M&W IGNITIONS

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PRO-16c

6 CHANNEL

(AUTRONIC MULTIPLEXER)

CAPACITOR DISCHARGE IGNITION

PLEASE REPORT ANY ERRORS
SALES@MWIGNITIONS.COM

CONTENTS:

CAUTION

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

48xxxx

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**.

Further installation information may be found on the Q&A page of our web site **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

CAUTION!
HIGH VOLTAGE

DISCONNECT POWER BEFORE WORKING ON UNIT

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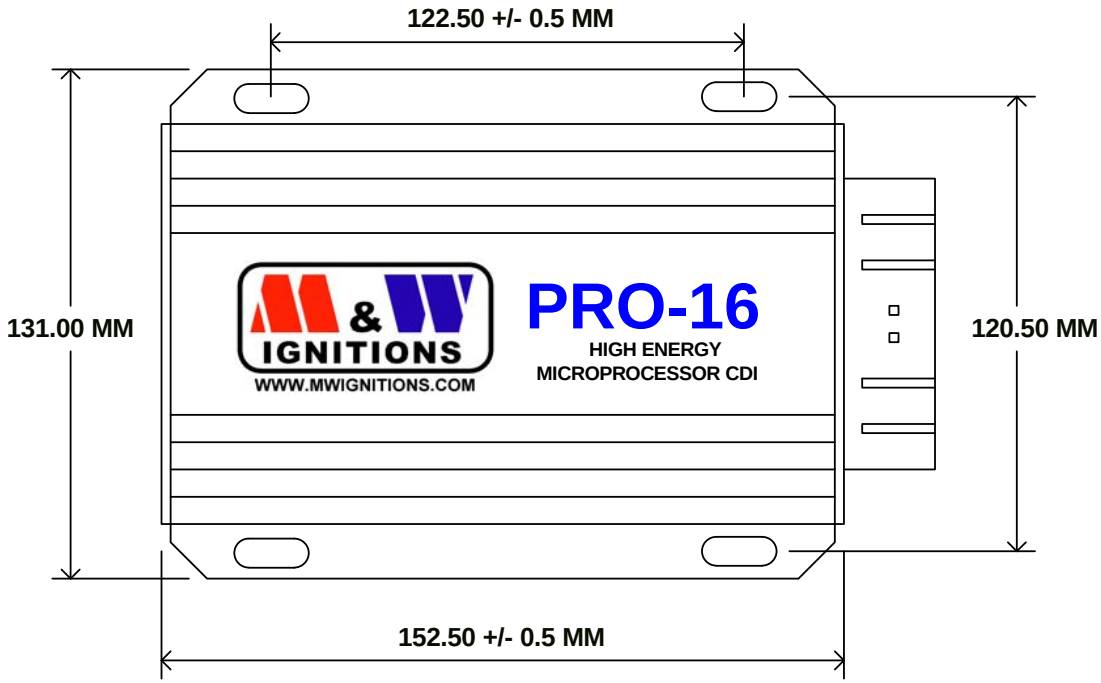

Slot dimensions - 5mm * 10mm

Title: MOUNTING DIMENSIONS		
Size: A4	Number: PRO-16c S3	Revision: 1.0
Date: 13-Sep-2010	Sheet 1 of 1	
File: D:\M&W\..\Pro-16C_S3_Mounting dimensions.sch	Drawn By: M&W	

CAUTION!
HIGH VOLTAGE

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VIEWED FROM BACK OF CONNECTOR

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	21	33
10 ***Coil 5 (**4) +	22 ***Coil 5 & 6 -	34 ***Coil 6 (**5) +
11 ***Coil 3 (**3) +	23 ***Coil 3 & 4 -	35 ***Coil 4 +
12 ***Coil 1 (**1) +	24 ***Coil 1 & 2 -	36 ***Coil 2 (**2) +

***** FIRING SEQUENCE NOT CYLINDER NUMBER**
**** 5 CYLINDER CONNECTIONS**
*** SM4 PIN NUMBERS**

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 = 1200 Hz
Coil primary voltage = 480V
Spark energy = 115 millijoules @ 700Hz
Trigger = 10mA falling edge
Tacho = 12V, 25mA square wave
Maximum allowable case temperature = 105°C
Dimensions = 152L * 110W * 40H
Weight = 740gm

Title	AUTRONIC MULTIPLEX TRIGGER		
Size A4	Number PRO-16c S3		Revision 1.6
Date:	13-Sep-2010	Sheet 1 of 1	
File:	D:\M&W\..\Pro16C_S3_1.sch	Drawn By: M&W	

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CAUTION!
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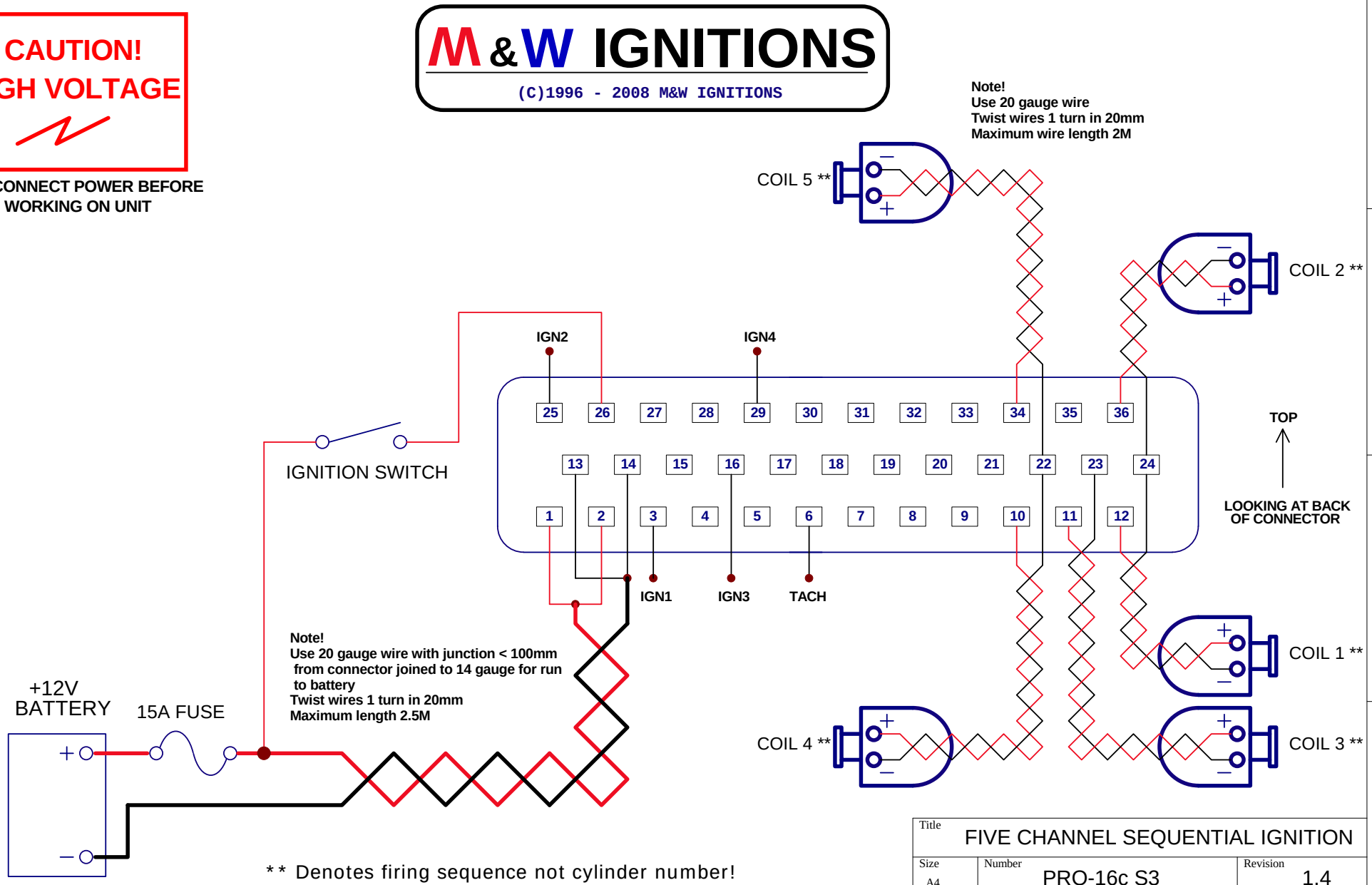
DISCONNECT POWER BEFORE WORKING ON UNIT



** Denotes firing sequence not cylinder number!

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Date: 13-Sep-2010		Sheet 1 of 1
File: D:\M&W\..\Pro16C_S3_2.sch		Drawn By: M&W

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CAUTION!
HIGH VOLTAGE

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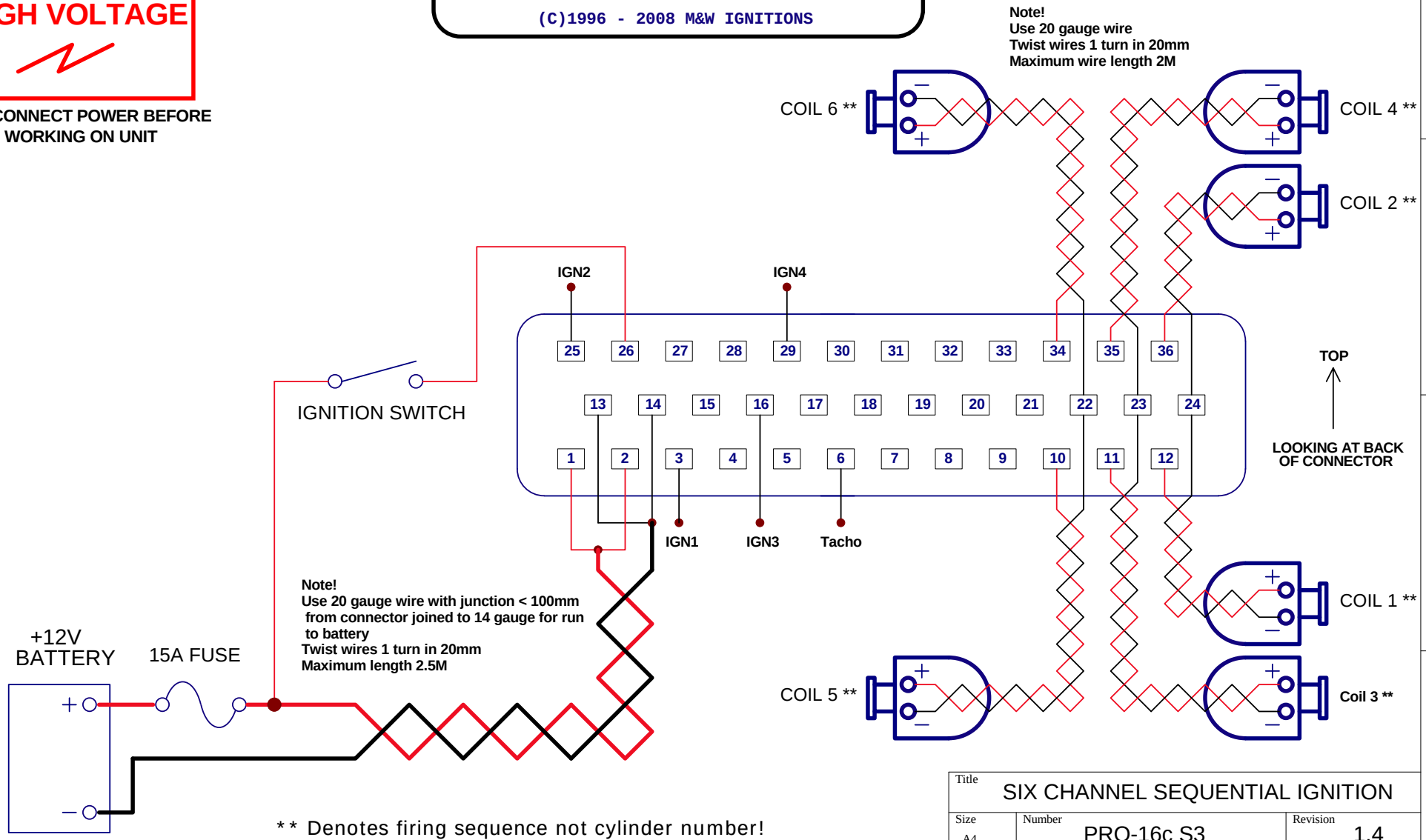

** Denotes firing sequence not cylinder number!

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Date: 13-Sep-2010		Sheet 1 of 1
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CAUTION!
HIGH VOLTAGE

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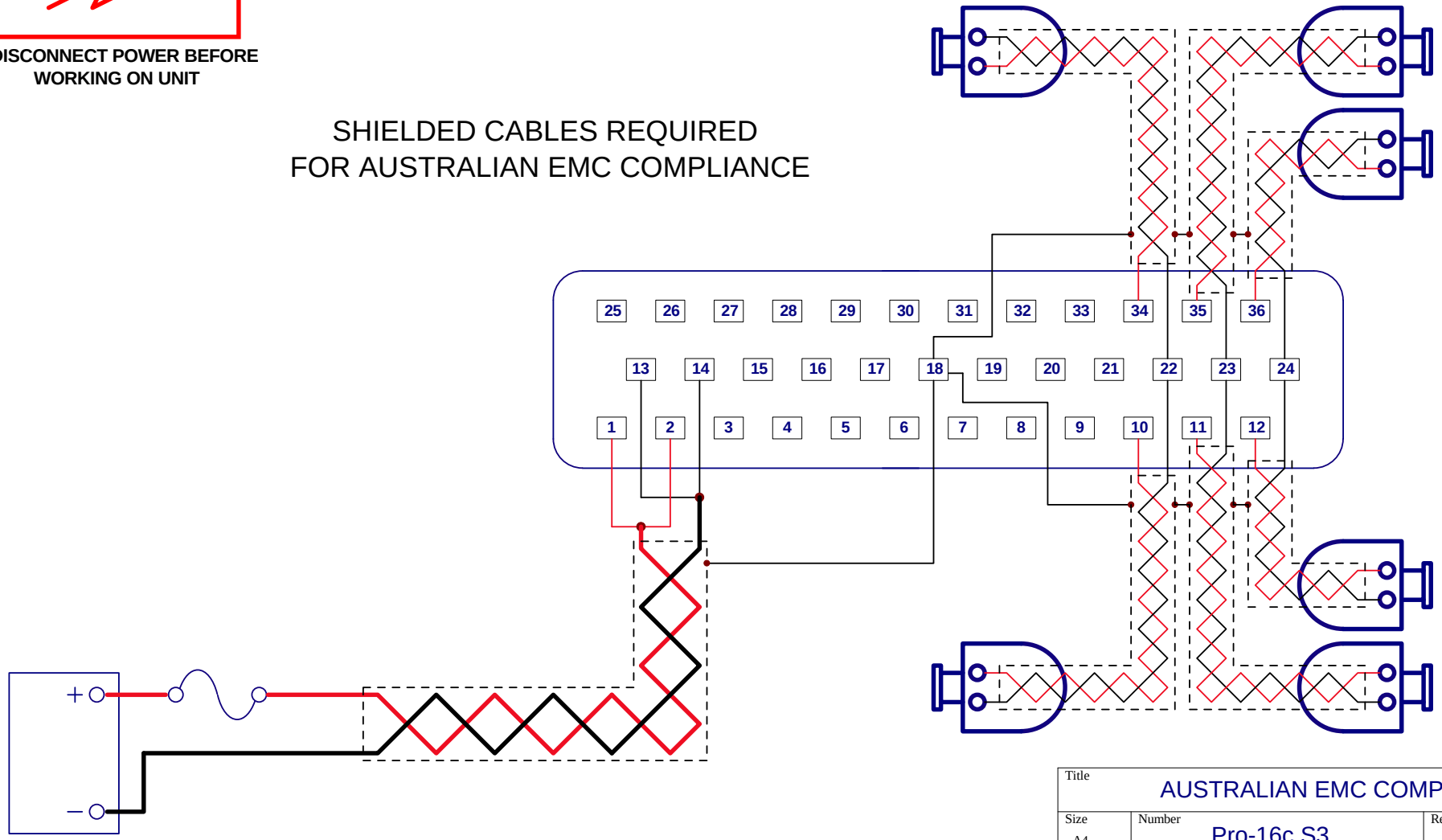
SHIELDED CABLES REQUIRED FOR AUSTRALIAN EMC COMPLIANCE



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Date: 13-Sep-2010		Sheet 1 of 1
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