments will be accepted. Please ensure the parcel for its full value. If we determine that we are at fault for the return, we will refund the shipping costs.

We cannot accept returns on custom ordered parts. We also cannot accept returns on used or installed parts, parts not in their original packaging, parts that are not in a resalable package and parts that have come into contact with oil, coolant or fuel.

# Contact.

Email : [Info@perfectpower.com](mailto:Info@perfectpower.com)  
Tel : +27 11 791 5947  
Fax : +27 11 792 9818  
Physical Address : 22 Arbeid Avenue, Strijdom Park, Randburg, South Africa, 2194  
Postal Address : P.O. Box 35872, Northcliff, Gauteng, South Africa, 2115



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## Dual Channel Ignition Amplifier

The Blue-Fire Dual Channel Ignition Amplifier from Perfect Power is a powerful, microprocessor controlled ignition amplifier with an updated exterior.

The continuous current rating is an amazing 30 amps per channel at 25 deg C. The Blue-Fire Dual Channel Ignition Amplifier is specifically designed to cater for the extreme demands by high current coils in performance applications.

For the ultimate in protection, the Blue-Fire comes totally encapsulated, preventing ingress of water spray, oil and the like.

The Blue-Fire's improved housing includes 6 pre-cut grooves allowing for ease of mounting. Its lightweight aluminium body also serves as a heat sink to dissipate heat losses during peak demands.

The power connections consist of solid, plated brass terminals, using lugs with 4 mm screws to achieve quality contacts. The supplied crimp lugs make termination an easy task. The Blue-Fire is designed to be installed in the engine bay, keeping power cable length to a minimum.

### Protection

Supply voltage polarity reversal (Yes)

Output terminal polarity reversal (Yes)

Max output current (Self timing, temperature dependant)

Overload (Yes, magnitude and time depending will eventually bring up over temperature)

Short circuit protection (Yes, pulse by pulse monitoring with instant shutdown)

Operating temperature range (above 80 deg C, cutout with auto-reset function once temperature has dropped to below 80 deg C.)

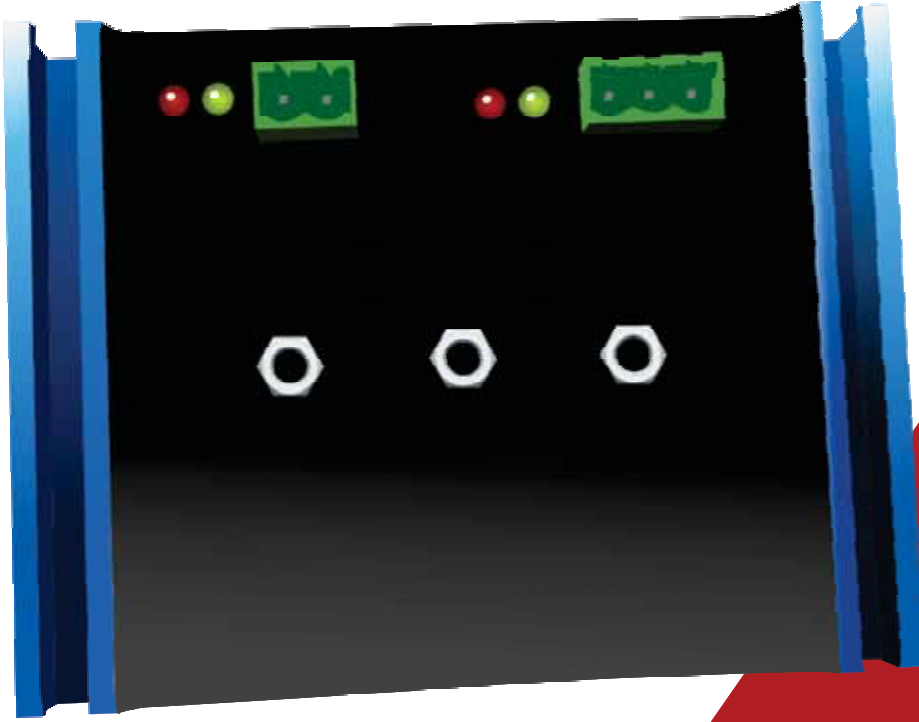
### Indications

Input signal present (Yes, one green LED per channel)

Output overloaded/shorted (Yes, one red LED per channel)

Over temperature (Yes, both red LED's flashing)

System fault (Yes, both red LED's on continuously)



## Features

- Lightweight
- Small Size
- Easy to Mount
- Extremely Rugged
- Processor Controlled
- 2 Channels in one unit
- Over current protection
- Reverse Polarity Protection
- Built-in temperature cut-out
- Bright LEDs to monitor functions
- Inputs and outputs can be paralleled to double the power
- Can be used with 24V battery systems
- Ideal for high revving or high boost turbo/compressor engines.

## Technical Specifications

- Supply voltage range (9 to 28 VDC)
- Current demand from battery (typically below 20mA)
- Input voltage to trigger (above 1.0V to 1.5V ; above 5V recommended)
- Input/output relationship (A positive input voltage will turn the power switch on)
- Max switching current (25 amps continuous per channel at 25 deg C. ; 20 amps continuous per channel at 80 deg C.)

## Four Channel Ignition Amplifier

The unit comes with 4 ignition coil drivers. The outputs are short circuit protected. The BLUE-FIRE triggers on POSITIVE inputs, and sparks when the input high signal is returned to ground.

The unit has a led indication on each channel to show activation and a common fault LED indication. The LEDS operate as follows:

Common Fault LED (RED):

- Very faint pulsing (normal operation)
- Regular pulsing (input wrong polarity)
- Permanent on (one output has over-current)

Each channel LED (BLUE):

- ON (For duration of dwell current)

Normal operation:

On receiving a positive input signal the corresponding output is switched on, and the Blue LED is on. Should an over-current develop before the input signal is switched on, the unit will TERMINATE the output, which will cause a spark. This action is indicated on the red LED which stays on for more than one ignition cycle.

If the same channel is operated again into an over-current (or short) then the above procedure repeats.

If the input is high for more than 50 milliseconds then the output is terminated, which causes a spark. This action flashes the red LED.





## Specifications

Operating voltage (10-15Volts)  
Voltage transients (36Volts, 1ms)  
Operating current (<40mA)  
Operating temperature (-20 to +75C)  
Supply (Polarity protected)  
Input impedance (10KOhm)  
Operating current per channel (>12Amp\*)  
Over-current per channel (<24Amp\*)  
Input/Output switching delay (<20us)  
Current rise time (~2us/Amp)  
Current fall time (<0.2us/Amp)  
Output polarity (NOT PROTECTED)

\* Note : The currents are tested at room temperature!