



By



# Platinum Power Select 6 CDI

# HT-020207

## 6 CHANNEL IMS (Ignition Multiplex System)

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# INSTALLATION NOTES

(Ignition Multiplex Systems only)

## MOUNTING

Do not mount the unit where it will be exposed to water or other liquids, ensure the bottom condensation slots are unobstructed and oriented to permit gravity drain. Select a location away from intense heat and if required provide a source of cooling air to remove internally generated heat.

**Failure to use supplied rubber mounts will void warranty!** Suitable replacement anti vibration mounts are M&W #MNT002, or Paulstra Radiaflex #521128.

## IGNITION LEADS

Do not use plain metal wire or carbon core ignition leads.

Use spiral wound inductively suppressed metal core ignition leads such as those available from Magnecor [www.magnecor.com](http://www.magnecor.com).

## SPARK PLUGS

**Resistor spark plugs must be used!**

## INSULATION PRECAUTIONS

Degrease spark plug insulators and coil/plug boots after handling to prevent tracking or insulation breakdown.

**Use (supplied) dielectric grease on spark plug insulators and coil/plug boots to increase insulation properties and ease installation/removal. Use of dielectric grease in main connector may reduce water ingress.**

## WIRING & POWER SUPPLY

Haltech CDI systems are designed to blow the external fuse under conditions of over voltage or reverse polarity. Faults such as loose battery terminals, poor wiring or defective alternator/regulator may also cause for this to occur. Fitting a larger capacity fuse won't disable this feature, will void warranty and may cause irreparable damage to unit. **Only fit the recommended size fuse!**

Main connector pins are designed to be roll crimped. Squeeze crimping or soldering will cause distortion resulting in misfiring or incorrect CDI operation.

Wire ignition system directly to battery. If required wire length exceeds recommendations use small paired battery cable (power and ground) to make up distance. Do not rely on vehicle chassis to provide ground path. If connected to a high impedance supply shared with ECU or its sensors erratic operation will be experienced.

Do not use voltage boosters as most can't provide the instantaneous current required for correct CDI operation.

When using a total loss electrical system install either a 16V or 18V battery to ensure adequate supply voltage. If using extended voltage batteries isolate them during charging to prevent excessive voltage reaching the CDI and ECU.

Use twisted pair wire for all power and coil connections. For improved noise suppression and to comply with Australian EMC 'C Tick' standards use twisted shielded pair wire for coils. Twisted pair wire must be used for power/ground. Keep coil wires one continuous length from CDI and do not fit any intermediate connectors into harness. All coil negative wires must be joined at or in the cdi connector. Keep coil primary (CDI) wires away from HT leads, coil HV outlet and coil body to prevent a flashover occurring.

### **IGN1 input from ECU must be shielded!**

14ga twisted pair wire for power / ground - HT035001

20ga twisted shielded wire for coils – HT035004

Shield terminators HT035005 for use with HT035004 wire

### **TRIGGERING**

Coil output numbers indicate engine cylinder number not CDI ignition sequence.

Haltech IMS system is a time multiplexed method for firing up to 12 ignition outputs using a single trigger wire.

Follow the manufacturers instructions to select Ignition Bus output from the ECU.

## POWER LEVEL SWITCH

Haltech IMS systems are provided with a (active low) power level switch. Do not manually operate this feature and only use when actually required. Activate by connecting to Ignition Output #2 (IGN2) on your Haltech ECU.

## TUNING

**Always re tune fuel and timing curves after installing CDI ignition!**

Use the Haltech tuning software to check and adjust "Trigger Angle" after installation.

Haltech CDI systems may reduce combustion delay requiring a reduction in overall ignition timing. Resulting changes in combustion characteristics may also necessitate alterations to the fuel flow map.

## LED INDICATOR

After applying power to switch wire the LED will illuminate for 1 second and extinguish. The LED will then flash briefly with each correctly decoded trigger event received (it may be necessary to view the LED directly on axis).

A repeated double flash of the LED may indicate a possible faulty ignition coil, faulty wiring, low supply voltage or damage to the CDI.

## TESTING

Due to the complexity of the Haltech IMS Bus signal a self test mode has been built into the firmware. By grounding Self test terminal prior to powering the unit it will sequentially fire all the outputs and flash the LED in sync. To exit the test mode disconnect power from the unit and remove connection to self test terminal.

**Do not conduct this test without grounded spark plugs installed!**

## INSTALLATION PRECAUTIONS

Care must be taken due to the propensity for HV flashovers and insulation breakdown due to CDI ignition characteristics.

It is important to fully read and understand these instructions and have a good knowledge of automotive electrical systems before commencing installation.

# IGNITION COILS

(IMS street systems only)

## COIL SELECTION

Most inductive ignition coils will work reasonably well with CDI systems however for ultimate ignition energy and efficiency use a CDI specific coil such as the Haltech HT020132.

**Use resistive spark plugs at all times!**

Coils with inbuilt drivers are not suitable for use with CDI ignition, these can generally be identified by 4 or more electrical connections.

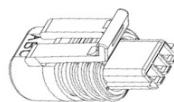
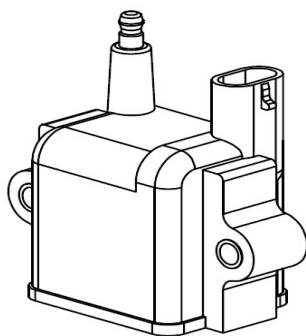
**Keep plug gap  $\leq 0.025"$  (0.6mm) on boosted engines to prevent coil damage.**

**DO NOT use AEM pencil coils under any circumstances!**

**Do not use ferrite (Mercury) coils in parallel wired pairs!**



High Output CDI Coil  
Haltech Part Number: HT020132



Pin A : CDI Negative (-)  
Pin B : CDI Positive (+)  
Pin C : Ground (To Cylinder Head)

### **ECU Ignition Setup**

Ignition Edge: Falling (M&W), Rising (MSD)  
Dwell Mode : Constant Charge  
Dwell Time: 2ms

Wiring instructions are for Haltech and M&W Ignition systems. If connecting to an MSD CDI reverse pins A and B to maintain correct spark plug polarity

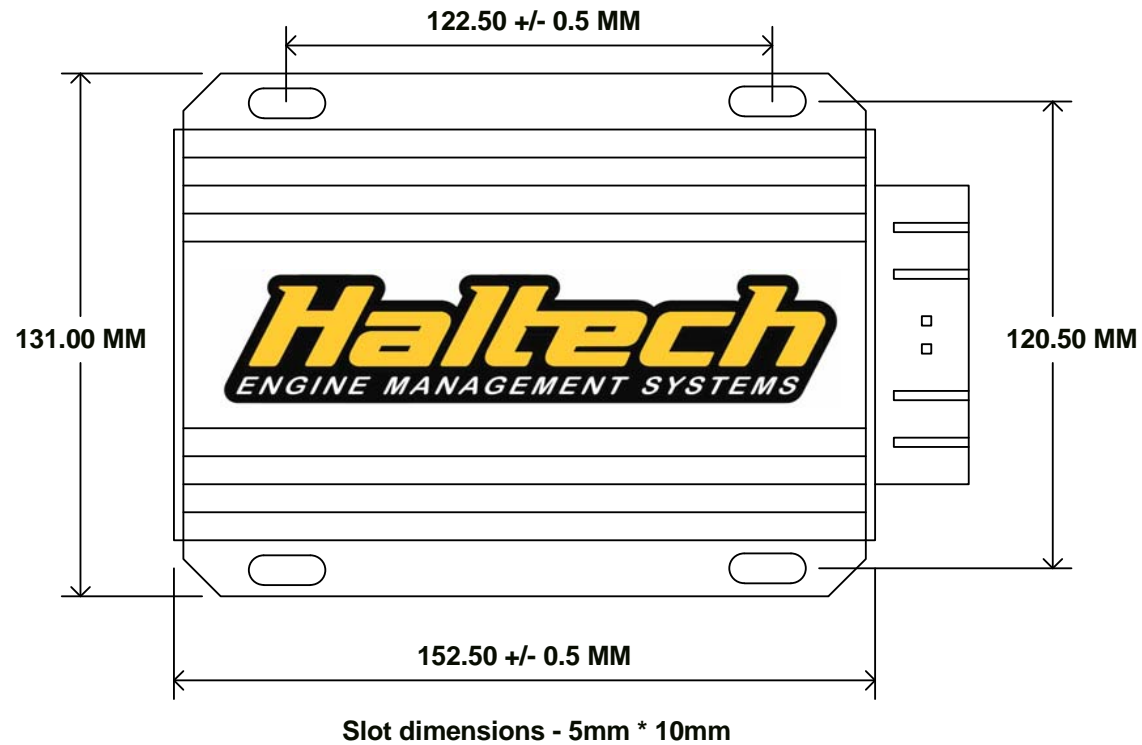
**CAUTION!**

**IGNITION COIL DAMAGE MAY OCCUR IF OPERATED WITH AN EXCESSIVE SPARK GAP**

**CAUTION!**  
**HIGH VOLTAGE**



**DISCONNECT POWER BEFORE  
 WORKING ON UNIT**



Title		<b>MOUNTING DIMENSIONS</b>	
Size	Number	Revision	
A4	<b>(C) M&amp;W Ignitions</b>	31.07.14.1	
Date:	31-Jul-2014	Sheet 1 of 1	
File:	D:\M&W\...\Mounting dimensions.sch	Drawn By:	M&W

**CAUTION!  
HIGH VOLTAGE**



**DISCONNECT POWER BEFORE  
WORKING ON UNIT**



**VIEWED FROM BACK OF CONNECTOR**



**KEEP ALL INPUTS WELL SEPARATED FROM COIL OUTPUTS**

1	+12V (Battery)	13	Ground (Battery)	25	
2	+12V (Battery)	14	Ground (Battery)	26	Ignition switch
3	ECU IGN2	15	ECU IGN1	27	
4		16		28	
5		17		29	Self test
6		18		30	
7		19		31	
8		20		32	
9		21		33	
10	Coil 5** +	22	Coil 5 & 6 -	34	Coil 6** +
11	Coil 3** +	23	Coil 3 & 4 -	35	Coil 4** +
12	Coil 1** +	24	Coil 1 & 2 -	36	Coil 2** +

**\*\* CYLINDER NUMBER NOT FIRING SEQUENCE**

**SPECIFICATIONS**

Supply voltage = 13V - 18V DC negative ground  
 Startup voltage = 6V  
 Maximum supply current = 7.0A  
 Power off current < 700uA  
 Maximum ignition frequency = 1,200Hz  
 Maximum energy limit = 750/600Hz  
 Coil primary voltage = 480V/550  
 Spark energy = 115/150 millijoules  
 Trigger = Haltech IMS protocol  
 Maximum temperature = 85°C  
 Dimensions = 152L \* 110W \* 40H  
 Weight = 740gm

Title			HALTECH 6 CHANNEL IMS CDI		
Size	Number		Revision		
A4	(C) M&W Ignitions		06.09.14.1		
Date:	6-Sep-2014		Sheet 1 of 1		
File:	D:\M&W\...\IMS6_S3_1.sch		Drawn By: M&W		

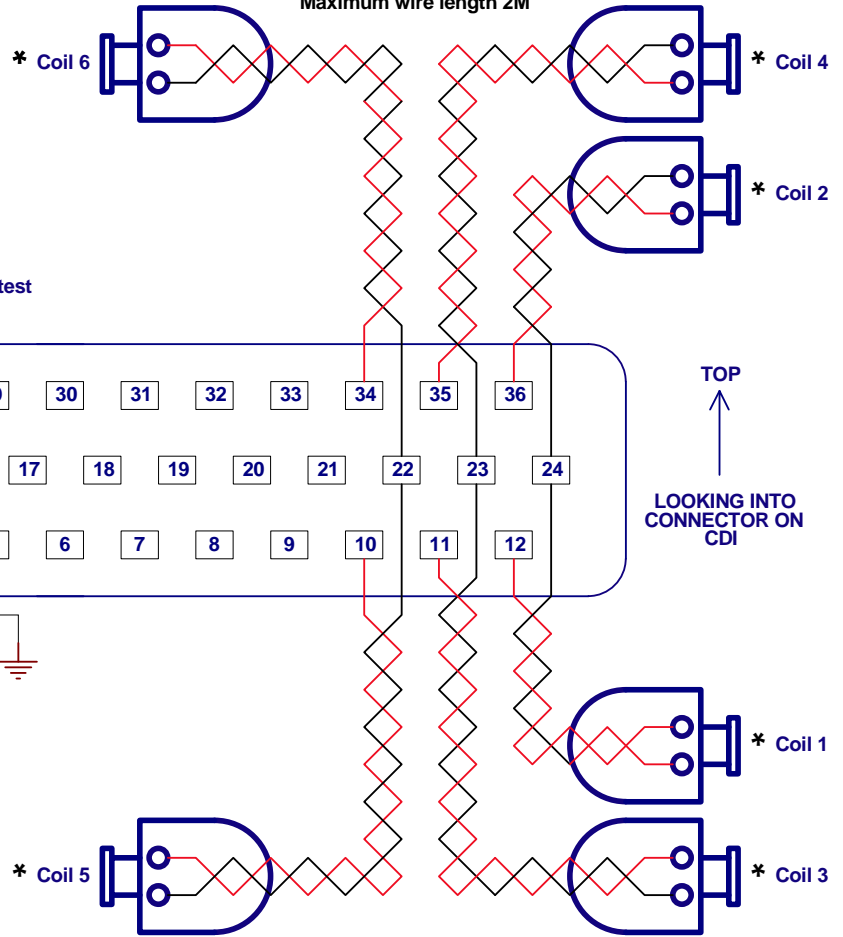
**CAUTION!**  
**HIGH VOLTAGE**



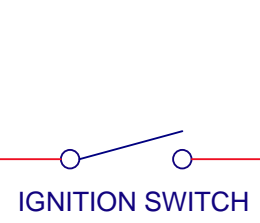
DISCONNECT POWER BEFORE  
WORKING ON UNIT



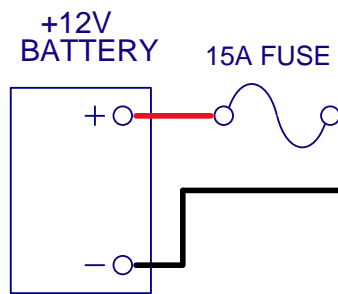
Note!  
Use 20 gauge wire  
Twist wires 1 turn in 20mm  
Maximum wire length 2M



↑ TOP  
LOOKING INTO  
CONNECTOR ON  
CDI



Note!  
Use 20 gauge wire with junction < 100mm  
from connector joined to 14 gauge for run  
to battery  
Twist wires 1 turn in 20mm  
Maximum length 2.5M



Self test

\* CYLINDER NUMBER NOT FIRING ORDER!

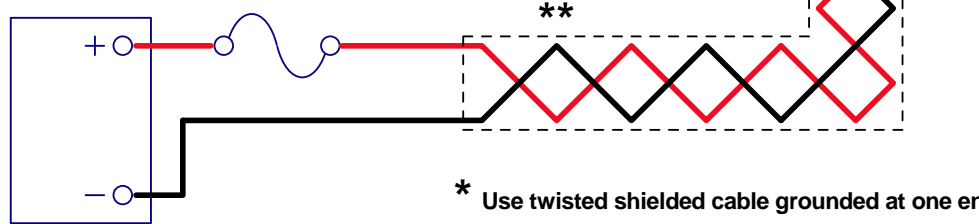
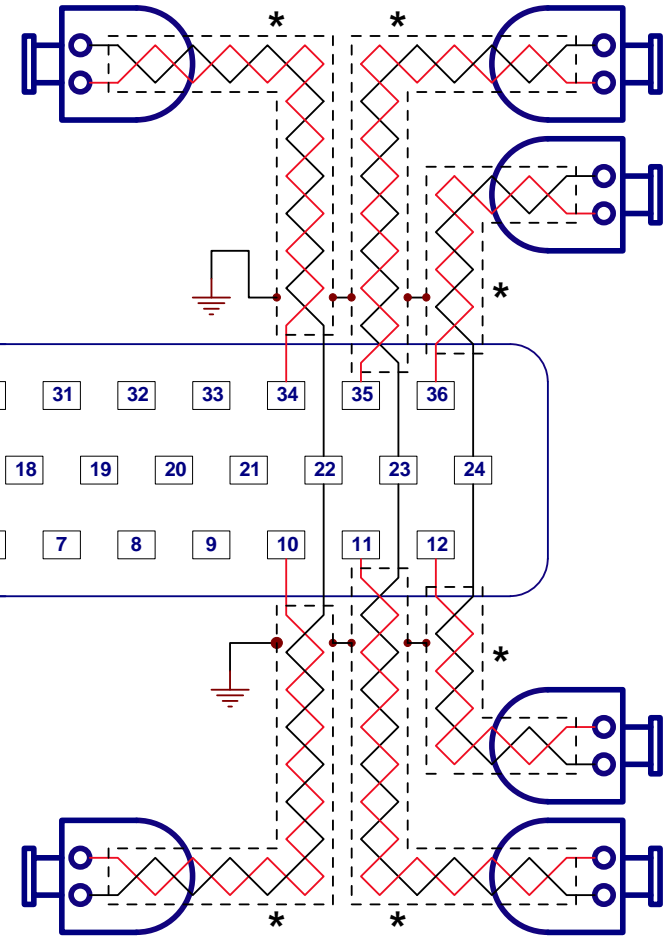
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Size	Number	(C) M&W Ignitions		Revision	06.09.14.1
A4					
Date:	6-Sep-2014	Sheet 1 of 1			
File:	D:\M&W\...IMS6_S3_2.sch	Drawn By: M&W			



**CAUTION!**  
**HIGH VOLTAGE**



DISCONNECT POWER BEFORE  
WORKING ON UNIT



\* Use twisted shielded cable grounded at one end only  
\*\* Shielded power cables required for Australian EMC compliance

Title			SHIELDING & EMC COMPLIANCE		
Size	Number	(C) M&W Ignitions		Revision	
A4				31.07.14.1	
Date:	31-Jul-2014	Sheet 1 of 1			
File:	D:\M&W\...\EMC.sch	Drawn By: M&W			