



# **PRO-18c**

## **8 CHANNEL**

(AUTRONIC MULTIPLEXER)

## **CAPACITOR DISCHARGE IGNITION**

PLEASE REPORT ANY ERRORS  
SALES@MWIGNITIONS.COM

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# **CAUTION**

**THIS WIRING DIAGRAM IS  
APPLICABLE ONLY TO IGNITION  
SYSTEMS WITH THE SERIAL  
NUMBER PREFIX STARTING**

**49xxxx**

**USE OF INCORRECT DIAGRAM  
WILL VOID WARRANTY AND  
MAY DAMAGE UNIT**

# INSTALLATION NOTES

## MOUNTING

Do not mount the unit where it will be exposed to water or other liquids and ensure the bottom drain slots are unobstructed. Select a location away from excessive heat and provide a cooling air supply if required. Use soft rubber (40 duro) mounts on all four corners to isolate from strong vibration.

## IGNITION LEADS & SPARKPLUGS

Straight metal wire ignition leads radiate electrical interference which may cause erratic operation of nearby electronic devices including the CDI. Carbon suppressed ignition leads are not capable of conducting the CDI energy without becoming damaged.

For best performance use spiral wound inductively suppressed metal core ignition leads such as those produced by Magnecor®. Where possible use non resistor spark plugs to reduce ignition energy loss.

## WIRING & POWER SUPPLY

**FAILURE TO INSTALL THE RECOMMENDED SIZE FUSE WILL VOID WARRANTY**

Trigger input & coil output numbers indicate ignition sequence not cylinder number.

250mJ and larger Pro-Drag CDI systems must not be operated below 13V without consulting factory.

Voltage boosters may limit CDI operation and ignition performance will not increase when operated above 13.8V

Connect the CDI directly to the battery with the recommended gauge wire. All coil negative wires must be joined at or in the connector.

Use twisted pair wire for all power and coil connections. To comply with Australian EMC 'C Tick' standards and for ultimate noise suppression use shielded twisted pair wire.

## TRIGGERING

Go to 'Ignition setup' under menu M1 (Autronic config software)  
Open 'Ignition O/P's' and select appropriate 'Mux' cyl configuration  
Open 'Ign trigger edge' and select '-ve edge(PULSE)'  
Open 'Dwell/pulse times' and select 'Autronic CDI SS'  
Open 'Ign delay time' and set to 0 usec

## LED INDICATOR

After applying power to Ignition Switch terminal the LED will flash for 1 second indicating successful initialisation.

The LED will then flash briefly with each trigger event decoded. If this does not occur check ECU has achieved sync with engine.

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

## TESTING

**Do not conduct this test without grounded sparkplugs installed!**

The cdi may be fired by momentarily grounding trigger inputs however due to the multiplex trigger scheme used it may be necessary to consult Autronic documentation to ascertain which inputs or input pairs are used to fire the appropriate output.

A comprehensive test procedure document may be found on our web site [http://www.mwignitions.com/pg\\_data\\_sheets.php](http://www.mwignitions.com/pg_data_sheets.php).

Further installation information may be found on the Q&A page of our web site [http://www.mwignitions.com/pg\\_qna.php](http://www.mwignitions.com/pg_qna.php)

## CAUTION

TO PREVENT IGNITION COIL DAMAGE DO NOT  
FIRE THE CDI WITH AN EXCESSIVE SPARK GAP!

CHECK IGNITION TIMING AFTER COMPLETION

# IGNITION COILS

## COIL SELECTION

Most inductive ignition coils will work reasonably well with CDI systems however for ultimate ignition energy and efficiency use a coil specifically designed for CDI use.

## COP COILS

COP (coil on plug) coils with inbuilt drivers are not suitable for use with CDI ignition. COP coils designed for inductive ignition may contain a blocking diode in the secondary winding which must be considered during wiring (see coil polarity note below). **Use resistive spark plugs with pencil style COP coils. Keep plug gap < 0.025" (0.6mm) to prevent coil damage. DO NOT use AEM pencil coils under any circumstances!**

## FERRITE CDI COILS

Ferrite core cdi coils provide a lightweight solution for direct fire applications and give high secondary current however they may not be suitable for all applications due to their extremely short arc duration. The high level of EMI emitted by these coils may also require additional shielding to prevent electrical interference with the ECU or CDI.

## COIL POLARITY

**All diagrams are shown for cdi style coils. For correct operation with inductive ignition coils wire the primary connections in reverse to maintain correct spark plug polarity.**

## **CAUTION!**

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



DISCONNECT POWER BEFORE  
WORKING ON UNIT



Title		MOUNTING DIMENSIONS	
Size	Number	Revision	
A4	PRO-18c S3	1.1	
Date:	14-Sep-2010	Sheet 1 of 1	
File:	D:\M&W\Pro-18C_S3_Mounting dimensions.dwg	Drawn by:	M&W

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



DISCONNECT POWER BEFORE  
WORKING ON UNIT

**M & W IGNITIONS**

Performance & Quality since 1996

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

1	+12V (Battery)	13	Ground (Battery)	25	IGNITION 2 (*6)
2	+12V (Battery)	14	Ground (Battery)	26	Ignition switch
3	IGNITION 1 (*5)	15		27	
4		16	IGNITION 3 (*19)	28	
5		17		29	IGNITION 4 (*33)
6	Tacho	18	Shield	30	
7		19		31	
8		20		32	
9	**Coil 7 +	21	Coil 7 & 8 -	33	**Coil 8 +
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 +

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

**\* SM4 PIN NUMBERS**

**VIEWED FROM BACK OF CONNECTOR**



**TRIGGER EDGE**

Autronic trigger edge must be set to -VE EDGE  
(PULSE)

**SPECIFICATIONS**

Supply voltage = 13.8V DC negative ground  
Operating voltage = +5.5V to +15V  
Maximum supply current = 7.0A  
Power off current < 700uA  
Maximum ignition frequency = 1350 Hz  
Coil primary voltage = 480V  
Spark energy = 115 millijoules @ 800Hz  
Trigger = 10mA multiplex input  
Tacho = 12V, 25mA square wave  
Maximum allowable case temperature = 105°C  
Dimensions = 152L \* 110W \* 40H  
Weight = 740gm

Title <b>AUTRONIC MULTIPLEX TRIGGER</b>		
Size A4	Number <b>PRO-18c S3</b>	Revision <b>1.4</b>
Date: 14-Sep-2010	Sheet 1 of 1	
File: D:\M&W\Pro18C_S3_1.sch	Drawn By: <b>M&amp;W</b>	

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

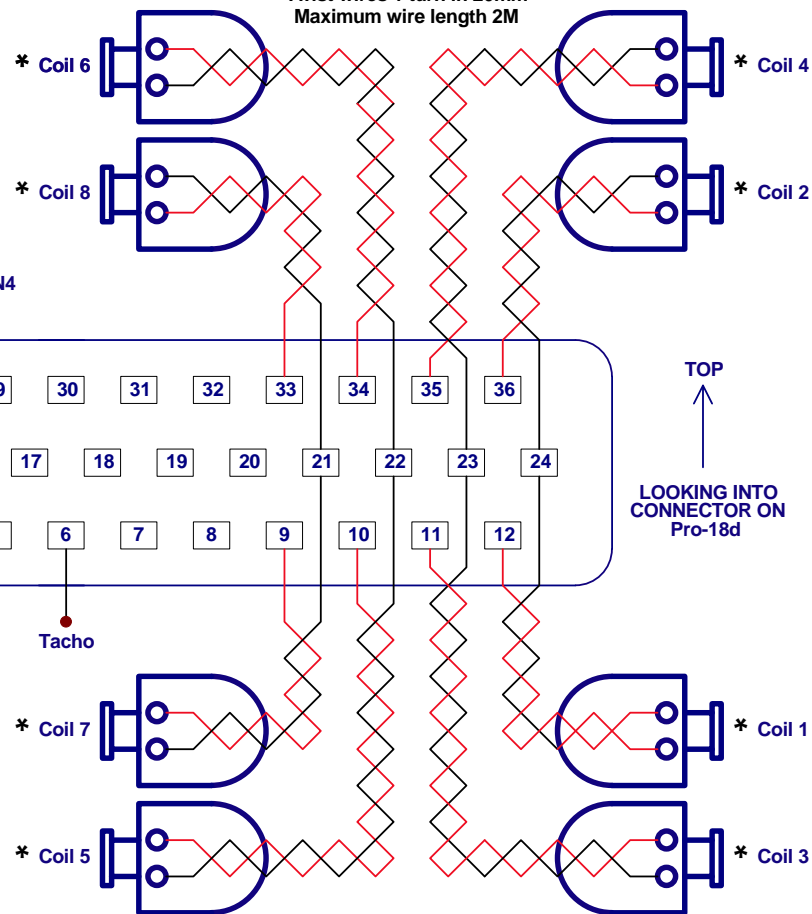


DISCONNECT POWER BEFORE  
WORKING ON UNIT

**M & W IGNITIONS**

Performance & Quality since 1996

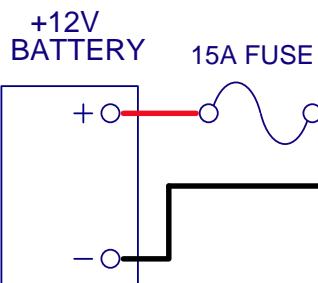
Note!  
Use 20 gauge wire  
Twist wires 1 turn in 20mm  
Maximum wire length 2M



TOP  
↑  
LOOKING INTO  
CONNECTOR ON  
Pro-18d

IGNITION SWITCH

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



\* FIRING ORDER NOT CYLINDER NUMBER

Title <b>EIGHT CHANNEL SEQUENTIAL IGNITION</b>			
Size A4	Number <b>PRO-18c S3</b>	Revision <b>1.3</b>	
Date: 14-Sep-2010	Sheet 1 of 1		
File: D:\M&W\Pro18C_S3_2.sch	Drawn By: M&W		

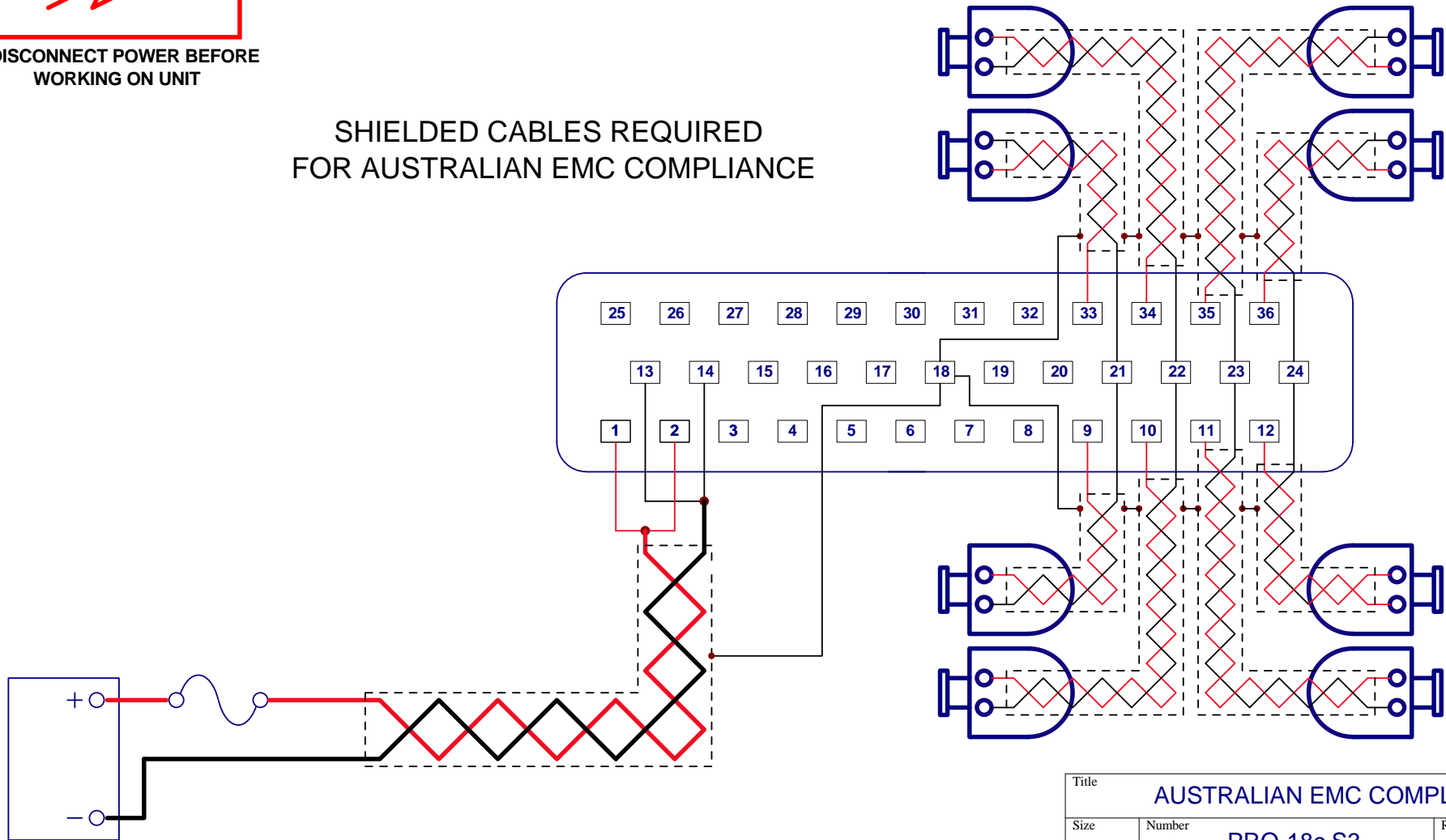




DISCONNECT POWER BEFORE  
WORKING ON UNIT



SHIELDED CABLES REQUIRED  
FOR AUSTRALIAN EMC COMPLIANCE



Title AUSTRALIAN EMC COMPLIANCE			
Size A4	Number PRO-18c S3	Revision 1.1	
Date: 14-Sep-2010	Sheet 1 of 1		
File: D:\M&W\Diagrams\Pro-18c S3\EMC.sch	Drawn By: M&W		