



Pro-10e

S3 MK II

80mJ

ELECTRICAL WIRING & OPERATING INSTRUCTIONS

Applicable
S/No's 95xxxx

**FAILURE TO FOLLOW INSTRUCTIONS
WILL VOID WARRANTY**

CONTENTS:

2. Installation notes
5. Connections & specifications
6. Wiring
7. Outline & dimensions

Terms & Conditions

https://www.mwignitions.com/pg_terms-and-conditions.php

INSTALLATION NOTES

(Pro-10e Series 3 MK II)

This ignition system has been optimised to provide a reliable replacement for the original Lucas cdi systems supplied on Cosworth DFV and similar motors.

MOUNTING

Do not rigid mount, must be installed using supplied rubber vibration isolators.

Incorrect installation will damage ignition and void warranty!

IGNITION LEADS

Use inductively suppressed spiral wound metal conductor ignition leads similar to Magnecor. **Do not use carbon core or unsuppressed metal leads!**

SPARK PLUGS

Non resistor spark plugs will greatly enhance ignition performance however some installations will require the use of resistor spark plugs for correct operation. **When using resistor spark plugs measure internal resistance as part of regular maintenance. An open circuit or high resistance may damage ignition system!**

Fixed gap surface discharge and semi surface discharge spark plugs are only suitable for naturally aspirated applications. **Keep spark plug gap $\leq 0.025"$ (0.6mm) for boosted motors to prevent coil and CDI damage!**

INSULATION PRECAUTIONS

Degrease sparkplug insulators, sparkplug boots, ignition coil boots and installation tooling to prevent insulation breakdown.

Use of dielectric grease on sparkplug insulators and inside sparkplug boots and ignition coil boots will aid installation/removal and help prevent high voltage flashover.

POWER SUPPLY

Do not use a voltage booster, when operating a total loss electrical system install a 16V battery to ensure adequate voltage and **isolate when charging**.

WIRING

Use twisted shielded wire similar to M27500 series for coil and hall sensor wiring. **Failure to install fuse will void warranty!**

This ignition will open circuit the external fuse if over voltage or reverse polarity are experienced.

TRIGGERING

The trigger circuit has been optimised for use with an open collector hall effect sensor however it may also be triggered by an optical sensor or ECU.

START RETARD

During normal operation the M&W CDI will fire on trigger falling edge. Applying +12V to the Retard input will swap to rising edge.

The Retard input may be connected to starter switch and if used with an appropriately proportioned trigger wheel will provide retarded timing while starter motor is engaged.

TACHO OUTPUT

Tacho output provides a signal which directly mirrors the trigger input approximately 1.2V below supply voltage.

LED INDICATOR

Upon application of power to ignition switch input LED will illuminate while system boots. If initialisation is not successful a repeated double flash will be displayed indicating factory attention is required.

During normal operation the LED will flash briefly with each consecutive trigger event.

REV LIMITER

A 20 turn potentiometer accessible on side of enclosure facilitates RPM limit adjustment in 50 RPM steps from 1,000 RPM up to maximum of 12,750 RPM. Clockwise rotation increases RPM.

For convenience and unless otherwise specified rev limiter will be supplied with an initial setting of 9,000 RPM (V8).

TESTING

CDI may be tested by momentarily grounding the trigger input causing the LED to flash and ignition coil to spark. **Do not conduct this test without grounded spark plugs installed!**

IGNITION COIL SELECTION

Ignition coils optimised for cdi use will provide superior energy delivery to spark plug.

Dual purpose or inductive ignition coils will significantly limit energy delivery and possibly overheat during high rpm use.

Ferrite core cdi coils exhibit extremely short arc duration and are not suggested particularly when using alcohol based fuels.



DISCONNECT POWER BEFORE WORKING ON UNIT



VIEWED FROM BACK OF PLUG

① +12V (Supply)	⑨ Start retard	⑯ Hall switch
② +12V (Supply)	⑩ Hall power +	⑰
③ Ground (Supply)	⑪ Hall power -	⑱
④ Ground (Supply)	⑫ Ignition switch	⑳ Tacho
⑤	⑬	㉑
⑥	⑭	㉒
⑦	⑮ Coil -	㉓
⑧ Coil +		

SPECIFICATIONS

Operating voltage	12.5V --> 16V DC
Polarity	Negative ground
Startup voltage	>= 5.5V
Maximum supply current	6.0A
Power off current	< 200uA
Maximum RPM	1,2750
Coil primary voltage	400V
Spark energy	80mJ
Trigger:	
Run	Falling edge
Retard	Rising edge
Tacho output:	
Voltage	Supply - 1.2V
Output current	100mA
Operating temperature	<= 105°C
Dimensions	120L * 75W * 38H
Weight	440gm

Title			PRO-!0E S3 MK II		
Size	Number	(C) M&W Ignitions		Revision	10.08.23.1
A4					
Date:	10-Aug-2023	Sheet	1	of	1
File:	D:\M&W\...\Pro10E S3 MK II 1.sch	Drawn By:	WAG		

Wire Specifications

POWER SUPPLY:

Use 14ga wire from battery bifurcated into 20ga wire <= 100mm from connector.
Junction is best achieved using a Solistrand or similar butt splice / barrel crimp.
Maximum recommended wire length is 2M

IGNITION COILS:

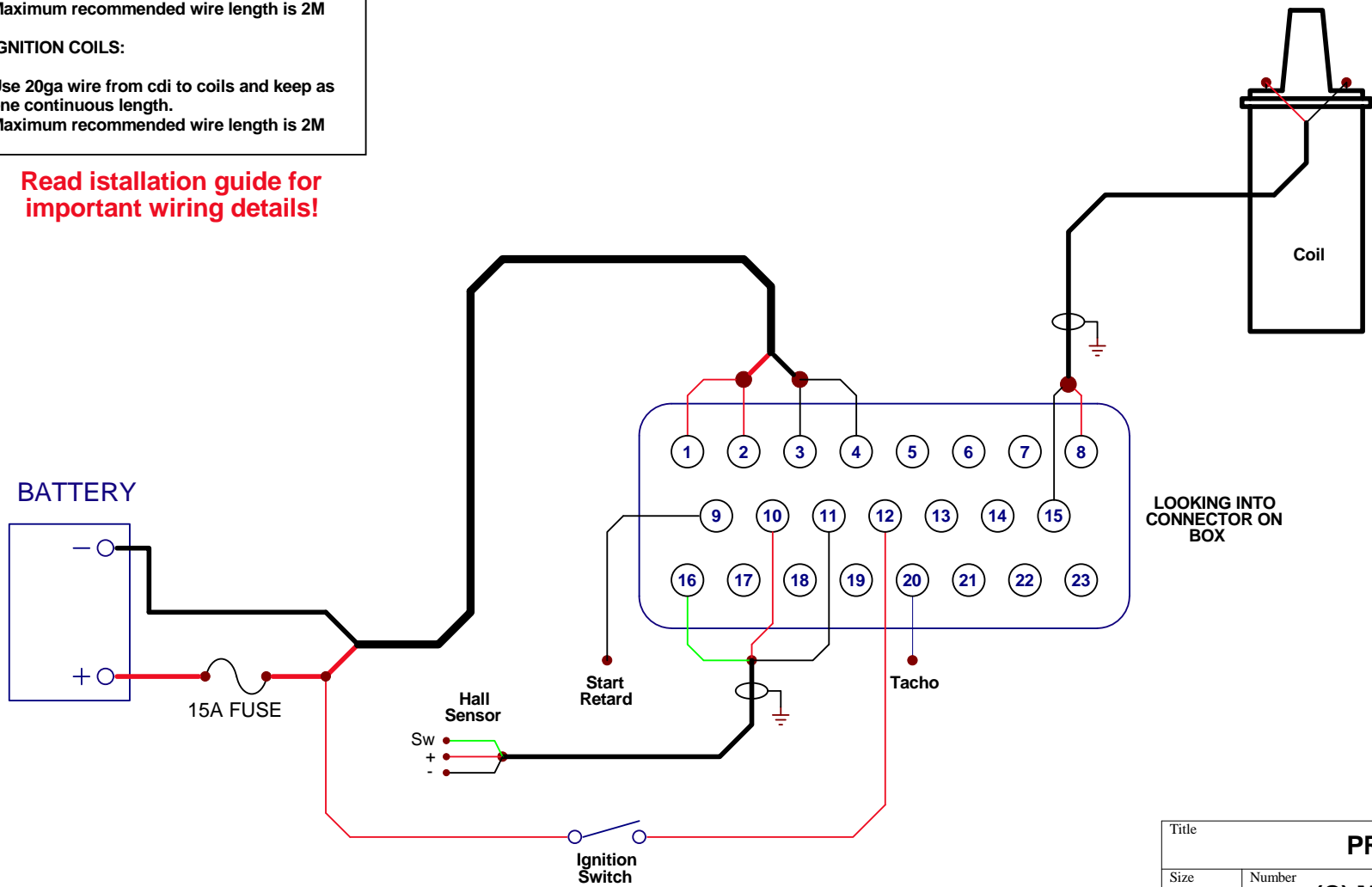
Use 20ga wire from cdi to coils and keep as one continuous length.
Maximum recommended wire length is 2M

Read installation guide for important wiring details!

M & W IGNITIONS

Performance & Quality

CAUTION!
HIGH VOLTAGE

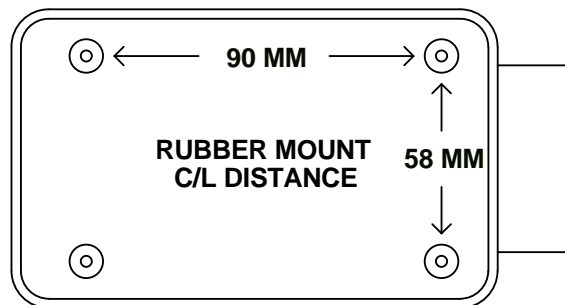
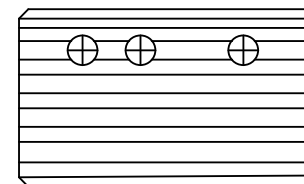
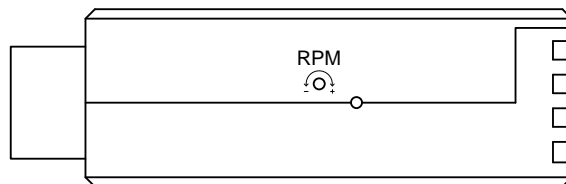
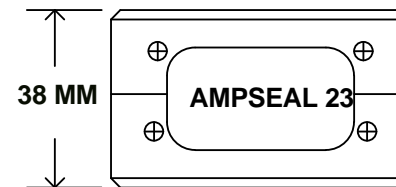
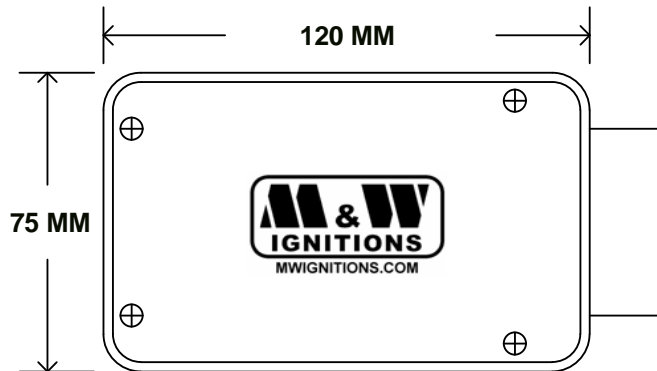
LOOKING INTO
CONNECTOR ON
BOX

Title			PRO-10E S3 MKII		
Size	Number	Revision			
A4	(C) M&W Ignitions	28.07.23.1			
Date:	28-Jul-2023	Sheet	1	of 1	
File:	D:\M&W\...\Pro-10E S3 MK II 2.sch	Drawn By:	WAG		

CAUTION!
HIGH VOLTAGE



**DISCONNECT POWER BEFORE
WORKING ON UNIT**



Title			PRO-10E S3 MK II DIMENSIONS
Size	Number	Revision	
A4	(C) M&W Ignitions	10.08.23.1	
Date:	10-Aug-2023	Sheet 1 of 1	
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