

Contact Alltrax:

Phone: 541-476-3565

Fax: 541-476-3566

Email:

Tech Support: helpdesk@alltraxinc.com

Orders: orders@alltraxinc.com

Shipping: shipping@alltraxinc.com

General Inquires: info@alltraxinc.com

Website:

<http://www.alltraxinc.com>

Facebook:

<http://www.facebook.com/AlltraxInc>

Twitter:

<http://www.twitter.com/Alltraxinc>

TABLE OF CONTENTS

WARNINGS	4
SR LAYOUT	6
SR SPECIFICATIONS	7
INSTALLATION	8
INSTALLATION DRAWINGS	14
PRE-1994 EZGO	15
1994 AND NEWER EZGO	16
1994 AND NEWER CLUB CAR	17
YAMAHA - G8, G9, G14, G16	18
GENERIC, SERIES WITH REVERSE	19
GENERIC, SERIES W/O REVERSE	20
CONTROLLER DIMENSIONS	21
FAN COVER (OPTIONAL)	22
USER (PERSONALITY) TAB	23
PROGRAMMING THE CONTROLLER	24
BLINK CODES	25
WARRANTY STATEMENT	27

WARNINGS



Safety Notes:

When working on electric vehicles, sudden unexpected events can occur, it's recommended to:

- Place the drive axle on jack stands—wheels off the floor.
- When working on wiring or batteries, always remove rings and watches.
- Use the proper safety equipment, eye protection, and insulated tools.
- Never connect a computer while the vehicle is being charged.
- Disconnect batteries before installing or working on the controller.
- Wear safety glasses.
- Because hydrogen can build up due to gassing from the batteries, work in a well ventilated area.
- Make sure the battery pack is fused.
- Do not clean the controller with a high PSI pressure washer.
- When cleaning batteries, take precautions to keep the battery acid from splashing on the controller.

Note:

It is the installer's responsibility to ensure the correct equipment (ie. wire, motor, solenoid, fuse etc) is installed in the car.

READ AND SAVE THESE INSTRUCTIONS

USABILITY STATEMENT

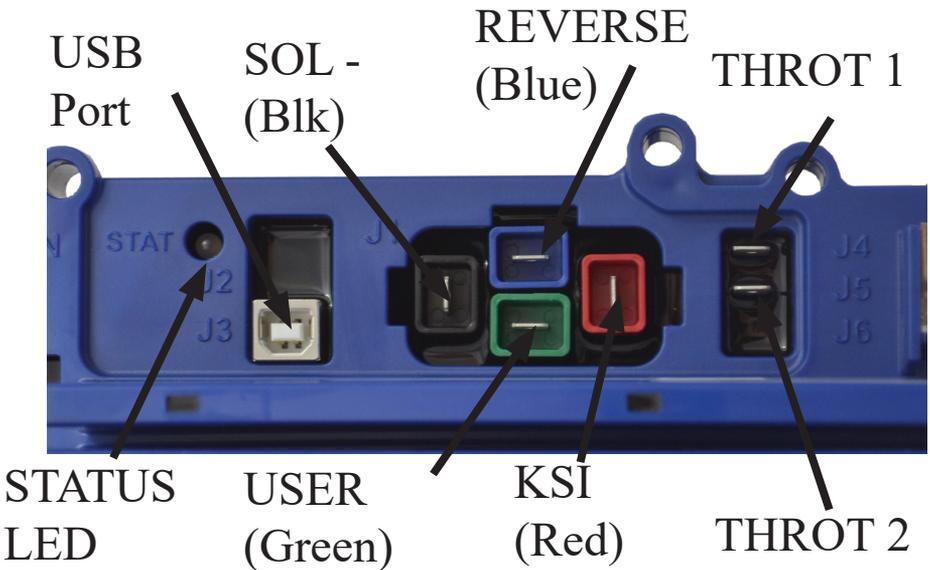
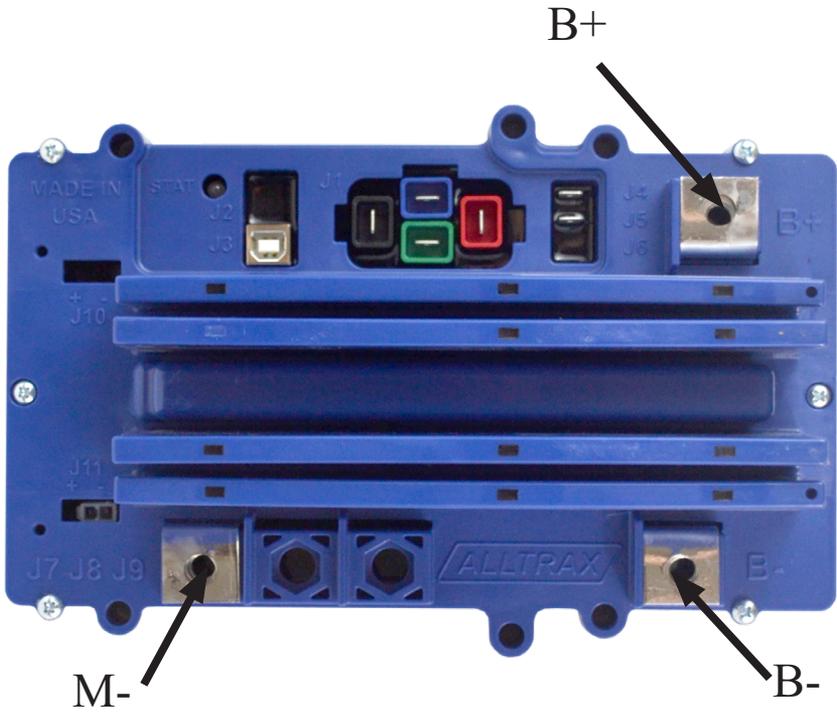


Alltrax Inc's lines of Series and Shunt Motor Controllers are intended for use with motors only. Any application or usage that does not meet these criteria WILL NOT be covered by warranty. Also, any requests for design assistance or technical support outside the scope of the product intended use may be denied. Alltrax assumes no liability for any damage or injury as a result of use of the motor controllers in a non-traction or process motor application.

WARNING: Use of this product for other than these specified uses may be highly dangerous and lead to serious injuries or death.

WARNING: The use of this product for the production of Plasma Assisted Hydrogen, Brown's Gas, HHO (H₂O Hydrogen Electrolysis) or any other type of gas is prohibited. Generation and storage of these gasses is extremely dangerous and poses a significant risk of explosion, fire, property damage and serious injury or death.

SR LAYOUT



SR SPECIFICATIONS

Model	Peak (Amps)	2 Min (Amps)	5 Min (Amps)	Continuous (Amps)
SR48300	300/350 ¹	300	230	125
SR48400	400/460 ¹	400	300	140
SR48500	500/575 ¹	500	350	175
SR48600	600/690 ¹	600	425	210
SR72300	300/350 ¹	300	275	130
SR72400	400/460 ¹	400	300	150
SR72500	500/575 ¹	500	400	210

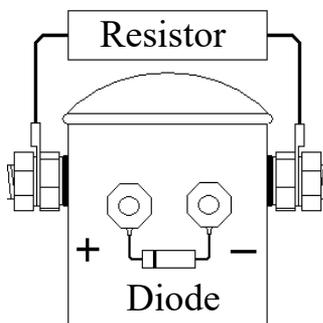
Note¹: The larger number represents the value when the "Peak Amp Mode" is enabled in the Alltrax Toolkit program.

All ratings are at 25°C with nominal rated voltages at 50% PWM. Actual currents are ±5% listed rating

Type:	Series Motor Controller
Operating Frequency:	18kHz
Controller Voltage, KSI & Reverse:	SR48XXX 12-48V nom, 62V max SR72XXX 12-72V nom, 90V max
Controller Operating Temp:	-20°C to 75°C, shutdown @ 85°C
Environmental Operating Temp:	-20°C to 50°C
Stand by Power (Power up):	<1W nom, <8W Fan on
Stand by Current:	<20mA
Relay Drive Current:	5A peak, 1A Cont.
KSI Peak In Rush:	60V = 9A, 30V = 4A, 9.5V = 2A
Throttles Supported:	0-5k, 5k-0, E-Z-GO ITS, Club Cart 5k-0 3 Wire (MCOR), 0-5v, Taylor Dunn 6v-10.5v, USB Throttle, Absolute Mode
Terminal Torque:	Torque to 60-80 in.lb (5-7 ft/lb, 6.77-9.4Nm)
Mounting Bolt Torque:	Torque bolts to 15-20 in.lb (1.25-1.75 ft.lb, 1.7-2.25nm)

INSTALLATION

Resistor & Diode Mounting



The diode across the coil terminals safely dissipates the energy when the coil is turned off. Installation Dependant, refer to applicable drawing.



Contactor Size	Diode	Diode Current
70A-200A Solenoid	1N4004	1A
400A-550A Solenoid	1N5408	3A
600A or larger Solenoid	MR754	6A

The resistor typically seen across the contactors big terminals pre-charges the filter capacitors in the controller. This minimizes arcing across the contactor terminals when closing.

Battery Voltage	Resistor
12-36V	220-250 Ohm 10W
48V	470 Ohm 10W
72V	1000 Ohm 10W



F/R Switch

The forward/reverse switch is an often overlooked part of the upgrade process. In a series motor, all of the motor current will pass through the F/R switch. An undersized F/R Switch is as bad as an undersized solenoid or small wire gauge.

For higher amperage controllers (>600A), it is suggested that a change-over contactor set up be used. These are large enough to handle the higher currents without over heating the contacts and they provide the user the ability to change direction by flipping a switch.

Controller Amperage	F/R Size
400A or less	Stock/HD
450A to 650A	Heavy Duty/Change-Over Contactor
650A or more	Change-Over Contactor



Change-over contactors are multiple contactors bound together that allow the user to change the polarity of the voltage going to the motor thus reversing direction. It works exactly the same as the manual F/R switch, except that it uses coil drive contactors. See the installation drawings for how to wire a change-over contactor.

Contactors (Solenoids)



The solenoid is the primary disconnect of the battery pack in the case of the an emergency. In order to be effective, the solenoid needs to be properly rated for the current that will be drawn from the batteries. It is VERY important that the solenoid be rated correctly. It is the only way to disconnect the batteries from the motor/controller loop in case of a failure. Too small of a solenoid increases the likelihood that the contacts will weld together and not be able open.

UNACCEPTABLE



Stock 70 AMP

Used with older ClubCars vehicles

DO NOT Use with Alltrax Controller

STANDARD DUTY

Flat lands with moderate speed and torque performance expectations.



Stock 100 AMP

Use with 300A controllers.

HEAVY DUTY

High performance, high speed, maximum torque, pulling loads, hilly terrain or Hunting Buggies.



Performance 200 AMP
(600amp Inrush) Use with 300
and 400 AMP Controllers



Heavy Duty 200 AMP
(800A surge) Use with 300 to
500 AMP Controllers



Heavy Duty 400 AMP
(1000A surge) Use with 500 and
600 AMP Controllers
Suggested types:
SW200
MZJ400 (Shown)

EXTREME DUTY



Extreme Duty 600A+ AMP
(1000A + surge) Use with 600
AMP or bigger Controllers.

Fuse

Any application where there is a battery pack, a fuse must be installed. A fuse will open the battery circuit and prevent any serious damage from occurring.

The fuse should be installed on or between the battery terminals. The main B+, B- or in-between 2 batteries is an acceptable location. The fuse must be rated for pack voltage and fault current.



Controller Amperage	Fuse Rating
400A or less	250A
450A to 650A	400A
650A or more	600A

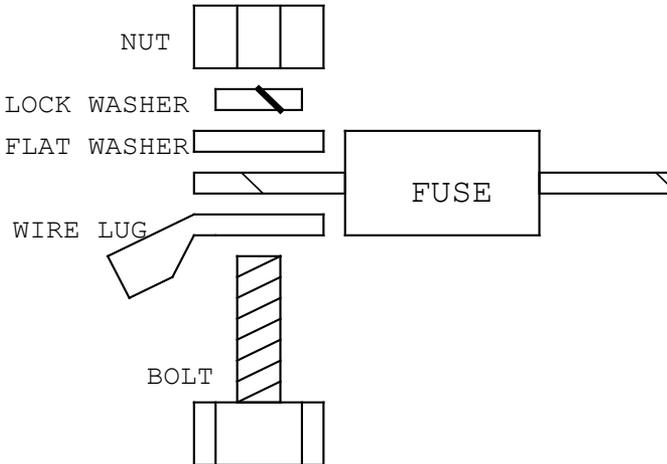


Diagram: Fuse terminal hardware

Wiring

Wiring and battery health in an electric vehicle are very important and overlooked during performance upgrades. Wiring size is important for safety and proper operation of the vehicle. Undersized wires will affect the performance of controllers and can overheat. Wires should be crimped with proper sized terminals and tools to provide a clean low resistance connection.

Controller	Min. Wire AWG Standard Duty	Min. Wire AWG Heavy Duty
300A	OEM -6 AWG	4 AWG
400A	4 AWG	4 AWG
500A	2 AWG	1/0 AWG
600A	1/0 AWG	2/0 AWG

Power Wiring

When running wiring for the vehicle care must be taken for proper wire routing. Power wiring should be of proper sizing and ran as low in the framework of the vehicle as practical. Lengths of power wire runs need to be kept short and pairs of wires from common circuits should be grouped together to reduce EMC emissions. Secure all power wiring to the vehicle framework.

Signal Wiring

Signal wires should be keep as short as practical. Care should be taken to protect the wires sharp edges and rubbing. Consider the use of split loom or braided wire sheathing. Fasten bundles securely to framework. Do not route the signal wires together in the same bundle with power wires. All safety interlocks (KSI, Footswitch, etc) need to be mechanical switches or electromechanical relay.

INSTALLATION DRAWINGS

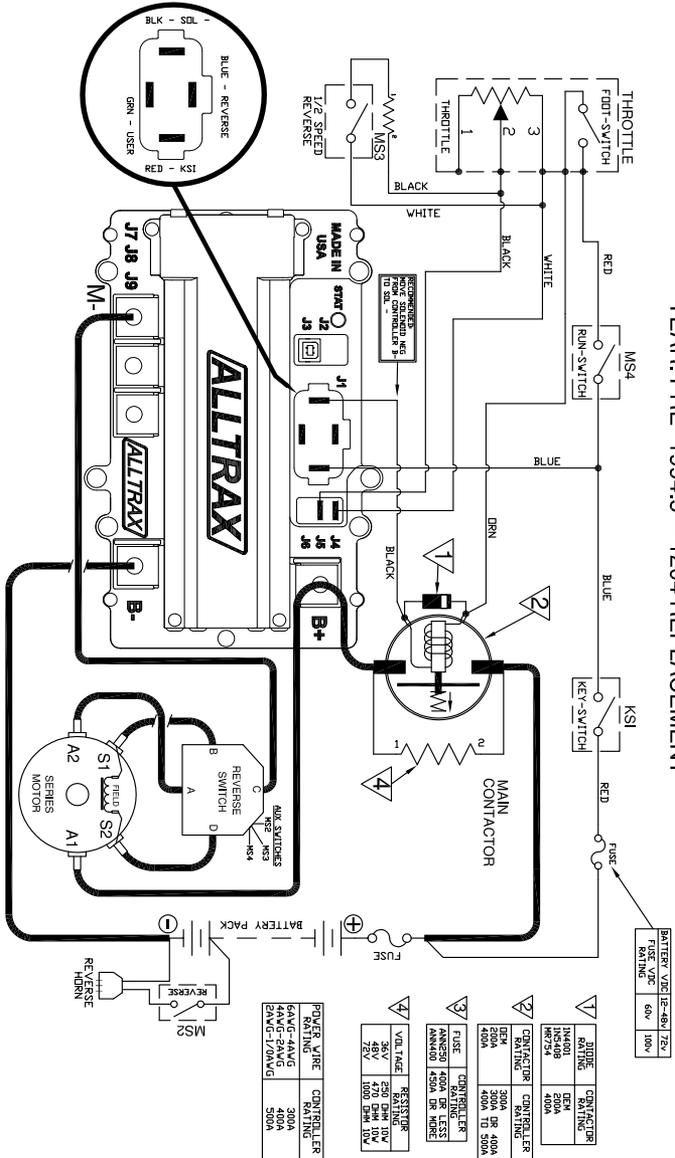
See our Website more drawings:
Full Sized & Updated
Other OEM Drawings
More Generic Wire Diagrams
Non Standard Throttle Wiring

PRE-1994 EZGO

SR to E-Z-GO TXT

YEAR: PRE-1994.5 -- 1204 REPLACEMENT

PART NO. DOC110-040



NOTES:

- > FUSES REQUIRED FOR ALL INSTALLATIONS
- > FUSES MUST BE OF THE CORRECT RATING
- > KSI IS REQUIRED TO BE A SWITCHED INPUT, NOT RESISTIVE
- > ASSUMES FOOTSWITCH IS OPEN WHEN THROTTLE OPERATION WITHOUT NOTICE
- > ASSUMES USER HAS THE RIGHT TO CHANGE DOCUMENTATION
- > ALLTRAX MAKES NO WARRANTY, AS TO THE ACCURACY, COMPLETENESS, OR ANY OTHER INFORMATION PROVIDED
- > SEE OPERATOR'S MANUAL FOR MORE INFORMATION

REV.	ECO.	DATE	APVD	DWG SCALE	NTS
A	033016	033016	RC		033118
B	032817	032817	RC		

DESIGNED BY	DR. GOSWIK	033118
DATE	033118	
REVISED BY	DR. GOSWIK	032817
DATE	032817	

THIS DRAWING IS THE PROPERTY OF ALLTRAX INC. IT IS TO BE USED ONLY FOR THE PURPOSES AND IN THE MANNER SPECIFIED BY ALLTRAX INC.

ALLTRAX 1111 Chenoa Creek Rd., Chenoa, IL 61519

SR to EZGO Pre-1994 Meddolist Wiring Diagram

SIZE DOCUMENT NO. DOC110-040

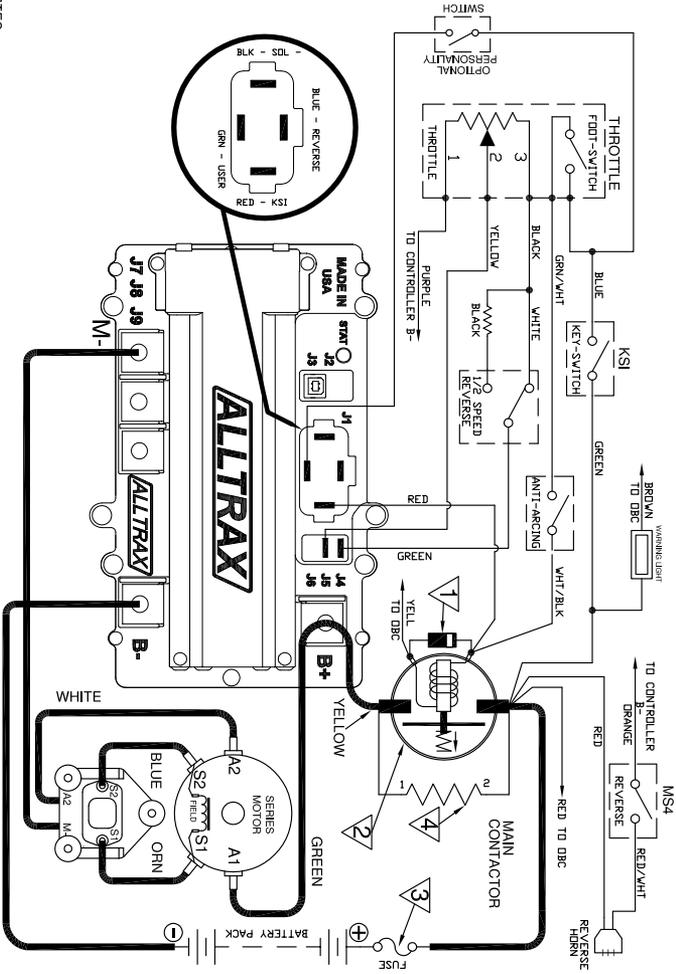
FILE: J:\DC-3R-5203-REV-1194-1994-DC4 SHEET 1 of 1

DO NOT SCALE DRAWINGS

1994 AND NEWER CLUB CAR

SR to CLUB CAR DS YEAR: 1995 TO PRESENT

PART NO. DOC110-037



WIRE	RESISTOR	CONVERTER
36V	250 OHM 10W	GEN 300A 18 400A
48V	470 OHM 10W	GEN 400A 18 400A
72V	100 OHM 10W	GEN 400A 18 500A
96V	100 OHM 10W	GEN 400A 18 500A

FUSE	CONVERTER
10A	GEN 300A 18 400A
15A	GEN 400A 18 400A
20A	GEN 400A 18 500A

VOLTAG	RESISTOR
36V	250 OHM 10W
48V	470 OHM 10W
72V	100 OHM 10W
96V	100 OHM 10W

- NOTES:
- PRODS REQUIRED FOR ALL INSTALLATIONS
 - SEE OPERATORS MANUAL FOR WIRING DIAGRAMS
 - KSI IS REQUIRED TO BE A SWITCHED INPUT, NOT RESISTIVE
 - ASSUMES FOOTSWITCH IS OPEN WHEN THROTTLE UPF
 - W/THOUT NOTICE THE RIGHT TO CHANGE REPRESENTATION
 - ALLTRAX MAKES NO WARRANTY AS TO THE ACCURACY,
 - COMPLETENESS OR FITNESS FOR ANY PARTICULAR
 - OR OTHER INFORMATION PROVIDED
 - SEE OPERATORS MANUAL FOR MORE INFORMATION

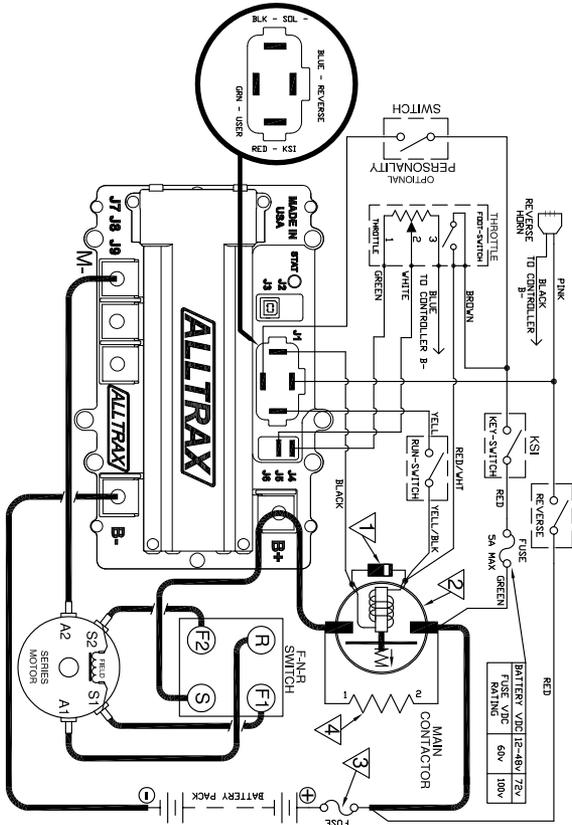
REV.	ECO.	DATE	APP'D	REVISIONS
A	033016	033016	RC	
B	032817	032817	RC	

DRAWN: R CSJK		DATE: 033118
CHECKED: D O'CONNOR		DATE: 033118
THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF ALLTRAX INC. AND IS TO BE USED ONLY FOR THE PURPOSES SPECIFIED HEREIN. NO OTHER INFORMATION PROVIDED.		
TITLE: SR to Club Car DS Wiring Diagram		
SIZE	DOCUMENT NO.	REV.
A	S	B
FILE: JMC-36-CLUB-CAR-DS-WIR-COM	DOC110-037	SHEET 1 of 1

DO NOT SCALE DRAWING

YAMAHA - G8, G9, G14, G16

SR to YAMAHA G8/G9/G14/G16



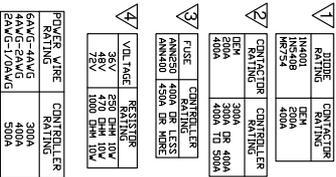
- NOTES:**
- FUSES REQUIRED FOR ALL INSTALLATIONS
 - DIODE REQUIRED ACROSS DIODES / RELAYS
 - ASSUMES FUSION SWITCH IS OPEN WHEN THROTTLE SET
 - > ALTRAX RESERVES THE RIGHT TO CHANGE DOCUMENTATION
 - > ALTRAX MAKES NO WARRANTY AS TO THE ACCURACY, DURABILITY, OR SUITABILITY OF ANY TECHNICAL DRAWING OR INFORMATION
 - > SET OPERATOR'S MANUAL FOR MORE INFORMATION

REPLACING STOCK CONTROLLER:

- REMOVE BATTERIES AND CONTROLLER. CUT OFF WIRES FLUSH WITH FACEPLATE OF OLD CONTROLLER.
- GRIND OFF EXCESS WIRE ON TEL/BLK WIRE. CONNECT TO BATTERY WITH RED/WHT WIRE.
- GRIND OFF BROWN WIRE AND THE END OF RED/WHT AS SHOWN ON THE OLD CONTROLLER.
- REMOVE RING TERMINAL FROM BLACK WIRE FROM SLEDMAN AND GRIND 1/4" FEMAL SPAKE AND CONNECT AS SHOWN
- DRILL NEW MOUNTING HOLES IF NECESSARY
- CONNECT LARGE WIRES TO CONTROLLER AS FOLLOWS
 - > RECONNECT THROTTLE SENSOR (NOT INCLUDED)
 - > ADD RESISTOR ACROSS SLEDMAN (NOT INCLUDED)
 - > ADD DIODE, SENSOR, SLEDMAN, SOIL, AND UNBURNED.

REPLACING AXE CONTROLLER

- GRIND 1/4" FEMAL SPAKE TO GREEN WIRE. CONNECT TO S5
- GRIND EXCESS WIRE (IF NECESSARY)
- REPLACE SPAKE ON BLUE WIRE WITH 1/2" RING TERM AND MOVE TO B-



DO NOT SCALE DRAWING

ALTRAX 1111 Cheney Creek Rd.
Grants Pass, OR 97527
PHONE:(541) 476-3666

TITLE SR to Yamaha G8, G9, G14, G16
Wiring Diagram

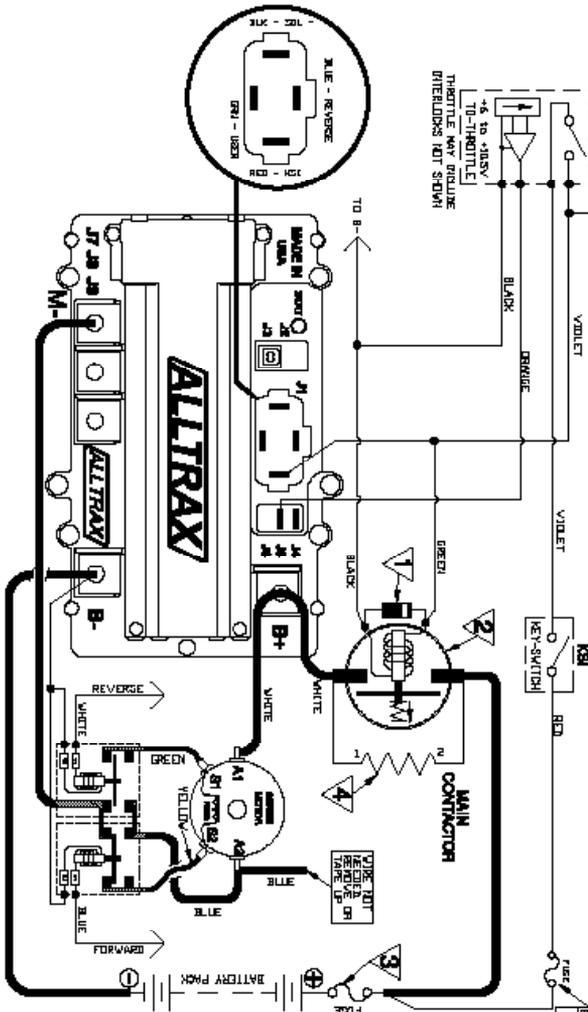
SIZE DOCUMENT NO. D0C110-041
REV. B

PART NO. D0C110-041

TAYLOR DUNN GENERIC WIRING

SR - TAYLOR DUNN GENERIC WIRING

DRAWING SHOWS VEHICLE CONNECTIONS TO CONTROLLER AND MAY NOT REFLECT THE REST OF THE VEHICLE WIRING. PLEASE REFER TO OEM DRAWING FOR YOUR MAKE/MODEL OF VEHICLE FOR THROUGHPUTTING PURPOSES.



NOTES:

1. WIRE REQUIRED FOR ALL INSTALLATIONS
2. WIRE REQUIRED FOR ALL INSTALLATIONS
3. WIRE REQUIRED FOR ALL INSTALLATIONS
4. WIRE REQUIRED FOR ALL INSTALLATIONS
5. WIRE REQUIRED FOR ALL INSTALLATIONS
6. WIRE REQUIRED FOR ALL INSTALLATIONS
7. WIRE REQUIRED FOR ALL INSTALLATIONS
8. WIRE REQUIRED FOR ALL INSTALLATIONS
9. WIRE REQUIRED FOR ALL INSTALLATIONS
10. WIRE REQUIRED FOR ALL INSTALLATIONS
11. WIRE REQUIRED FOR ALL INSTALLATIONS
12. WIRE REQUIRED FOR ALL INSTALLATIONS
13. WIRE REQUIRED FOR ALL INSTALLATIONS
14. WIRE REQUIRED FOR ALL INSTALLATIONS
15. WIRE REQUIRED FOR ALL INSTALLATIONS
16. WIRE REQUIRED FOR ALL INSTALLATIONS
17. WIRE REQUIRED FOR ALL INSTALLATIONS
18. WIRE REQUIRED FOR ALL INSTALLATIONS
19. WIRE REQUIRED FOR ALL INSTALLATIONS
20. WIRE REQUIRED FOR ALL INSTALLATIONS

REV	DATE	BY	DESCRIPTION
1	01/10/08	...	...
2	...	...	...
3	...	...	...
4	...	...	...
5	...	...	...
6	...	...	...
7	...	...	...
8	...	...	...
9	...	...	...
10	...	...	...

SEE OPERATOR MANUAL FOR MORE INFORMATION

ALLTRAX
 1111 Channing Court, Raleigh, NC 27607
 (919) 876-1111
 www.alltraxinc.com

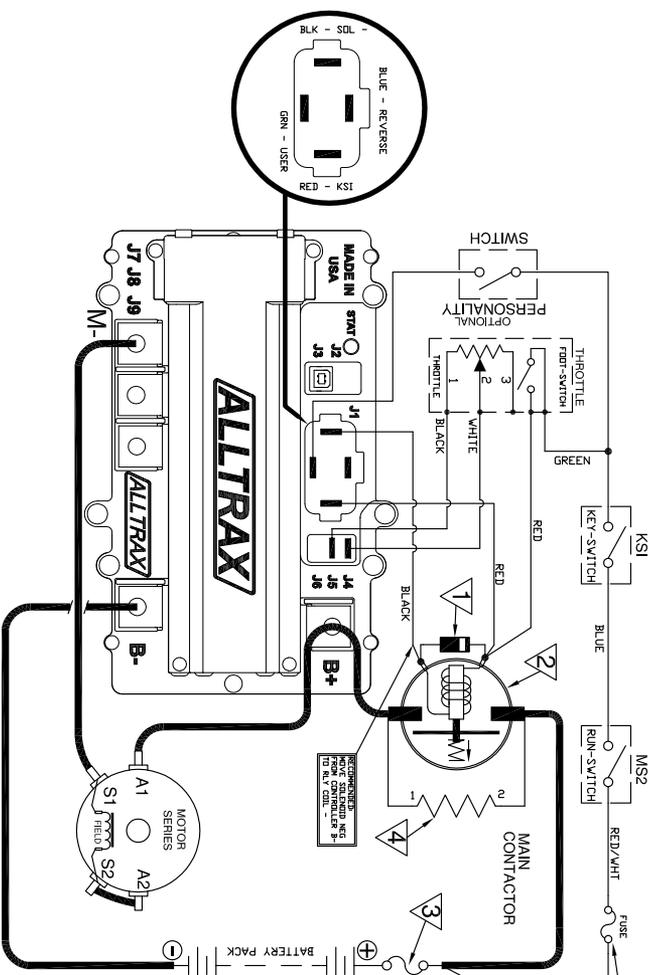
WIRE COLOR	FUNCTION
BLACK	GROUND
WHITE	BATTERY POSITIVE
GREEN	REVERSE
BLUE	...
RED	...
VIOLET	...
YELLOW	...
PURPLE	...
BROWN	...
ORANGE	...
PINK	...
GRAY	...
SLIVER	...

WIRE COLOR	FUNCTION
BLACK	GROUND
WHITE	BATTERY POSITIVE
GREEN	REVERSE
BLUE	...
RED	...
VIOLET	...
YELLOW	...
PURPLE	...
BROWN	...
ORANGE	...
PINK	...
GRAY	...
SLIVER	...

WIRE COLOR	FUNCTION
BLACK	GROUND
WHITE	BATTERY POSITIVE
GREEN	REVERSE
BLUE	...
RED	...
VIOLET	...
YELLOW	...
PURPLE	...
BROWN	...
ORANGE	...
PINK	...
GRAY	...
SLIVER	...

GENERIC, SERIES W/O REVERSE

SR - GENERIC WIRING NO REVERSE



- NOTES:
- FUSES REQUIRED FOR ALL INSTALLATIONS
 - DIODES REQUIRED ACROSS COILS / RELAYS
 - KSI IS REQUIRED TO BE A SWITCHED THROTTLE NOT RESISTIVE
 - ALLTRAX RESERVES THE RIGHT TO CHANGE DOCUMENTATION
 - ALLTRAX RESERVES THE RIGHT TO CHANGE DOCUMENTATION
 - > ALLTRAX WIRE NO WARRANTY AS TO THE ACCURACY, SUFFICIENCY, OR SUITABILITY OF ANY TECHNICAL INFORMATION.
 - > SEE OPERATOR'S MANUAL FOR MORE INFORMATION

REVISIONS		DWG. SCALE: NTS		DATE		BY		CHKD.		APP'D.	
REV.	ECO.	DATE	APPRO.	ENGR.	D. Goodall	03/11/16					
A	03/30/16	03/30/16	RC								
B	03/22/17	03/22/17	RC								

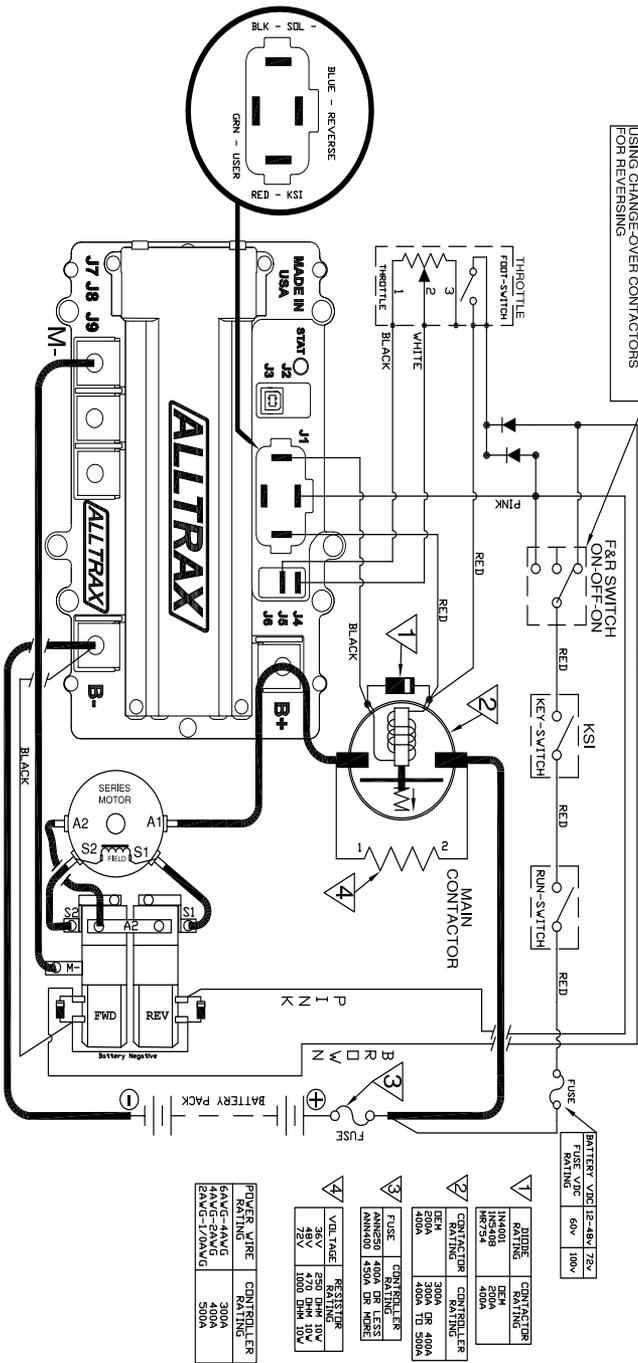
TITLE	11111 Chevy/Coast Rd Genoa, PA 15110 Phone: (412) 476-3866
SIZE	SR to Generic Series No Reverse Wiring Diagram
DATE	03/11/16
SCALE	AS SHOWN
DRWING NO.	DOC110-038
REV.	
BY	
CHKD.	
APP'D.	

DO NOT SCALE DRAWING

1	BATTERY VDC	12-48V	75V
2	FUSE VDC	60V	100V
3	CONTACTOR RATING	300A	400A
4	CONTACTOR RATING	300A	400A
5	CONTACTOR RATING	300A	400A
6	CONTACTOR RATING	300A	400A
7	CONTACTOR RATING	300A	400A
8	CONTACTOR RATING	300A	400A
9	CONTACTOR RATING	300A	400A
10	CONTACTOR RATING	300A	400A
11	CONTACTOR RATING	300A	400A
12	CONTACTOR RATING	300A	400A
13	CONTACTOR RATING	300A	400A
14	CONTACTOR RATING	300A	400A
15	CONTACTOR RATING	300A	400A
16	CONTACTOR RATING	300A	400A
17	CONTACTOR RATING	300A	400A
18	CONTACTOR RATING	300A	400A
19	CONTACTOR RATING	300A	400A
20	CONTACTOR RATING	300A	400A
21	CONTACTOR RATING	300A	400A
22	CONTACTOR RATING	300A	400A
23	CONTACTOR RATING	300A	400A
24	CONTACTOR RATING	300A	400A
25	CONTACTOR RATING	300A	400A
26	CONTACTOR RATING	300A	400A
27	CONTACTOR RATING	300A	400A
28	CONTACTOR RATING	300A	400A
29	CONTACTOR RATING	300A	400A
30	CONTACTOR RATING	300A	400A
31	CONTACTOR RATING	300A	400A
32	CONTACTOR RATING	300A	400A
33	CONTACTOR RATING	300A	400A
34	CONTACTOR RATING	300A	400A
35	CONTACTOR RATING	300A	400A
36	CONTACTOR RATING	300A	400A
37	CONTACTOR RATING	300A	400A
38	CONTACTOR RATING	300A	400A
39	CONTACTOR RATING	300A	400A
40	CONTACTOR RATING	300A	400A
41	CONTACTOR RATING	300A	400A
42	CONTACTOR RATING	300A	400A
43	CONTACTOR RATING	300A	400A
44	CONTACTOR RATING	300A	400A
45	CONTACTOR RATING	300A	400A
46	CONTACTOR RATING	300A	400A
47	CONTACTOR RATING	300A	400A
48	CONTACTOR RATING	300A	400A
49	CONTACTOR RATING	300A	400A
50	CONTACTOR RATING	300A	400A
51	CONTACTOR RATING	300A	400A
52	CONTACTOR RATING	300A	400A
53	CONTACTOR RATING	300A	400A
54	CONTACTOR RATING	300A	400A
55	CONTACTOR RATING	300A	400A
56	CONTACTOR RATING	300A	400A
57	CONTACTOR RATING	300A	400A
58	CONTACTOR RATING	300A	400A
59	CONTACTOR RATING	300A	400A
60	CONTACTOR RATING	300A	400A
61	CONTACTOR RATING	300A	400A
62	CONTACTOR RATING	300A	400A
63	CONTACTOR RATING	300A	400A
64	CONTACTOR RATING	300A	400A
65	CONTACTOR RATING	300A	400A
66	CONTACTOR RATING	300A	400A
67	CONTACTOR RATING	300A	400A
68	CONTACTOR RATING	300A	400A
69	CONTACTOR RATING	300A	400A
70	CONTACTOR RATING	300A	400A
71	CONTACTOR RATING	300A	400A
72	CONTACTOR RATING	300A	400A
73	CONTACTOR RATING	300A	400A
74	CONTACTOR RATING	300A	400A
75	CONTACTOR RATING	300A	400A
76	CONTACTOR RATING	300A	400A
77	CONTACTOR RATING	300A	400A
78	CONTACTOR RATING	300A	400A
79	CONTACTOR RATING	300A	400A
80	CONTACTOR RATING	300A	400A
81	CONTACTOR RATING	300A	400A
82	CONTACTOR RATING	300A	400A
83	CONTACTOR RATING	300A	400A
84	CONTACTOR RATING	300A	400A
85	CONTACTOR RATING	300A	400A
86	CONTACTOR RATING	300A	400A
87	CONTACTOR RATING	300A	400A
88	CONTACTOR RATING	300A	400A
89	CONTACTOR RATING	300A	400A
90	CONTACTOR RATING	300A	400A
91	CONTACTOR RATING	300A	400A
92	CONTACTOR RATING	300A	400A
93	CONTACTOR RATING	300A	400A
94	CONTACTOR RATING	300A	400A
95	CONTACTOR RATING	300A	400A
96	CONTACTOR RATING	300A	400A
97	CONTACTOR RATING	300A	400A
98	CONTACTOR RATING	300A	400A
99	CONTACTOR RATING	300A	400A
100	CONTACTOR RATING	300A	400A

SR - GENERIC SERIES WIRING WITH SW202 REVERSE

FAILURE TO USE AN ON-OFF-ON SWITCH
COULD DAMAGE THE CONTROLLER,
CONTACTOR AND/OR MOTOR WHEN
USING CHANGE-OVER CONTACTORS
ON REVERSING.



BATTERY VOLT 12-48V/12V
FUSE VAC RATING 60W 100W

1 DIODE CONTROLLER RATING 1N4001 50A 400V
2 DIODE RATING 1N4001 50A 400V
3 DIODE RATING 1N4001 50A 400V

4 CONTACTOR CONTROLLER RATING 300A 400V OR 400A 500A

5 FUSE RATING RESISTORS RATED 450W OR MORE

6 VOLTAGE RESISTORS RATING 35V 470 OHM 10W
47V 100 OHM 10W
47V 100 OHM 10W

POWER WIRE CONTROLLER RATING 6AWG-4AWG 300A
4AWG-2AWG 300A
2AWG-1/2AWG 300A

DO NOT SCALE DRAWING

ALLTRAX 1111 Creeley Creek Rd,
Greenville, SC 29615
Phone: (853) 475-3565

SR to Generic Series /w SW202
Wiring Diagram

SIZE DOCUMENT NO. DDC110-048
REV. A S B

FILE:DWG-SR-GENERIC-SERIES-REV-SW202-DWG SHEET 1 of 1

NOTES

- > FUSES REQUIRED FOR ALL INSTALLATIONS
- > DIODES REQUIRED ACROSS CABLES & BELTDRIVES
- > KSI IS REQUIRED TO BE A SWITCHED INPUT, NOT RESISTIVE
- > ASSUMES FOOTSWITCH IS OPEN WHEN HORN/BLETTLE OPERATION
- > WITHOUT NOTICE THE RIGHT TO CHANGE SPECIFICATION
- > ALLTRAX MAKES NO WARRANTY AS TO THE ACCURACY, COMPLETENESS, OR FITNESS FOR ANY PARTICULAR USE. SEE OPERATOR'S MANUAL FOR MORE INFORMATION

REVISIONS		DWG SCALE: NTS	
REV.	ECO.	DATE	AP/VD
A	101117	12E917	WH

TITLE		DWG SCALE: NTS	
REV.	ECO.	DATE	AP/VD
A	101117	12E917	WH

PART NO.	
DDC110-048	

FAN COVER (OPTIONAL)

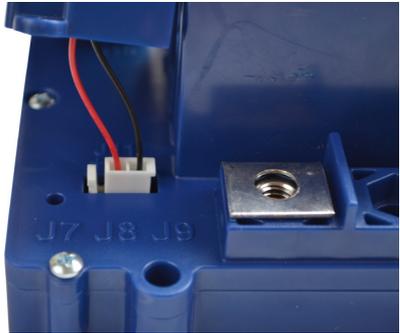
The XCT family of controllers also includes an optional Fan Cover. This cover comes standard on the 500A & 600A controllers.



Installation:

- 1) Plug Fan Cover into controller fan port. (See picture)
- 2) Fasten cover down with the four (4) supplied screws.

Note: Make sure wires are tucked out of the way and are not being pinched by the cover.



USER (PERSONALITY) TAB

Alltrax SR controllers come equipped with a User Input tab to switch between 2 different personality profiles. The User Mode can be activated by a simple toggle switch (see drawings for wiring). User personality profile are programmed via the Alltrax Toolkit software.

Adjustable settings include:

- Max Motor Amps
- Max Battery Amps
- Max Forward Motor Speed
- Max Reverse Motor Speed
- Throttle Rate
- Peak Amp Mode

Visit our website for more information on programming the controller including the Alltrax Toolkit Manual (DOC113-002) and instructional videos.

User1 Input:

Digital Switch FN1

SPEED

Normal **User 1**

Max Motor Amps: Amps

Max Battery Amps: Amps

Max Forward Motor Speed: %

Max Reverse Motor Speed: %

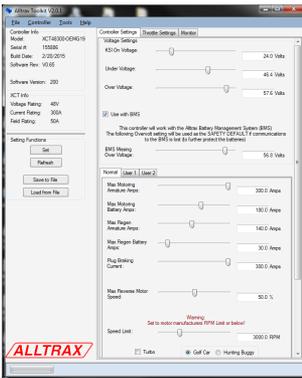
Throttle Rate: %

Peak Amp Mode

PROGRAMMING THE CONTROLLER

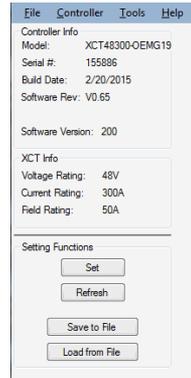
Controllers ordered for stock configurations are pre-programmed from Alltrax and it is not necessary to re-program unless the customer has specific needs. If the controller does need to be programmed it can be done via a USB A to B cable and the Alltrax Toolkit program. Visit our website for more information on programming the controller including the Alltrax Toolkit Manual (DOC113-002) and instructional videos.

Settings Screen

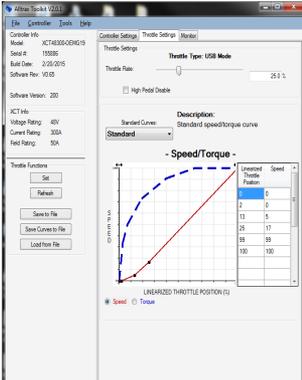


The cable to is the USB-A to B. This is the most common USB printer style cable available.

Controller Info Tab



Throttle Screen



Monitor Screen



BLINK CODES

The throttle code blinks on controller power up and alarm codes blink when the alarm happens. All alarms are self clearing so when the alarm event is over, the controller resumes normal operation, except for the Short Circuit alarm that needs a power off cycle to clear the alarm.

Throttle codes:

1 Green LED Flash	=	0-5k throttle
2 Green LED Flash	=	5K-0 throttle
3 Green LED Flash	=	0-5V throttle
4 Green LED Flash	=	EZGO ITS throttle
5 Green LED Flash	=	0-1k Yamaha throttle
6 Green LED Flash	=	6 to 10.5 Taylor Dunn throttle
7 Green LED Flash	=	Club Car 5k-0 3 wire throttle
8 Green LED Flash	=	Reserved
9 Green LED Flash	=	Pump
10 Green LED Flash	=	USB Throttle
11 Green LED Flash	=	Absolute Throttle

Normal Display Status:

Solid Green Light	=	Controller Ready to Run
Solid Red Light	=	Controller in programming mode
Solid Yellow Light	=	Throttle is wide open and the controller is <u>NOT</u> in Current Limit
Blinking Yellow Light	=	Throttle is wide open, but the controller is in Current Limit

Error Codes:

SR error codes are different than the AXE/DCX alarm codes in that they will flash Green and Red, instead of just Red.

1 Green and 1 Red LED Flash	=	Short Circuit
1 Green and 2 Red LED Flash	=	Battery Under Voltage
1 Green and 3 Red LED Flash	=	Battery Over Voltage
1 Green and 4 Red LED Flash	=	M- Over temperature
1 Green and 5 Red LED Flash	=	Bus Bar Over temperature
1 Green and 6 Red LED Flash	=	Pre-charge Failure
2 Green and 1 Red LED Flash	=	Under Temp
2 Green and 2 Red LED Flash	=	Not Used
2 Green and 3 Red LED Flash	=	High Throttle Over range
2 Green and 4 Red LED Flash	=	High Throttle Under range
2 Green and 5 Red LED Flash	=	Low Throttle Over range
2 Green and 6 Red LED Flash	=	Low Throttle Under range
3 Green and 1 Red LED Flash	=	Uncalibrated throttle
3 Green and 2 Red LED Flash	=	Bad Variable Set Loaded

Error Code Definitions:

- **Short Circuit/Output Fault:**
Controller detected a short circuit or other fault on the output circuit. Check wiring.
- **Battery Under Voltage:**
B+ Voltage lower than Low Voltage Battery Setting. Check pack voltage or program settings.
- **Battery Over Voltage:**
B+ Voltage Higher than Over Voltage Battery Setting. Check pack voltage or program settings
- **Over temperature:**
Busbar temperature exceeds 85°C. Let controller cool and/or add fan.
- **Motor Field Failure:**
Controller detected a short in the field circuit. Check motor resistance and or replace field wires.
- **Pre-charge Failure:**
B+ voltage and KSI voltage differ by more than 5v. Stuck solenoid.
- **Under Temp:**
Busbar Temperature reads less than -20°C
- **High Throttle Over range & High Throttle Under range:**
High Side of throttle signal is outside of acceptable window for that throttle type. Check and/or replace throttle. Change throttle type to correct throttle installed on car.
- **Low Throttle Over range & Low Throttle Under range:**
Low Side of throttle signal is outside of acceptable window for that throttle type. Check and/or replace throttle. Change throttle type to correct throttle installed on car.
- **Uncalibrated throttle:**
Throttle boundaries not found. In Toolkit program, select another throttle then re-select correct throttle type.
- **Bad Variable Set Loaded:**
Alltrax loaded variable data is missing or corrupted. Contact Alltrax.

WARRANTY STATEMENT

Alltrax, Inc., (hereafter Alltrax) warrants that the product purchased is free from defects in materials or workmanship for a period of 2 years from the date of manufacture. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs, improper installation, submersion, alterations or use contrary to any instructions provided by Alltrax in verbal or written form.

In the event you should need warranty repair, contact Alltrax at (541) 476-3565 to receive warranty service authorization instructions for returning the defective product to Alltrax for evaluation. Products or parts shipped by customer to Alltrax must be sent postage paid and packaged appropriately for safe shipment. Alltrax is not responsible for customer products received without warranty service authorization and may be rejected.

Alltrax reserves the right to repair or replace merchandise at its option at no cost to the customer, except for shipping costs of sending the defect item to Alltrax. Replacement shall mean furnishing the customer with a new equivalent product to the defective item. Alltrax also reserves the right to make changes to any of its products or specifications without notice.

Alltrax assumes no liability for applications assistance or customer product design. Customers shall be responsible for evaluating the appropriateness of the use of any Alltrax product in any application. Customers shall provide adequate design and operating safeguards that are in compliance with standard practices of other similar applications or any standards of any governing agency.

THIS IS ALLTRAX INC.'S, SOLE WARRANTY.

NO REPRESENTATIVE EMPLOYEE, DISTRIBUTOR OR DEALER OF ALLTRAX HAS THE AUTHORITY TO MAKE OR IMPLY ANY WARRANTY, REPRESENTATION, PROMISE OR AGREEMENT, WHICH IN ANY WAY VARIES THE TERMS OF THIS LIMITED WARRANTY.

ALLTRAX PRODUCTS SOLD TO CUSTOMER ARE INTENDED TO BE USED ONLY IN THE APPLICATION SPECIFIED BY THE CUSTOMER TO ALLTRAX. ANY OTHER USE RENDERS THE LIMITED WARRANTY EXPRESSED HEREIN AND ALL IMPLIED WARRANTIES NULL AND VOID AND SAME ARE HEREBY EXCLUDED.

DISCLAIMER OF IMPLIED WARRANTIES

ALLTRAX, INC., SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR MISUSE OF OUR PRODUCTS.

EXCEPT SPECIFICALLY PROVIDED HEREIN, THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. HOWEVER, SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE PRECEDING EXCLUSION MAY NOT APPLY TO YOU.

