Partsklassik.LLC

6500 W Snowbowl View Circle

Flagstaff AZ 86001

928-255-2824, sales@partsklassik.com

After 5 years and over 650 units sold worldwide we have just released our latest version of the Digital CDI box for Porsche models 1969-77 3 Pin versions and 1978-94 6 pin CDI versions for the 911SC, (up to 1983) and 930 models.

With the Porsche models that use CDI systems fast approaching 50 years in age we have seen so many items that can influence CDI box operation. With many cars being fitted with aftermarket parts that don't conform to factory standards, Bosch discontinuing original parts and general wear and tear on the electrical system, all these things can not only affect how well the system operates but can also contribute to multiple system failures. Our motto has always been to "Run No Matter What", this means even if the car is not in spec we should run and continue to stay running.

Advantages of using Partsklassik CDI System

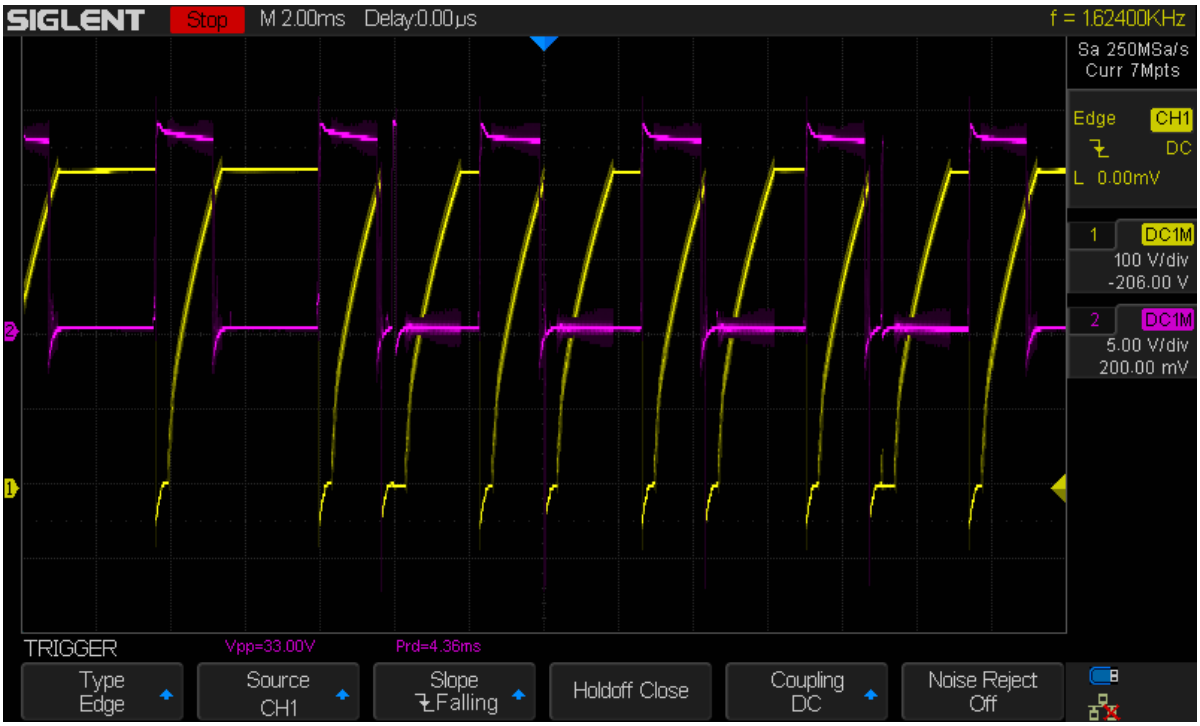
- **"A" Terminal Disconnect Protection:** Protects the CDI box from failure if the coil is accidently disconnected or the primary coil winding goes open circuit. If this happens on any other CDI on the market it will result in a CDI box failure.
- **Protected Trigger Signal Input Filter:** we have worked out a way to filter out unwanted firing events caused by illegitimate firing signals from either point bounce or electrical noise. Bosch has discontinued many of its ignition points and the available aftermarket points are often lacking the correct spring tension that will result in point bounce. When the points bounce the CDI will fire in a very short amount of time, (See fig 2.), this causes the charging system in the CDI to work 2 to 4 times harder which results in an overheated box that will often shut down. Our programing algorithm recognizes the correct firing command and ignores the bounce signals allowing the CDI to function normally without placing any stress on the charging system, (See Fig 3.).
- **Input Voltage Correction:** our CDI can run on as little as 5 volts or as a high as 18 volts continuously without any loss in output power or reliability. This is due to our fully isolated digital power system. Over the years as the wiring harness gets old connection quality and wire quality can lead to voltage drop at the CDI. When a CDI is supplied less voltage it then requires more current to generate the required energy to charge the Capacitors, this results in more heat and a larger chance of failure. Our CDI can operate without reduction in power or the generation of excess heat on as little as 5 volts, making it less susceptible to failure due to poor/faulty wiring. It also means our CDI units can be retrofitted back into the 356 range of vehicles operating on a 6-volt system.
- **End User Settable RPM Limiter:** simply twist a dial to change the rev from between 6500 to 7800, (5400 to 6700 4cylinder versions)

- **Miss Fire Over Voltage Protection:** All units are internally protected and isolated to protect against ringing voltages due to secondary misfire failures as well as secondary systems running aftermarket parts that are incorrect for the car. Spark energy that can't make it out to the spark plug has to go somewhere, often this energy finds its way back into the CDI box causing the output SCR to be held open. This results in a dead short in the charging system of the CDI box and thus a CDI failure.
- **True 450-Volt Primary 45,000-volt secondary CDI:** A CDI system that utilizes a lower primary operating voltage, for example 300 volts instead of 450 volts runs the risk of not being able to jump the spark gap in less than optimal conditions. A low performance and low compression engine can require as little as 8,000 to 10,000 volts to fire the spark plug at idle, however as engine speed increase this can rise to 18,000 to 20,000 volts to bridge the gap of the spark plug in the combustion chamber. As engine compression increases so does the need for a higher firing voltage. Porsche figured this out by 1968 as the old Kettering ignition could only produce about 25,000 volts, which resulted in fouling spark plugs and misfires in the 911 models. Also, as the spark plug wears the voltage required to fire that plug increases. Mixture strength and temperature also play a large part in firing voltage requirements. Though using a lower voltage operating system is cheaper to produce it can lead to misfires at higher RPM, misfires in higher compression engines, and harder starting in cold or hot environments.
- **High Efficient Design Resulting In less Heat Generation:** Heat generation is the biggest failure point in any CDI, that's why Bosch put cooling fins all over the box to get rid of the failure causing heat. By using a combination of high quality components and a highly efficient digital control system our CDI product runs without the need for an external cooling heat sink. This alone improves its long-term reliability.
- **Low System Current Draw:** We Consume .5 amp per 1000 engine RPM, this also shows the efficiency of the CDI charging circuit. Original Bosch units will draw 1.5 to 2.5 Amps at idle and MSD units will consume 7-10 amps at idle. This is because the transformers are inefficient and require more energy to work.
- **Wont loose power as RPM increases:** Our CDI box will maintain full power throughout the entire RPM range, (0 thru 10,000RPM). Other units like Bosch loose power and to begin reducing out power at as low as 1400 RPM.
- **Plug compatible with all Porsche Models:** No wiring or mounting modifications are required to use our CDI units. Our units are also 100% compatible with the Factory Porsche ignition system specifications and do not require the use of any other products to use our CDI box. We can also retrofit your original Bosch housing with our electronics package.
- **5 Year Warranty against defects in production or workmanship:** See our full warranty statement for details on coverage.
- **No Phase Modification on trigger/firing point of our Stock CDI Unit:** our stock CDI units do not modify the phase shift of the incoming trigger signal. As the distributor speed increases the trigger signal begins to shift towards the retard direction. Porsche engineers have designed the ignition distributor to compensate for this shift in trigger signal, in fact they rely on it as a vital part of the ignition curve. Some CDI units on the market today modify the trigger signal shift. This will result in over advancing the engine timing which can lead to detention and or engine damage unless the ignition distributor is removed and modified to compensate for this

mechanically. In our programable CDI product we take into account the phase shift to allow for accurate ignition timing as programed by the engine tuner.

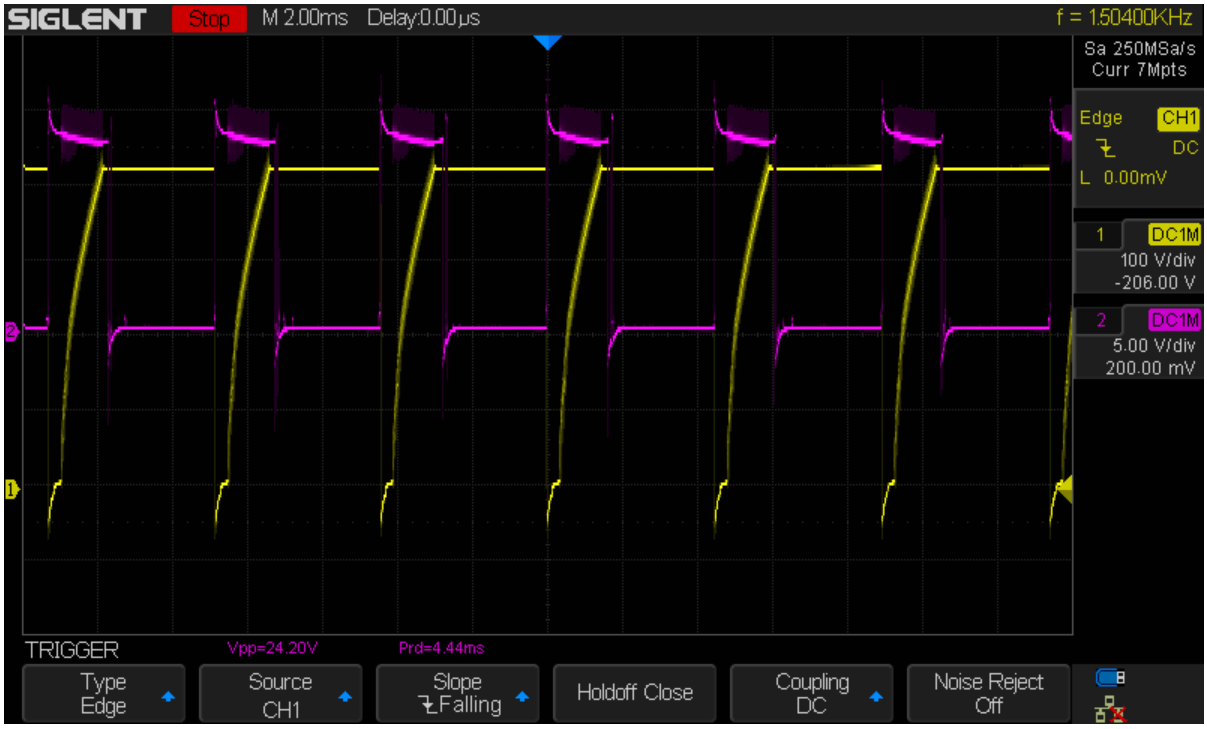
- **Programable CDI Unit for very experienced tuners and or modified engines:** We also offer our fully programable CDI unit that allows for an experienced engine tuner to completely program a full RPM and vacuum based advance curve using both manifold and ported vacuum signals. It also allows for use on 6 cylinders or 4-cylinder applications, as well as the ability to program desired rev limit functions. The programable CDI system is programed using an Android type tablet and utilizes a Bluetooth connection so the CDI box can be completely programed without removing the CDI box to access a plug. The software is downloadable for free at the google play store and includes a monitoring function where the tuner can see real time timing and RPM along with temperature and misfire detection data.

Fig. 2



The Scope shot above shows a standard CDI box and when the Points close they bounce, (pink line), and the capacitors discharge voltage, (yellow line is capacitor voltage).

Fig.3



This figure shows the Same distributor running at the same RPM but instead the CDI box is our latest version that is running the trigger signal logic that can tell the difference between a bounce and a legitimate firing signal. As you can see from the screen shot there is only one firing event per point signal, even though the points are still bouncing on the close.

Our mission with this product is one of continual improvement and with a commitment to have no mystery's. To this end we have run down to the ground every issue that we have faced to find what caused the issue and what can we do to continue running if the issue is not repaired. There is no CDI unit on the market today that can compete with the performance, the reliability and the protections that we are offering in our product today…