

WARNING: DEVIATION FROM THESE INSTALLATION INSTRUCTIONS MAY LEAD TO IMPROPER ENGINE OPERATION WHICH COULD CAUSE PERSONAL INJURY TO OPERATORS OR OTHER NEARBY PERSONNEL.

1.0 DESCRIPTION

- 1.1 The Altronic 24VDC alternator/regulator packages provide a reliable, engine-mounted source of DC power for Altronic DC-powered digital ignition systems, other Altronic engine accessories and Altronic Controls panels. There are two versions available.
- VERSION I - The 590110 series (coupling driven) or 590116 series (belt driven) provide up to 70 watts (3 amps) output at 1,800 RPM.
- VERSION II - The 590111 series (coupling driven) or 590117 series (belt driven) provide direct power for the Altronic CD1, CPU-90 and DISN ignition system thus constituting a self-powered, digital ignition system.
- 1.2 The following components are required:
1. Alternator Unit
 2. Regulator (581501 or 581502)
 3. Cable Assembly
 4. Battery Pack (591100) - used only with Version I series alternators

2.0 ALTERNATOR UNIT

- 2.1 **COUPLING DRIVEN UNIT:** The alternator is available with several flange assemblies to facilitate mounting to most engines having a flange magneto drive. The alternator should be secured to the mounting using 3/8"-16 screws; tighten the screws securely.
- 2.2 **BELT DRIVEN UNIT:** The alternator must be driven with a pulley having an adjustable 5/8" I.D. hub. Use a pulley diameter to achieve a speed necessary to satisfy the output requirements of the application - refer to the chart on drawing 509 059A (Version I) or 509 060A (Version II). The alternator should be secured to a mounting bracket using two 3/8"-16 screws; tighten the screws securely.
- 2.3 The maximum recommended continuous operating RPM for the alternator drive shaft is 2,000 RPM.

3.0 REGULATOR

- 3.1 Be sure the regulator is the correct model for the alternator being used; the regulator part no. must match that printed on the alternator label.
- 3.2 Locate a suitable mounting position for the regulator unit within reach of the cable assembly and where the ambient temperature does not exceed 150° F. (65° C.).
- 3.3 Secure the regulator with four 1/4" screws.

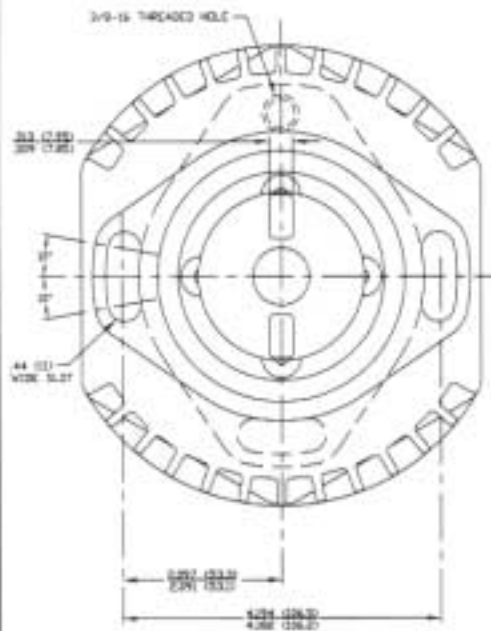
4.0 BATTERY PACK (used only with Version I series alternator and 581501 regulator)

- 4.1 Locate a suitable mounting position for the battery pack unit within reach of the cable assembly and where the ambient temperature does not exceed 122° F. (50° C.).
- 4.2 The battery pack is furnished with shock mounts and 1/4" mounting hardware. Tighten all four nuts securely.

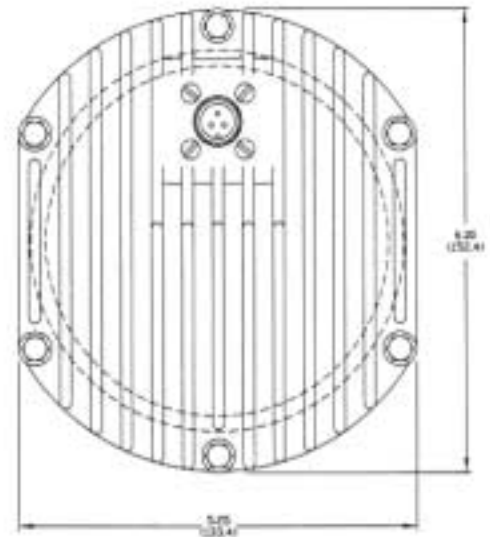
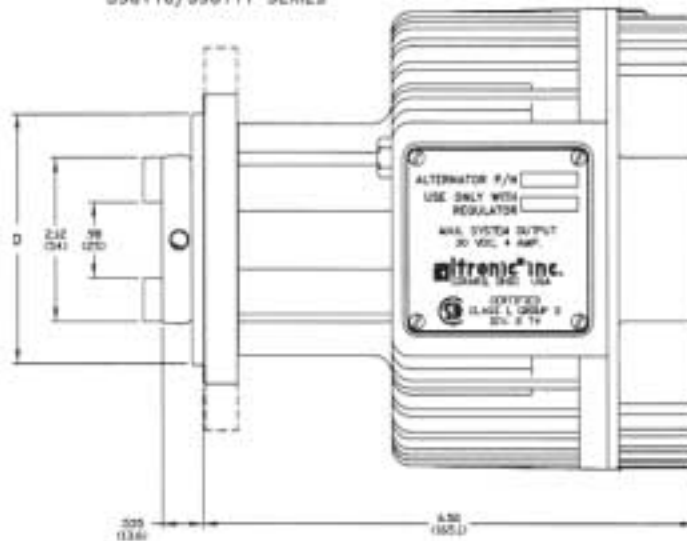
5.0 WIRING HOOK-UP

- 5.1 Refer to the drawings for mounting dimensions for the various system components:
- For alternator dimensions, see drawing 509 056A.
 - For regulator dimensions, see drawing 509 057A.
 - For battery pack dimensions, see drawing 509 058.
- 5.2 Refer to the diagrams for the proper wiring hook-up for the particular alternator/regulator version being used:
- For the Version I system, see drawing 509 059A or 509 063A (shielded system).
 - For the Version II system, see drawing 509 060A or 509 064A (shielded system).

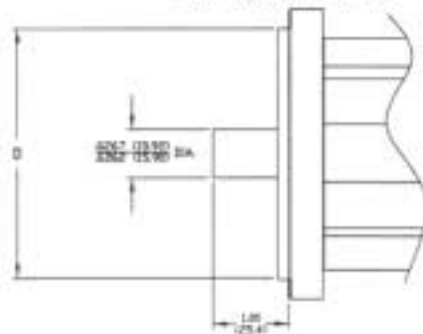
VERSION I MODEL	VERSION II MODEL	FLYOT DIAMETER "D"	FLANGE ORIENTATION	NO. OF .44 SLOTS
59011-A	59011-A	3.250/3.248 (82.55/82.52)	VERTICAL	1
59011-B	59011-D	3.800/2.998 (76.20/76.15)	HORIZONTAL	2
59011-G	59011-G	3.250/3.248 (82.55/82.52)	HORIZONTAL	2
59011-GV	59011-GV	3.250/3.248 (82.55/82.52)	VERTICAL	2
59011-U	59011-U	3.250/3.248 (82.55/82.52)	HORIZONTAL	2



590110/590111 SERIES

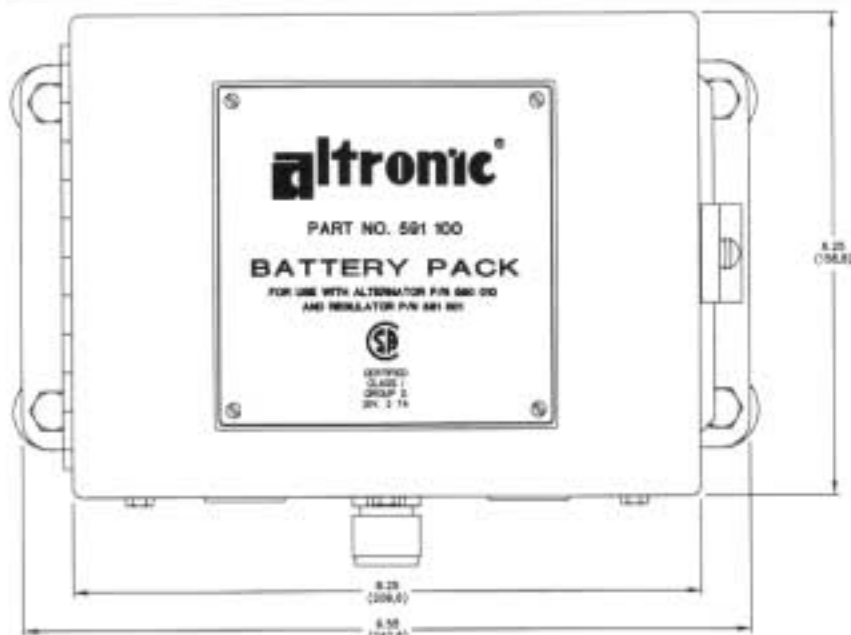


590116/590117 SERIES

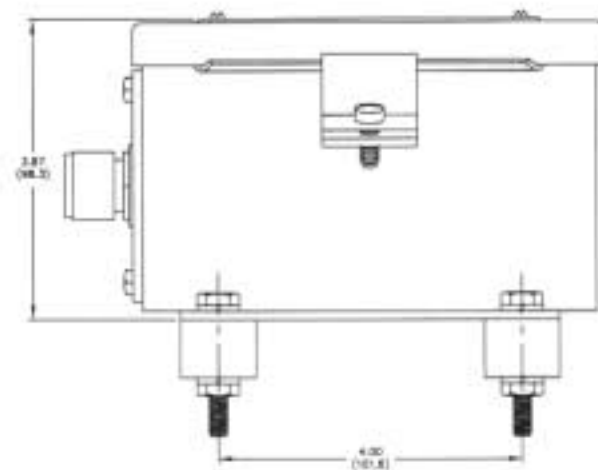
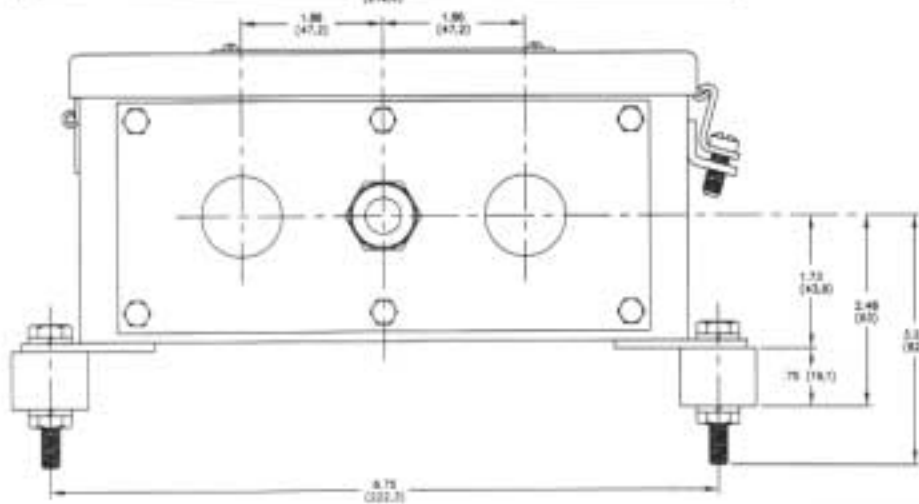


REVIEWS				TELEPHONE	ALTRONIC INC.	
NO.	DATE	BY	DESCRIPTION	NO. 1-800-451-4400	TITLE	REVISED NUMBER
1					24 VDC ALTERNATOR INSTALLATION DRAWING	
2						
3						
4						
5						

DATE: 8-1-03
 DRAWING NO: 509 056A

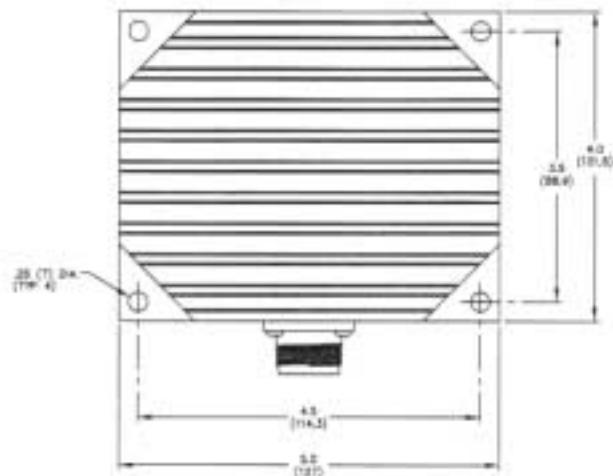


NOTE: FOR REPLACEMENT BATTERIES, USE 2 EA. POWERSONIC MODEL PS-1242 OR EQUIVALENT (12V, 4 AMP-HR).



NOTE: DIMENSIONS IN INCHES AND (MM).

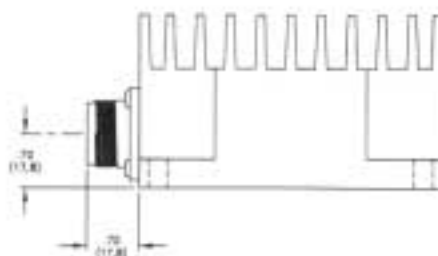
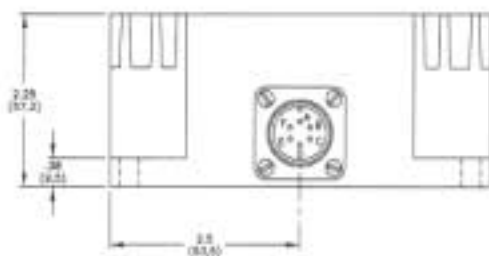
REVISIONS			TOLERANCES UNLESS SHOWN OTHERWISE		ALTRONIC INC.	
NO.	DATE	BY	DESCRIPTION	FINISH	TITLE	
1	4-19-82	WTF	KSD 024	30 - 3.00 20 - 0.01	BATTERY PACK INSTALLATION DRAWING	
2				PLATING	DRW BY	WTF
3					CHECK BY	DFE
4					DATE	12-20-81
5					DRAWN BY	509 058



REGULATOR PART NO.	ALTERNATOR PART NO.	BATTERY PACK	REGULATED VOLTAGE	APPLICATION
581501	590110-x	591100	27 ±10%	BATTERY CHARGING - SEE NOTE 1
	590116-x			
581502	590111-x	NOT USED	27 ±10%	IGNITION POWER - SEE NOTE 2
	590117-x			

NOTE:

- MUST BE USED WITH A BATTERY BACK-UP:
 A) ALTRONIC BATTERY PACK 591100. OR
 B) TWO BATTERIES POWER SONIC MODEL PS-1242 OR EQUIVALENT 12V, 4.0 AMP-HR., WIRED IN SERIES
- POWER FOR ALTRONIC CDI, CPU-90, DISH SYSTEMS ONLY.

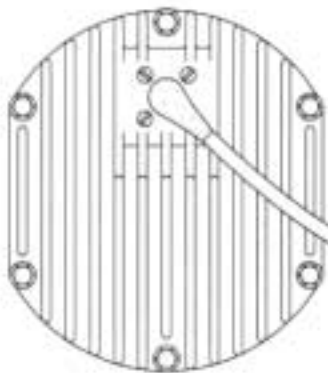


NOTE: REGULATOR SHOULD BE MOUNTED IN A LOCATION WHERE MAXIMUM AMBIENT TEMPERATURE DOES NOT EXCEED 150°F.
 DIMENSIONS IN INCHES AND (MM).

REVISIONS				ALTRONIC INC.	
NO.	DATE	BY	DESCRIPTION	DESIGNED BY	DRAWN BY
1					
2					
3					
4					
5					

TITLE: VOLTAGE REGULATOR
 INSTALLATION DRAWING
 SCALE: 2-1/2"=1"
 DRAWING NUMBER: 509 057A

590110-x
590116-x
ALTERNATOR



3-PIN CONNECTOR

- A - ALT. OUT
- B - ALT. OUT
- C - NOT USED

581501
VOLTAGE REGULATOR



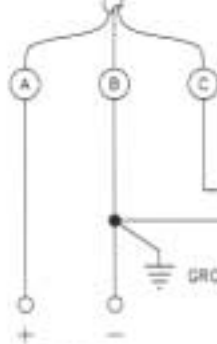
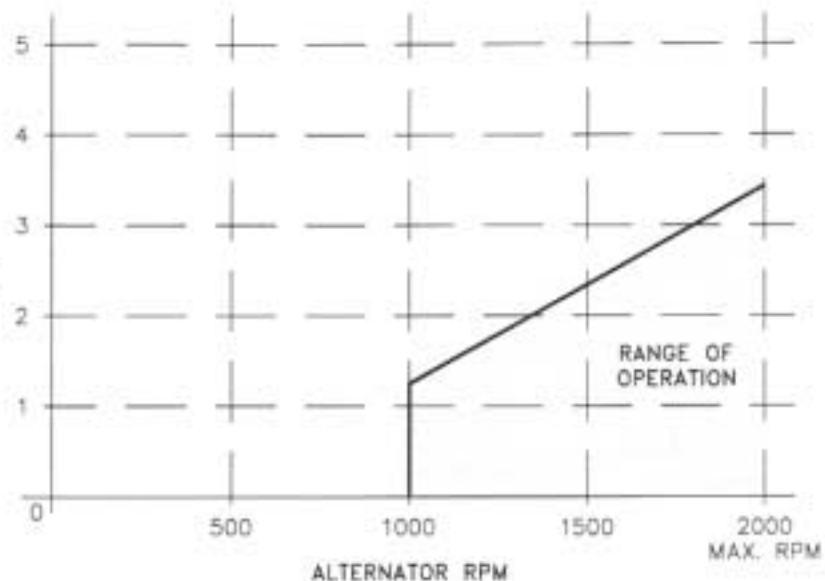
593060-x
CABLE

6-PIN CONNECTOR

- A - +24 VOLT OUTPUT
- B - GROUND
- C - + BATTERY
- D - NOT USED
- E - ALT. INPUT
- F - ALT. INPUT

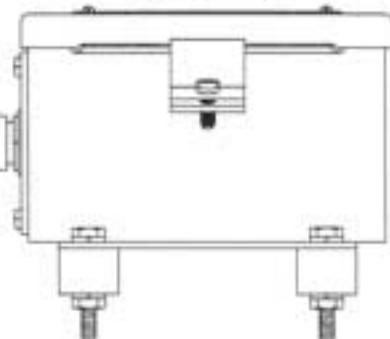
AMPS
● 24VDC

VERSION I



24 VDC POWER
TO ALTRONIC IGNITION
AND CONTROLS

591100
BATTERY PACK



FUSE (2) RATING:
10 AMPS

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1			

TOLERANCES (UNLESS AS NOTED)	ALTRONIC INC.			
DECIMAL XXX - 0.005 XX - 0.010	TITLE 24 VDC SYSTEM - VERSION I INSTALLATION DRAWING			
FRACTIONAL	DRAWN BY	WTP	SCALE	NONE
MATERIAL	CHECKED BY		DATE	2-1-01
	APPROVED BY			DRAWING NUMBER 509 059A

590111-x
590117-x
ALTERNATOR



581502
VOLTAGE REGULATOR



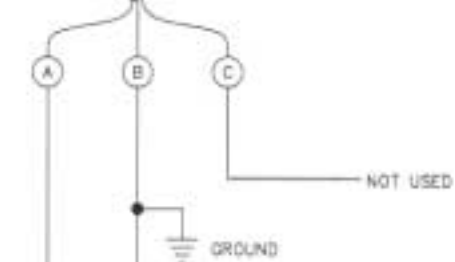
593060-x
CABLE

6-PIN CONNECTOR

- A - +24 VOLT OUTPUT
- B - GROUND
- C - NOT USED
- D - NOT USED
- E - ALT. INPUT
- F - ALT. INPUT

3-PIN CONNECTOR

- A - ALT. OUT
- B - ALT. OUT
- C - NOT USED



24 VDC POWER TO
ALTRONIC CPU-90,
DISN IGNITION

VERSION II

APPLICATION: CD1, CPU-90, DISN

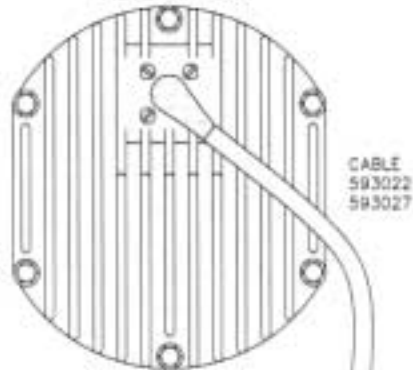
NO. CYLINDERS	CYCLE	MIN. ALTERNATOR DRIVE RATIO *	ENGINE RPM	
			MIN.	MAX.
4 OR LESS	2	1:1	60	1,800
8 OR LESS	2	2:1	30	900
10 OR LESS	2	2.5:1	25	750
16 OR LESS	2	3:1	25	600
8 OR LESS	4	1:1	60	1,800
10 OR LESS	4	1.25:1	50	1,500
16 OR LESS	4	1.5:1	50	1,200

* ALTERNATOR RPM : ENGINE RPM. RATIO LISTED IS MINIMUM TO ACHIEVE PROPER OPERATION OF CD1, DISN AND CPU-90 MODEL -100. CONTACT FACTORY FOR CPU-90 MODELS -150 AND -200.

TOLERANCES (EXCEPT AS NOTED)		ALTRONIC INC.			
DECIMAL XXX - ±.005 XX - ±.010		TITLE 24 VDC SYSTEM - VERSION II INSTALLATION DRAWING			
FRACTIONAL	DRAWN BY WTP	SCALE NONE	DRAWING NUMBER		
MATERIAL	CHECKED BY	DATE 2-13-01	509 060A		
		APPROVED BY			

REVISIONS				
NO.	DATE	BY	DESCRIPTION	
1				
2				

590111-x
590117-x
ALTERNATOR



3-PIN CONNECTOR

A - ALT. OUT
B - ALT. OUT
C - NOT USED

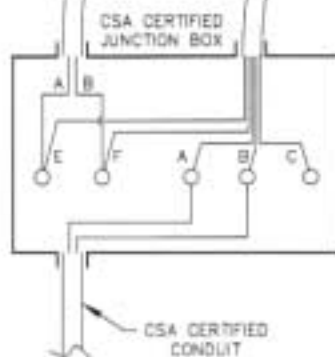
581502
VOLTAGE REGULATOR



CABLE
593058

6-PIN CONNECTOR

A - +24 VOLT OUTPUT
B - GROUND
C - NOT USED
D - NOT USED
E - ALT. INPUT
F - ALT. INPUT



CSA CERTIFIED
CONDUIT

TO IGNITION CONTROLS
30 VDC MAX.
4 AMPS MAX.

VERSION II

APPLICATION: CD1, CPU-90, DISN

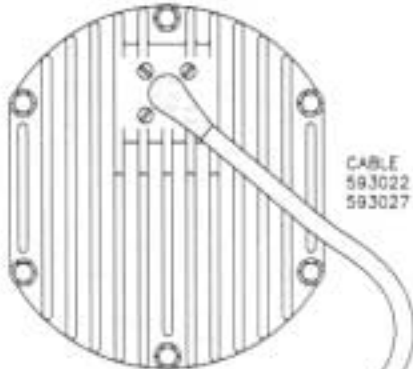
NO. CYLINDERS	CYCLE	MIN. ALTERNATOR DRIVE RATIO *	ENGINE RPM	
			MIN.	MAX.
4 OR LESS	2	1:1	60	1,800
8 OR LESS	2	2:1	30	900
10 OR LESS	2	2.5:1	25	750
16 OR LESS	2	3:1	25	600
8 OR LESS	4	1:1	60	1,800
10 OR LESS	4	1.25:1	50	1,500
16 OR LESS	4	1.5:1	50	1,200

* ALTERNATOR RPM : ENGINE RPM. RATIO LISTED IS MINIMUM TO ACHIEVE PROPER OPERATION OF CD1, DISN AND CPU-90 MODEL -100; CONTACT FACTORY FOR CPU-90 MODELS -150 AND -200.

TOLERANCES (EXCEPT AS NOTED)		ALTRONIC INC.			
DECIMAL XXX - ±.005 XX - ±.010	FRACTIONAL	TITLE 24 VDC SHIELDED SYSTEM - VERSION II INSTALLATION DRAWING			
DRAWN BY	WTP	SCALE	NONE	DRAWING NUMBER	
CHECKED BY		DATE	2-13-01	509 064A	
APPROVED BY					

REVISIONS				
NO.	DATE	BY	DESCRIPTION	
1				
2				

590110-x
590116-x
ALTERNATOR



3-PIN CONNECTOR

- A - ALT. OUT
- B - ALT. OUT
- C - NOT USED

581501
VOLTAGE REGULATOR



CABLE
593058

6-PIN CONNECTOR

- A - +24 VOLT OUTPUT
- B - GROUND
- C - + BATTERY
- D - NOT USED
- E - ALT. INPUT
- F - ALT. INPUT

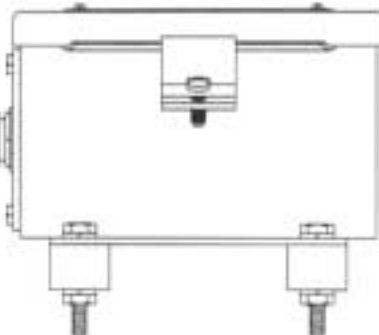
AMPS
● 24VDC



CSA CERTIFIED
JUNCTION BOX

FUSE (2) RATING
10 AMPS

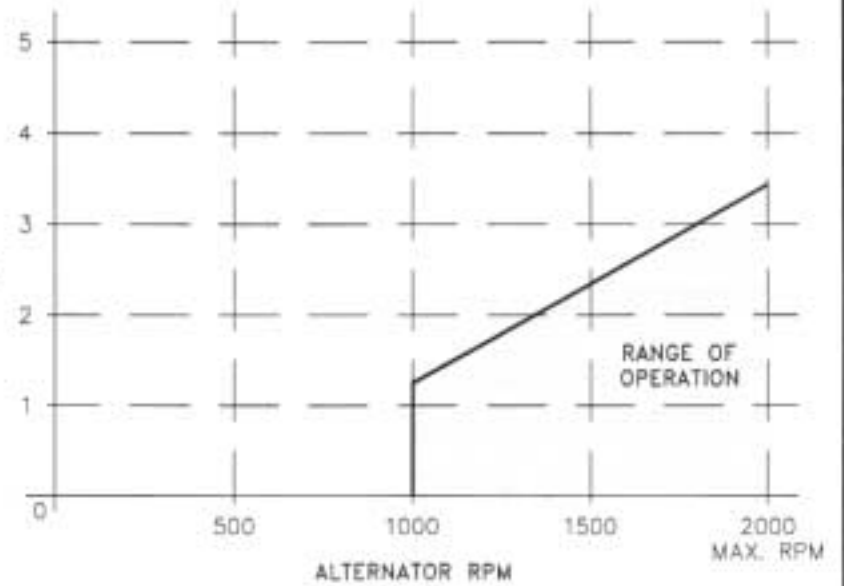
591100
BATTERY PACK



CSA CERTIFIED
CONDUIT

TO IGNITION CONTROLS
30 VDC MAX.
4 AMPS MAX.

VERSION I



TOLERANCES (EXCEPT AS NOTED)		ALTRONIC INC.	
DECIMAL -XXX - 0.005 XX - 0.010		TITLE 24 VDC SHIELDED SYSTEM - VERSION I INSTALLATION DRAWING	
FRACTIONAL	DRAWN BY WTP	SCALE NONE	DRAWING NUMBER
MATERIAL	CHECKED BY	DATE 2-1-01	509 063A
APPROVED BY			

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1			