ALLTRAX

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Operators Manual
XCT & NCT

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WARNINGS

GENERAL 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, watches and secure dangling clothing/ hair/jewelry.
- 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 Alltrax 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.

CAUTION:
It is the installer's responsibility to ensure the correct equipment (i.e. wire, motor, solenoid, fuse etc) is installed in the vehicle. Equipment should be sized correctly for planned usage. Failure to do so could poses a significant risk of explosion, fire, property damage and serious injury or death.

READ AND SAVE THESE INSTRUCTIONS

WARNINGS

FIELD MAPS

Alltrax XCT performance controllers have programming that is specific to the motor they are being paired with known as a field map (controls power). It's crucial that the field map be correct to keep the motor from over-heating while providing the best possible performance. The controllers generally come programmed for the stock motor unless otherwise specified. If you are unsure if you have the proper field map or are changing motors. Please contact Alltrax technical support.

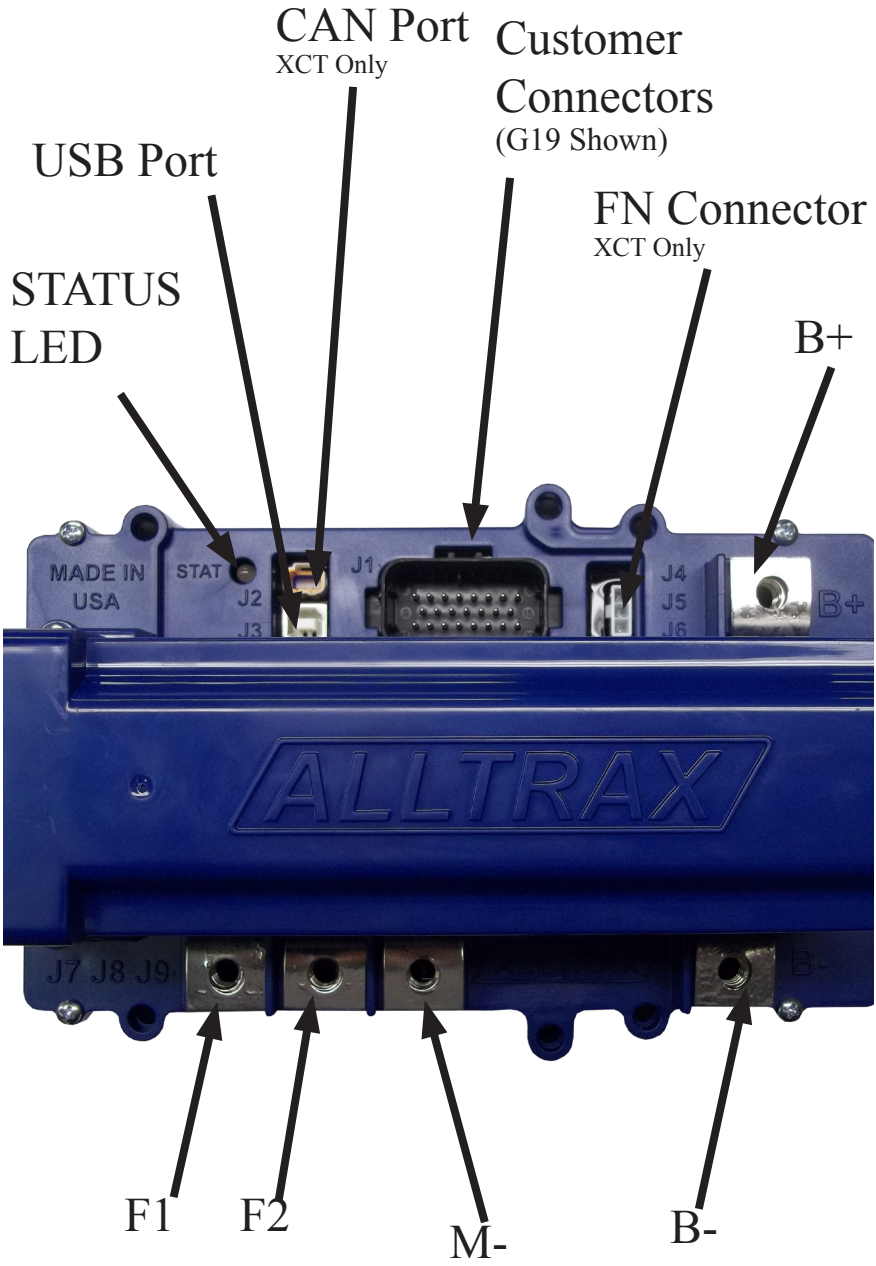
USABILITY STATEMENT

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. See the warranty at the end of this manual.

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 (H20 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.

XCT/NCT LAYOUT



XCT/NCT SPECIFICATIONS

Model	2 Min (Amps)	5 Min (Amps)	Continuous (Amps)
NCT48275	275	175	125
XCT48300	300	200	125
XCT48400	400	250	140
XCT48500	500	400	250

Type: Shunt Motor Controller

Operating Frequency: 18kHz

Controller Voltage, KSI & Reverse: NCT48xxx: 24-48C nom, 62V max

XCT48xxx: 24-48V nom, 62V max

Operating Temperature: -20°C to 85°C, shutdown @ 95°C

Environmental Operating Temperature: -20°C to 50°C

Standby Current (Power up): <1W nom, <8W Fan on

KSI & Rev Pin Input Current: <20mA

Relay Drive Current: 5A peak, 1A Cont.

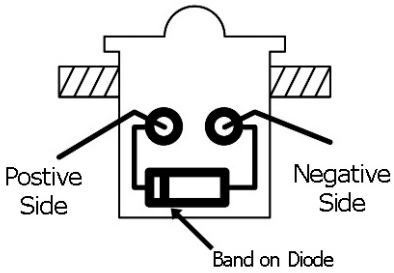
Throttles Supported: 0-5k, 5k-0, E-Z-GO ITS, Club Cart 5k-0 3 Wire (MCOR), 0-5v, USB Throttle, Absolute Mode

Terminal Bolt Torque: Torque bolts to 60-80 in.lb (5-7ft.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

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

Pre-Charge Resistor Mounting

The XCT/NCT Controller DOES NOT need a Pre-Charge Resistor installed on the solenoid. The controller handles pre-charge internally through the Tow/Run switch.

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.

When installing a new controller, Alltrax recommends the OEM solenoids be replaced with a heavy duty version. See below for suggested sizing of solenoid replacements.

As a regular part of a preventative maintenance plan, solenoids should be replaced every 3-5 years.

STANDARD DUTY

Flat lands with moderate speed and torque performance expectations.

OEM Stock 100 AMP
Use with 300A controllers.
(Consider upgrading to a heavy duty 200A solenoid with Alltrax Controllers)

HEAVY DUTY

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

Performance 200 AMP
(600amp Inrush)
Use with 300A and 400A Controllers
Suggested types:
SW180
W&R 586 (Shown)

Heavy Duty 200 AMP
(800A Inrush)
Use with 300A to 500A Controllers
Suggested types:
MZJ200 (Shown)

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

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 battery positive OR main battery negative OR in-between 2 batteries is an acceptable location for fuse installation. The fuse must be rated for pack voltage and fault current.

Controller Amperage	Fuse Style / Rating
400A or less	ANN / 250A
450A or more	ANN / 400A

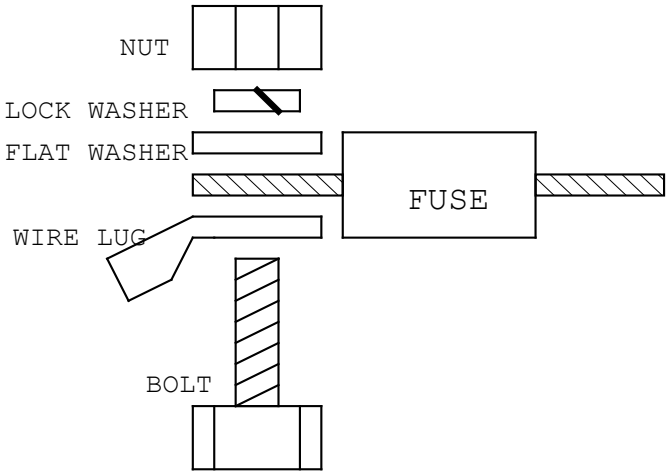


Diagram: Fuse terminal hardware

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
200/300A	OEM -6 AWG	4 AWG
400A	4 AWG	2 AWG
500A	2 AWG	1/0 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.

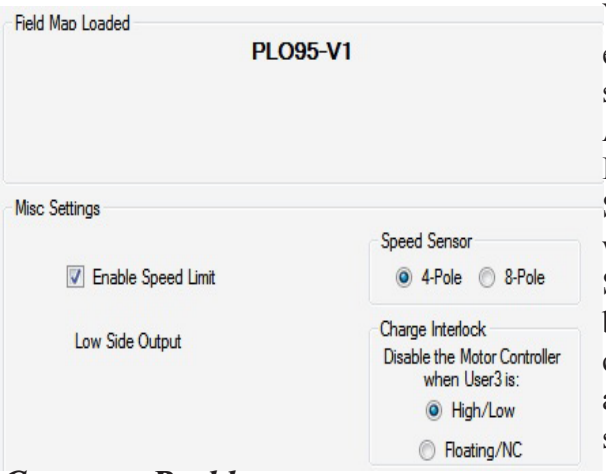
Signal Wiring

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.

Speed Sensor Information

The speed sensor is a small group of wires attached the end of the motor. Using a 4 or 8 pole magnet bolted to the armature, it measures the RPM of the motor.

The majority of separately excited motors will come with a speed sensor on them, the E-Z-Go DCS and old Club Car "Regen 1/2" carts are the exception. All XCT controllers are programmed to look for the speed sensor on the motor but can be programmed to ignore it like our old DCX line.



You can disable/ enable the speed sensor using the Alltrax Toolkit. In the 'Controller Settings' tab you will find an 'Enable Speed Limit' check box. If checked the controller looks for a signal from the speed sensor.

Common Problems:

Cart takes off strong but levels out at a very slow speed.
Speed sensor could be missing or broken. Try disabling, if it corrects the problem replace the speed sensor or magnet.

Jerking response/rough feeling throttle.
Could be speed sensor related, try disabling, if the problem ceases - change your speed sensor and magnet.

The cart feels like it is travelling half speed but the monitor shows full RPM.
Try selecting a different pole count. (if 4 is selected try 8)

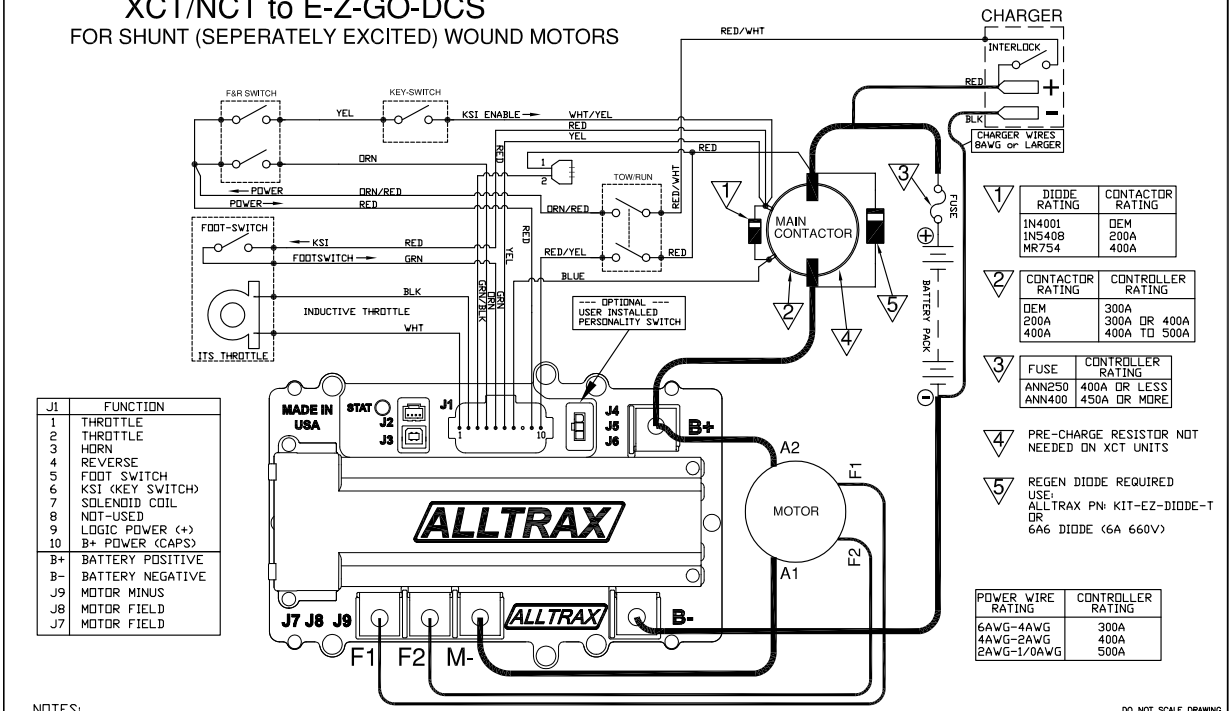
VEHICLE INSTALLATION DRAWINGS

Don’t see a drawing that suites your needs?
Visit our website for full sized, updated and more drawings.
www.alltraxinc.com

PART NO.	DOC110-014

XCT/NCT to E-Z-GO-DCS

FOR SHUNT (SEPERATELY EXCITED) WOUND MOTORS



J1	FUNCTION
1	THROTTLE
2	THROTTLE
3	HORN
4	REVERSE
5	FOOT SWITCH
6	KSI (KEY SWITCH)
7	SOLENOID COIL
8	NOT-USED
9	LOGIC POWER (+)
10	B+ POWER (CAPS)
B+	BATTERY POSITIVE
B-	BATTERY NEGATIVE
J9	MOTOR MINUS
J8	MOTOR FIELD
J7	MOTOR FIELD

1

DIODE RATING	CONTACTOR RATING
1N4001	OEM
1N5408	200A
MR754	400A

2

CONTACTOR RATING	CONTROLLER RATING
OEM	300A
200A	300A OR 400A
400A	400A TO 500A

3

FUSE	CONTROLLER RATING
ANN250	400A OR LESS
ANN400	450A OR MORE

4 PRE-CHARGE RESISTOR NOT NEEDED ON XCT UNITS

5 REGEN DIODE REQUIRED USE: ALLTRAX PN: KIT-EZ-DIODE-T OR 6A6 DIODE (6A 660V)

POWER WIRE RATING	CONTROLLER RATING
6AWG-4AWG	300A
4AWG-2AWG	400A
2AWG-1/0AWG	500A

NOTES:

* FUSES REQUIRED FOR ALL INSTALLATIONS
* DIODE REQUIRED ACROSS COILS / RELAYS
* TOW/RUN SWITCH PREVENTS REGEN WHILE TOWING
> ASSUMES FOOTSWITCH IS OPEN WHEN THROTTLE OFF
> ALLTRAX RESERVES THE RIGHT TO CHANGE DOCUMENTATION WITHOUT NOTICE
> ALLTRAX MAKES NO WARRANTY AS TO THE ACCURACY, SUFICIENCY, OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED
> SEE OPERATORS MANUAL FOR MORE INFORMATION

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E	092816	092816	RC

DWG SCALE: NTS

DRAWN	R CSUK	111114
ENGR	D CROCKET	120206

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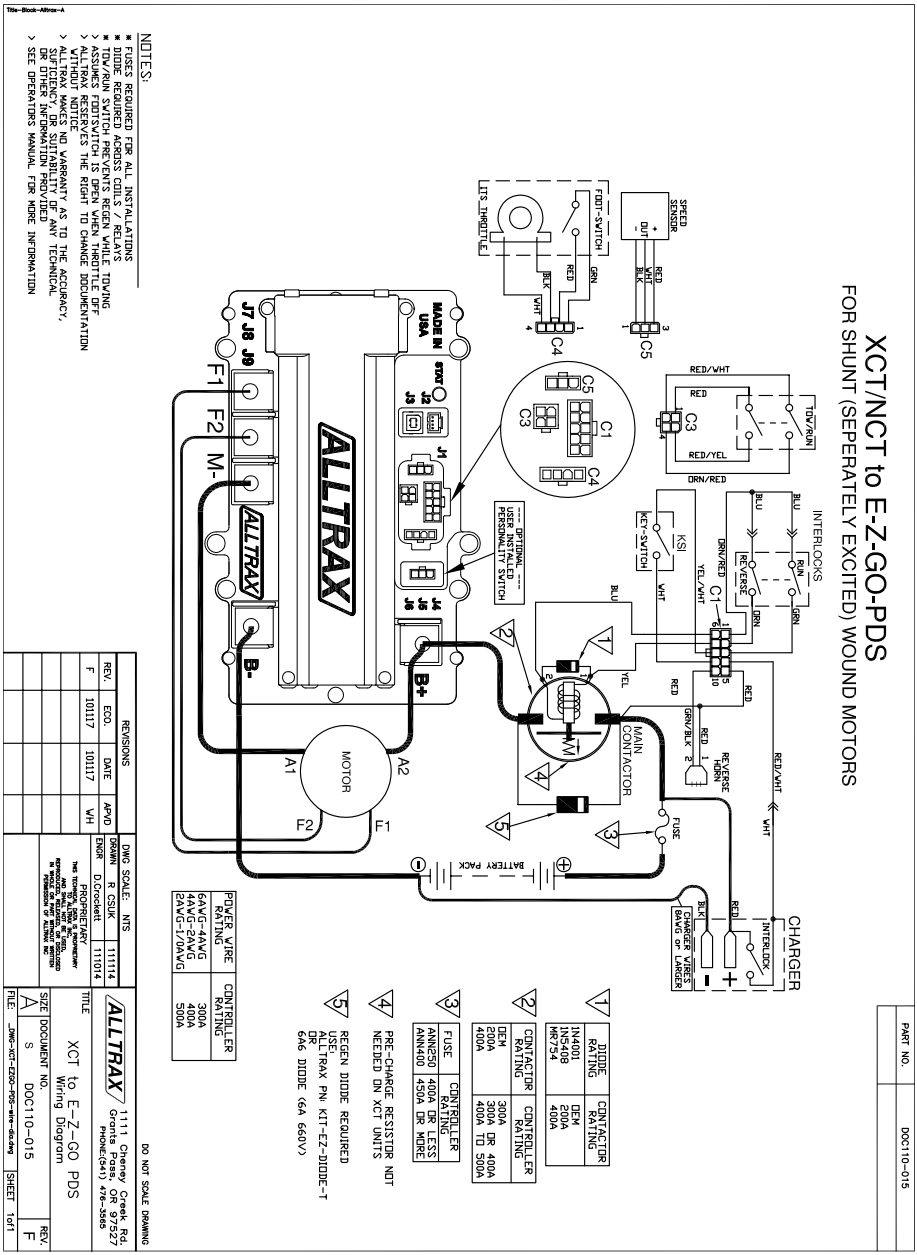
TITLE: XCT to E-Z-GO DCS Wiring Diagram

SIZE	DOCUMENT NO.	REV.
A	S DOC110-014	E

FILE: _DWG-XCT-EZGO-DCS-wire-dia.dwg SHEET 1of1

E-Z-GO PDS


XCT/NCT to E-Z-GO-PDS
FOR SHUNT (SEPERATELY EXCITED) WOUND MOTORS
PART NO.
DOC110-015
NOTES:
* FUSES REQUIRED FOR ALL INSTALLATIONS
* DIODE REQUIRED ACROSS COILS / RELAYS
* TDV/RUN SWITCH PREVENTS REGEN WHILE TOWING
> ASSURES SAFETY IF VEHICLE IS TOWED WITHOUT NOTICE
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CHARGER
INTERLOCK
CHARGER WIRES 8AWG or LARGER
REVERSE HORN
MAIN CONTACTOR
FUSE
BATTERY PACK
MOTOR
A1
A2
F1
F2
B+
B-
M-
F1
F2
J7 J8 J9
ALLTRAX
MADE IN USA
STOP
J1
J2
J3
J4
J5
J6
USER OPTIONAL INSTALLED PERSONALITY SWITCH
KEY-SWITCH
KS
REVERSE
INTERLOCKS
RUN
TDV/RUN
FOOT-SWITCH
SPEED SENSOR
TPS THROTTLE
RED/WHT
RED
RED/YEL
DRN/RED
YEL/WHT
WHT
BLU
GRN
BLK
RED
YEL
GRN/BLK
C1
C3
C4
C5
1
2
3
4
5
DIODE RATING
CONTACTOR RATING
1N4001
1N5408
MR754
DEM 200A
400A
CONTACTOR RATING
CONTROLLER RATING
DEM 200A
400A
300A DR 400A
400A TO 500A
FUSE RATING
CONTROLLER RATING
ANN250
ANN400
400A OR LESS
450A OR MORE
PRE-CHARGE RESISTOR NOT NEEDED ON XCT UNITS
REGEN DIODE REQUIRED
ALLTRAX PN: KIT-EZ-DIODE-T
OR
6A6 DIODE (6A 660V)
POWER WIRE RATING
CONTROLLER RATING
6AWG-4AWG
300A
2AWG-1/0AWG
400A
500A
REVISIONS
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R. CSUK
111114
D.Crockett
111014
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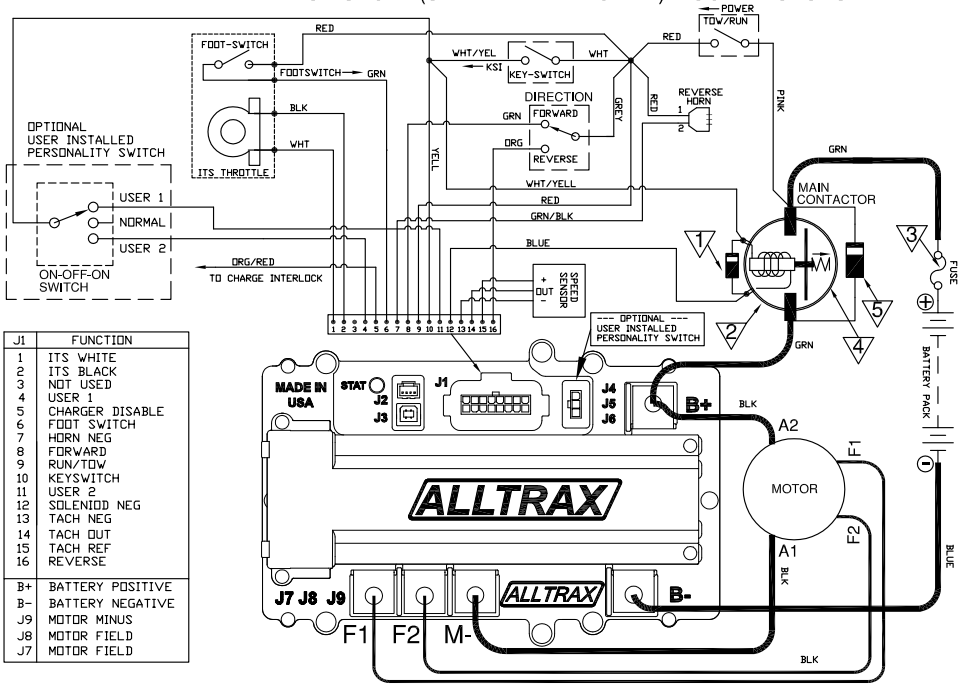
PHONE:(541) 476-3565
TITLE
XCT to E-Z-GO PDS
Wiring Diagram
SIZE
A
DOCUMENT NO.
DOC110-015
REV.
F
FILE: ...\DWG-XCT-EZGO-PDS-wire-do.dwg
SHEET 1of1

PART NO.	DOC110-016

XCT/NCT to EZGO TXT 48

FOR SHUNT (SEPERATELY EXCITED) WOUND MOTORS



J1	FUNCTION
1	ITS WHITE
2	ITS BLACK
3	NOT USED
4	USER 1
5	CHARGER DISABLE
6	FOOT SWITCH
7	HORN NEG
8	FORWARD
9	RUN/TOW
10	KEYSWITCH
11	USER 2
12	SOLENIOD NEG
13	TACH NEG
14	TACH OUT
15	TACH REF
16	REVERSE
B+	BATTERY POSITIVE
B-	BATTERY NEGATIVE
J9	MOTOR MINUS
J8	MOTOR FIELD
J7	MOTOR FIELD

1. | DIODE RATING | CONTACTOR RATING |
|---|---|
| 1N4001
1N5408
MR754 | OEM
200A
400A |

2. | CONTACTOR RATING | CONTROLLER RATING |
|---|---|
| OEM
200A
400A | 300A
300A OR 400A
400A TO 500A |

3. | FUSE | CONTROLLER RATING |
|---|---|
| ANN250
ANN400 | 400A OR LESS
450A OR MORE |

4. PRE-CHARGE RESISTOR NOT NEEDED ON XCT UNITS

5. REGEN DIODE REQUIRED
USE:
ALLTRAX PN: KIT-EZ-DIODE-T
OR
6A6 DIODE (6A 660V)

POWER WIRE RATING	CONTROLLER RATING
6AWG-4AWG	300A
4AWG-2AWG	400A
2AWG-1/0AWG	500A

NOTES:

- FUSES REQUIRED FOR ALL INSTALLATIONS
- DIODE REQUIRED ACROSS COILS / RELAYS
- TOW/RUN SWITCH PREVENTS REGEN WHILE TOWING
- ASSUMES FOOTSWITCH IS OPEN WHEN THROTTLE OFF
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- SEE OPERATORS MANUAL FOR MORE INFORMATION

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REV.	ECO.	DATE	APVD
E	092616	092616	RC

DWG SCALE: NTS

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ENGR	D.Crockett	111014

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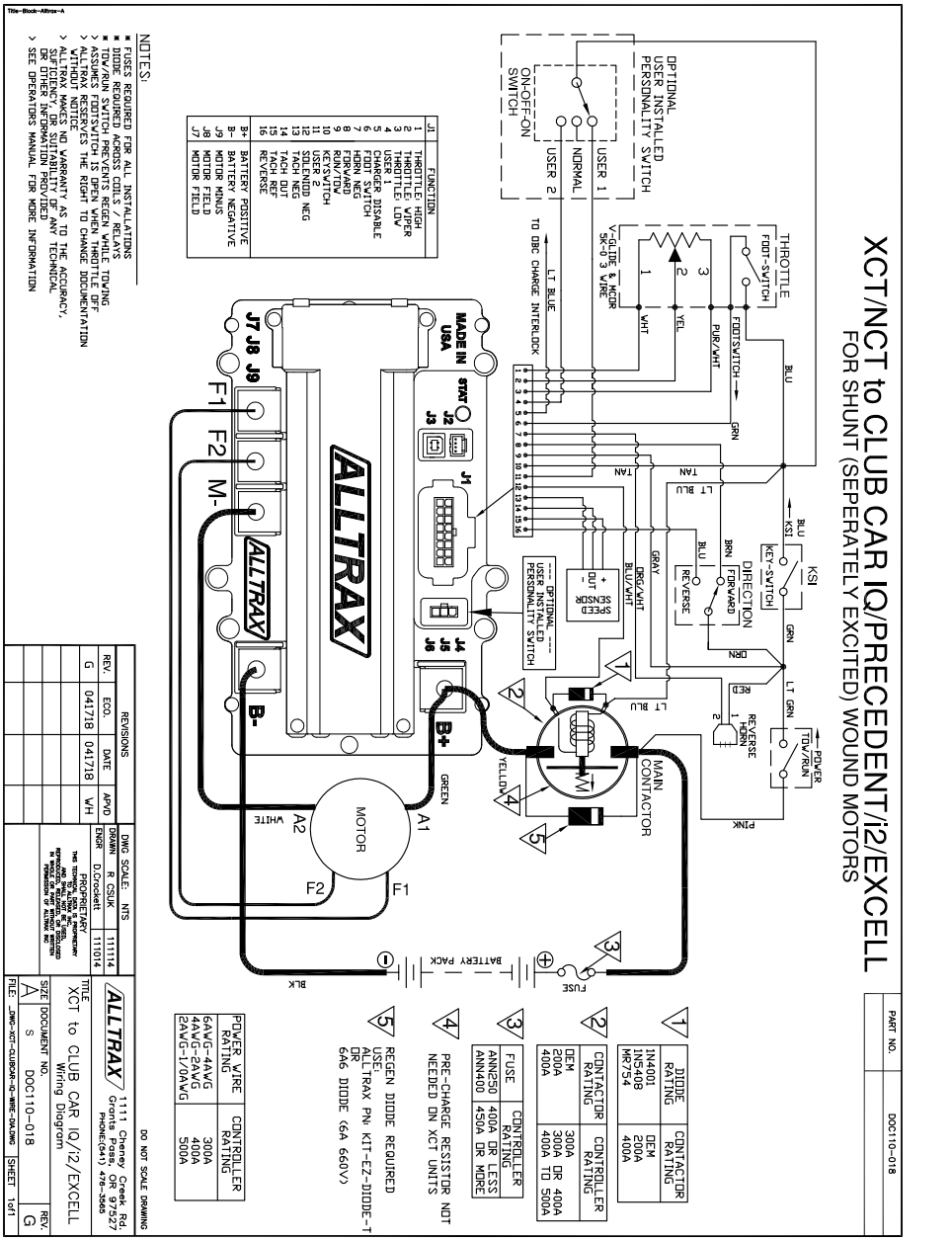
TITLE
XCT to E-Z-GO TXT-48
Wiring Diagram

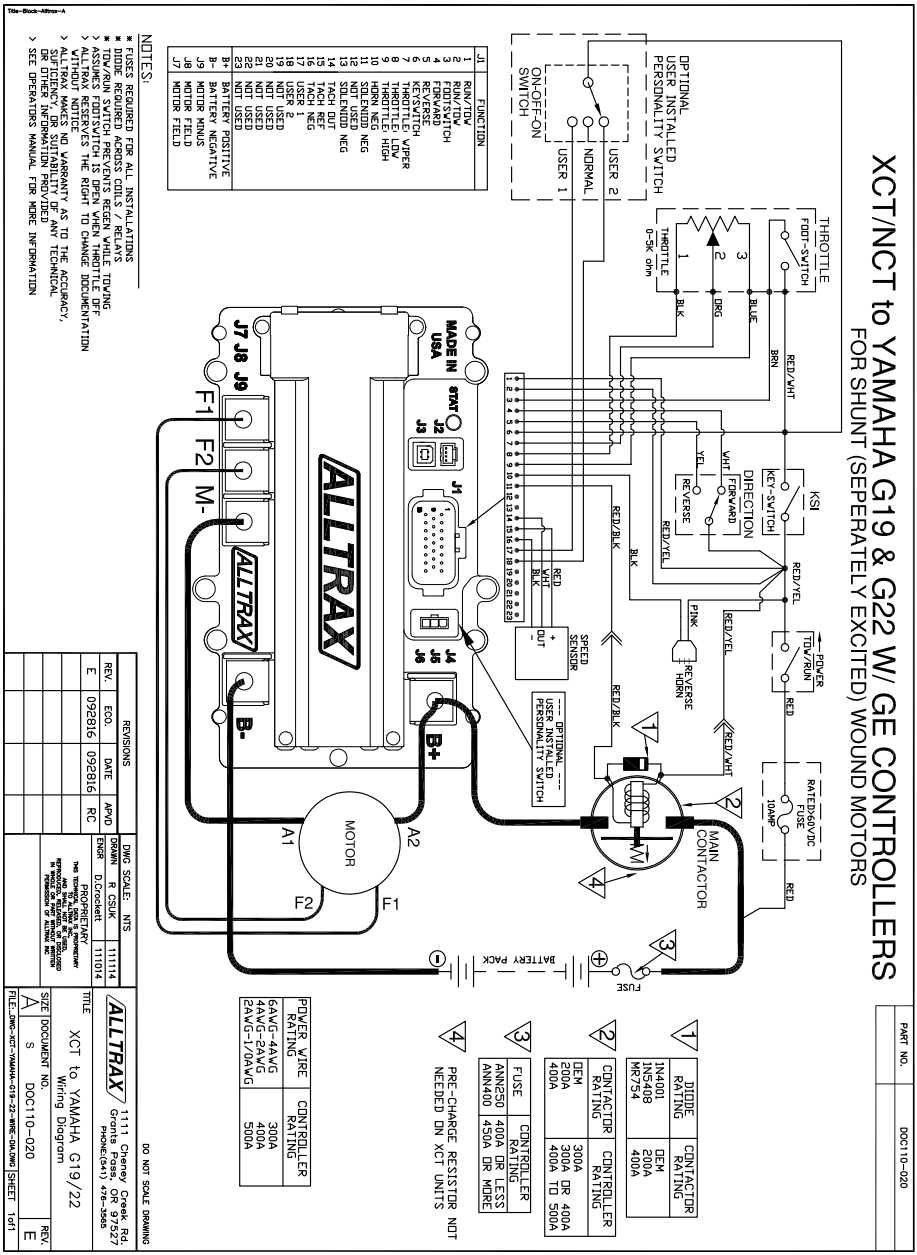
SIZE	DOCUMENT NO.	REV.
A	S DOC110-016	E

FILE: _DWG-XCT-EZGO-TXT-48-wire-dia.dwg SHEET 1of1

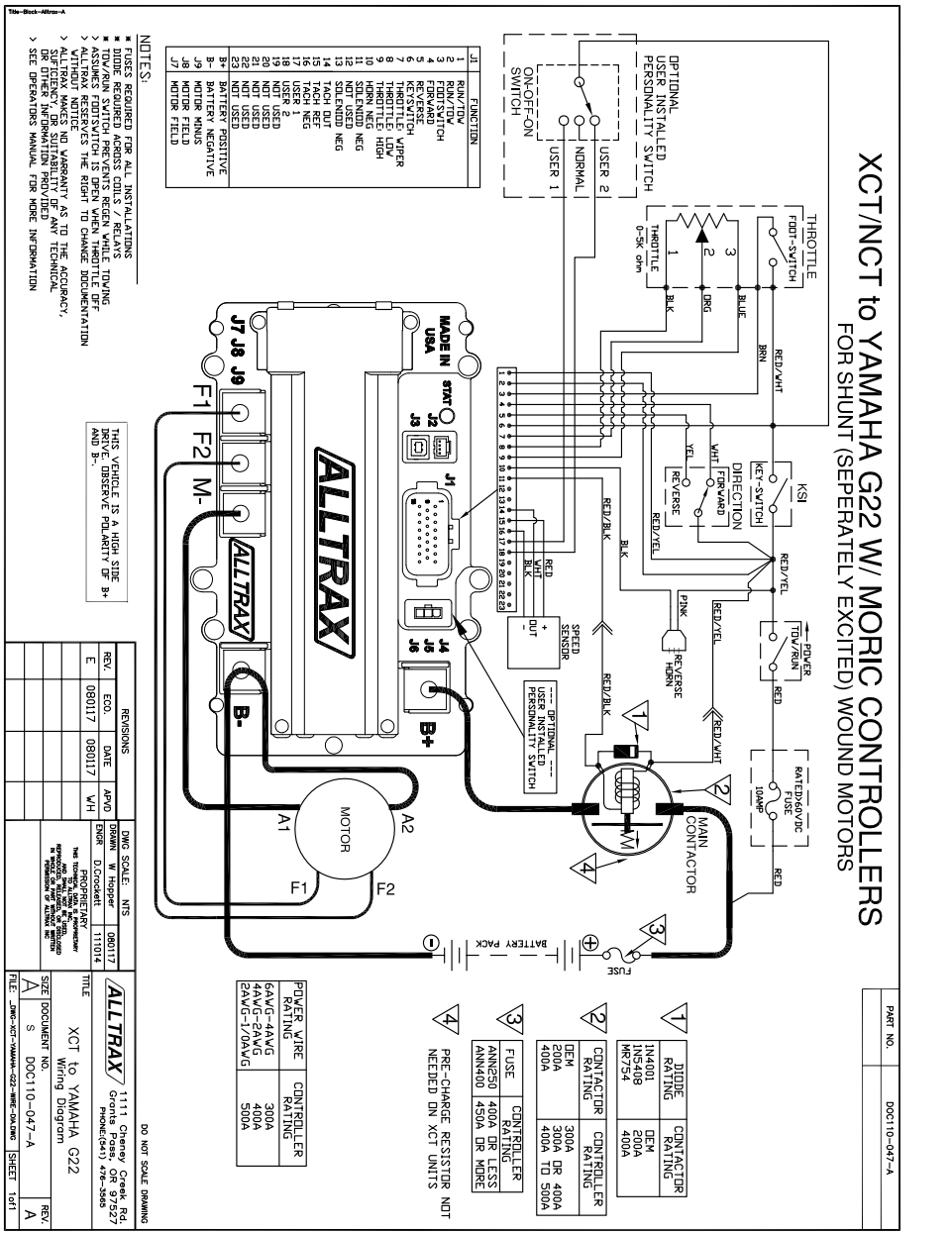
CLUB CAR IQ/PRECEDENT/I2



YAMAHA G19/G22



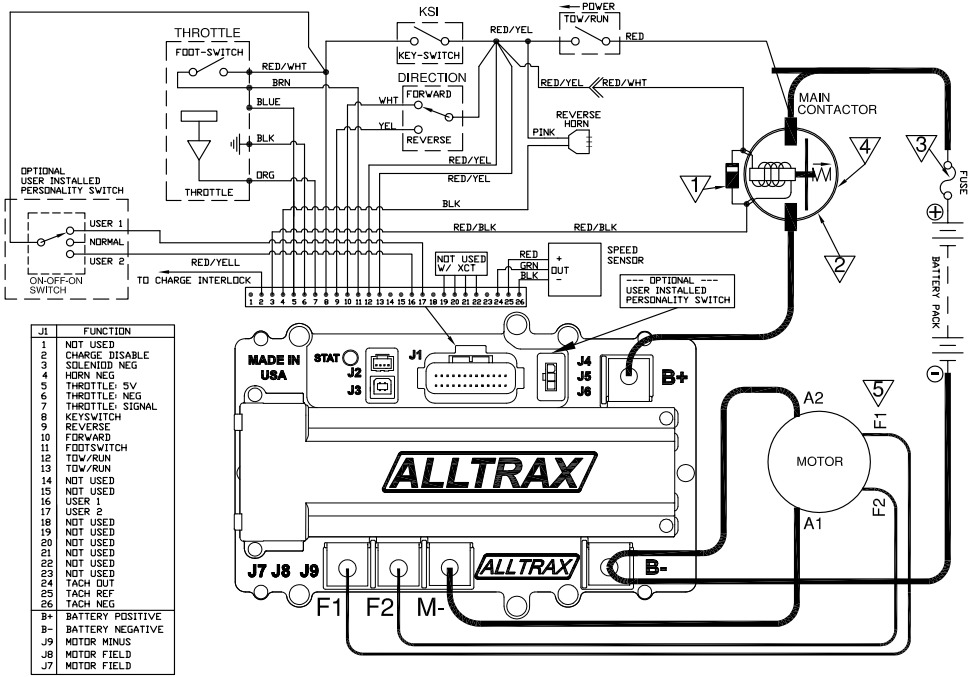
YAMAHA G22 WITH MORIC



XCT/NCT to YAMAHA YDRE

FOR SHUNT (SEPERATELY EXCITED) WOUND MOTORS

PART NO.	DOC110-021



J1	FUNCTION
1	NOT USED
2	CHARGE DISABLE
3	SOLENOID NEG
4	HORN NEG
5	THROTTLE+ 5V
6	THROTTLE- NEG
7	THROTTLE- SIGNAL
8	KEYSWITCH
9	REVERSE
10	FORWARD
11	FOOTSWITCH
12	TOW/RUN
13	TOW/RUN
14	NOT USED
15	NOT USED
16	USER 1
17	USER 2
18	NOT USED
19	NOT USED
20	NOT USED
21	NOT USED
22	NOT USED
23	NOT USED
24	TACH OUT
25	TACH REF
26	TACH NEG
B+	BATTERY POSITIVE
B-	BATTERY NEGATIVE
J9	MOTOR MINUS
J8	MOTOR FIELD
J7	MOTOR FIELD

	DIODE RATING	CONTACTOR RATING
1	1N4001 1N5408 MR754	OEM 200A 400A

	CONTACTOR RATING	CONTROLLER RATING
2	OEM 200A 400A	300A 300A OR 400A 400A TO 500A

	FUSE	CONTROLLER RATING
3	ANN250 ANN400	400A OR LESS 450A OR MORE

4 PRE-CHARGE RESISTOR NOT NEEDED ON XCT UNITS

POWER WIRE RATING	CONTROLLER RATING
6AWG-4AWG	300A
4AWG-2AWG	400A
2AWG-1/0AWG	500A

NOTES:

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> SEE OPERATORS MANUAL FOR MORE INFORMATION

THIS VEHICLE IS A HIGH SIDE DRIVE. OBSERVE POLARITY OF B+ AND B-

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REVISIONS			
REV.	ECO.	DATE	APVD
F	083117	083117	WH

DWG SCALE: NTS

DRAWN R CSUK/WH 111114

ENGR D.Crockett 111014

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PHONE:(541) 476-3565

TITLE
XCT to YAMAHA YDRE
Wiring Diagram

SIZE	DOCUMENT NO.	REV.
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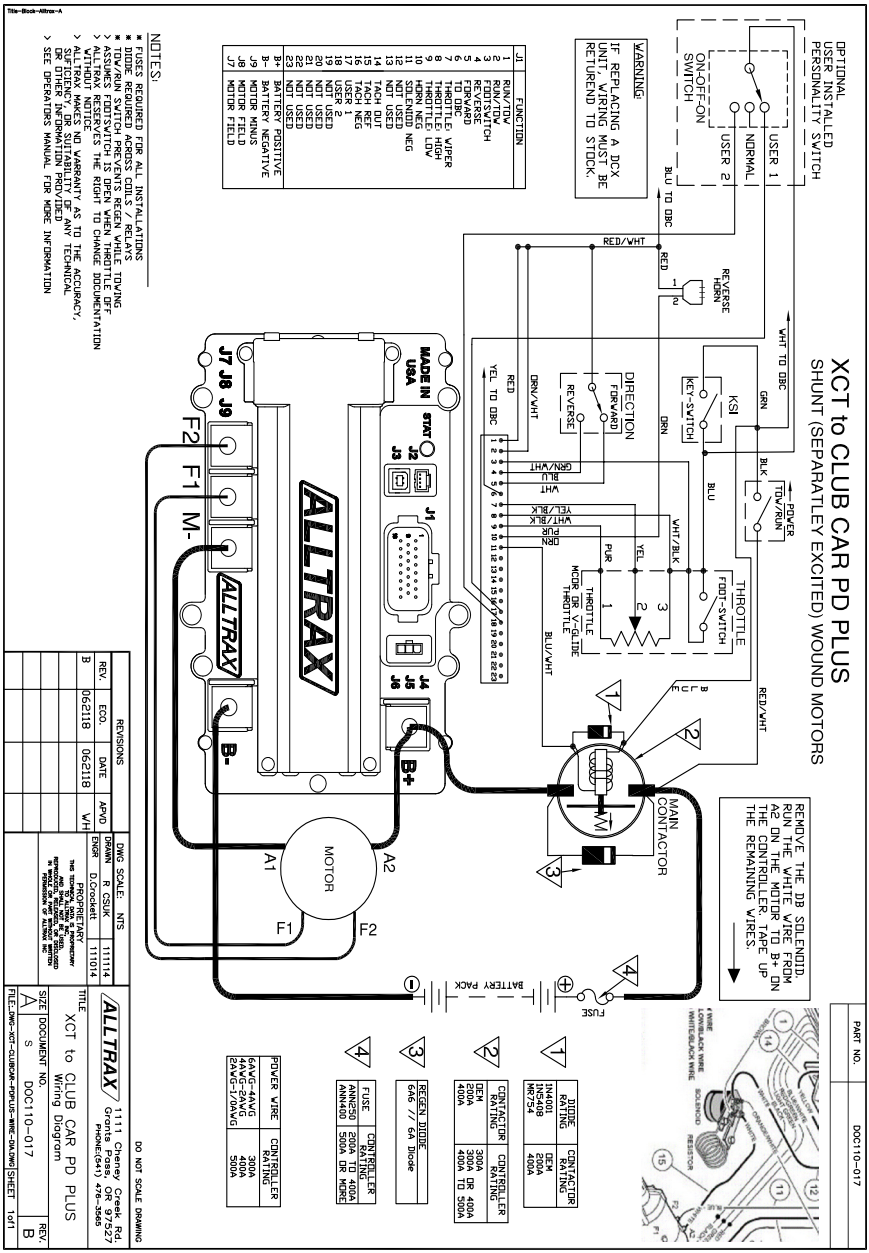
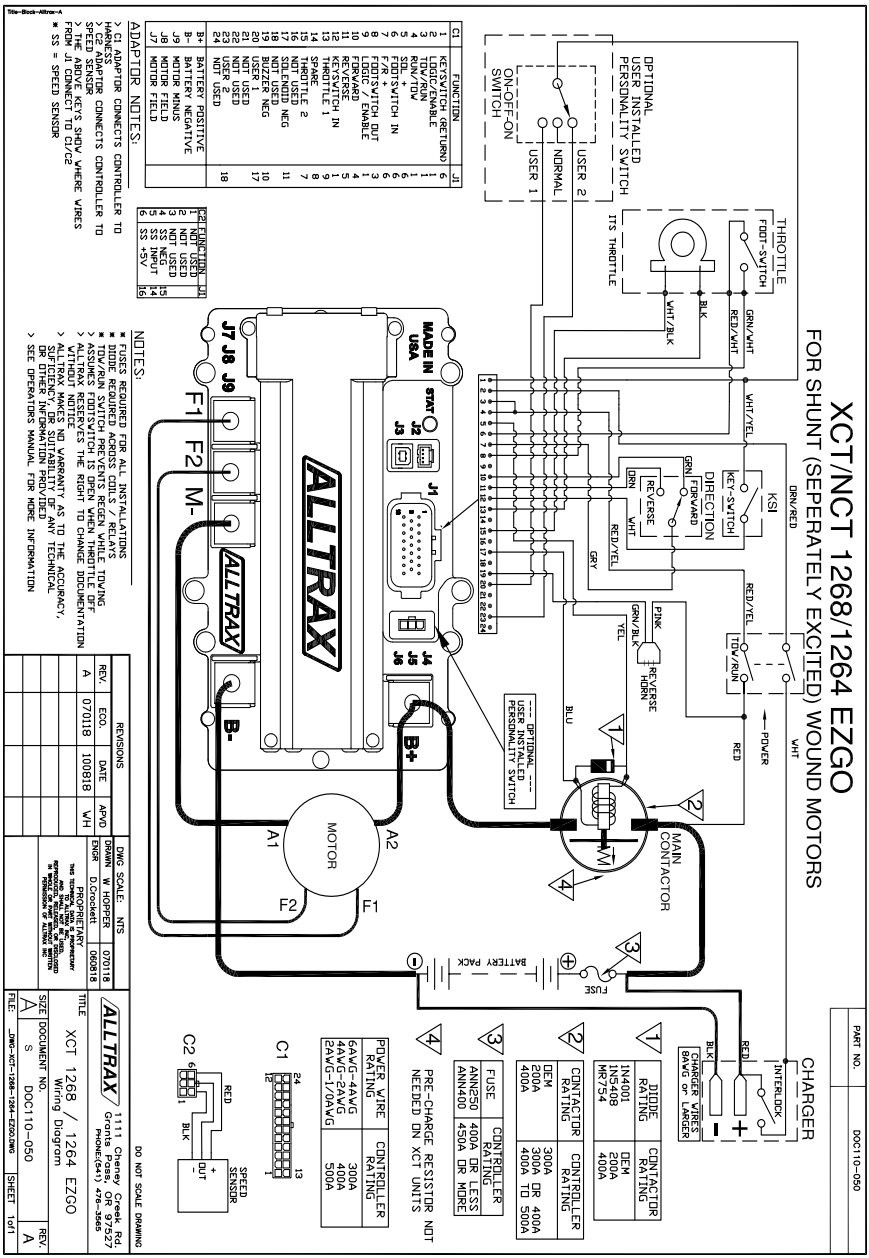
FILE: _DWG-XCT-YAMAHA-YDRE-WIRE-DIA.DWG SHEET 1of1

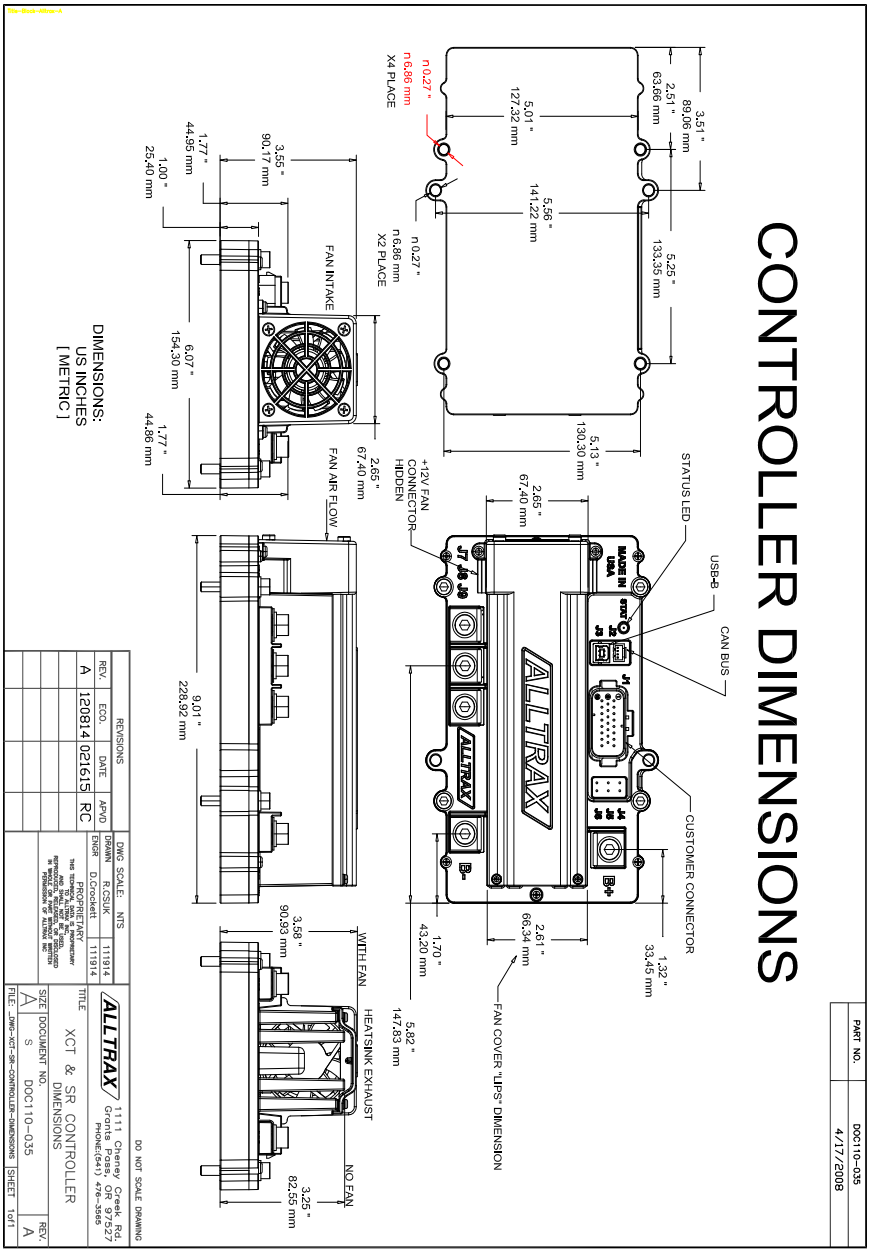
XCT to CLUB CAR PD PLUS



XCT TO EZGO WITH 1264 or 1268



CONTROLLER DIMENSIONS



UNIVERSAL ADAPTER MOUNT
(OPTIONAL)

The XCT Family of controllers offers a Universal Mounting system to allow for faster installation of Alltrax Controllers. Using the original mounting holes, the adapter plate bolts to the cart and the controller to the plate.
Each mounting kit is specific to a make/year of golf cart. Check with your dealer to get the correct kit for your application. Instructions are provided with the kit. The instructions below are for provided for convenience and may not reflect your mounting kit.

GENERAL INSTALLATION INSTRUCTIONS

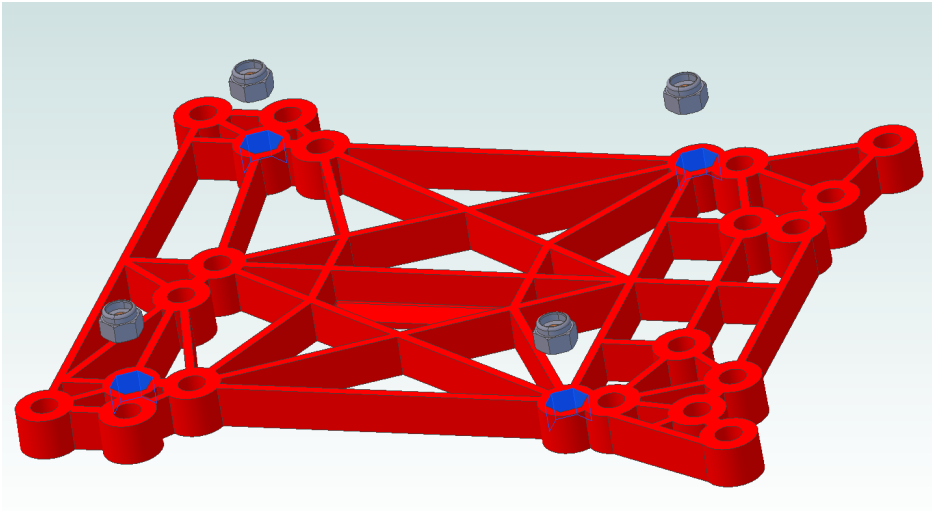
1. Insert the 4 HEX NUTS (1/4-20 nuts) into the adapter at the locations as shown (Fig 1) The nuts are on the back side of the mounting adapter plate. The Nyloc plastic faces out, press them flush with the surface.

2. Follow the directions included with the UAM.
-- Alternatively, place adapter plate against the mounting plate and visually locate the appropriate mounting holes and note which holes on the adapter to use.

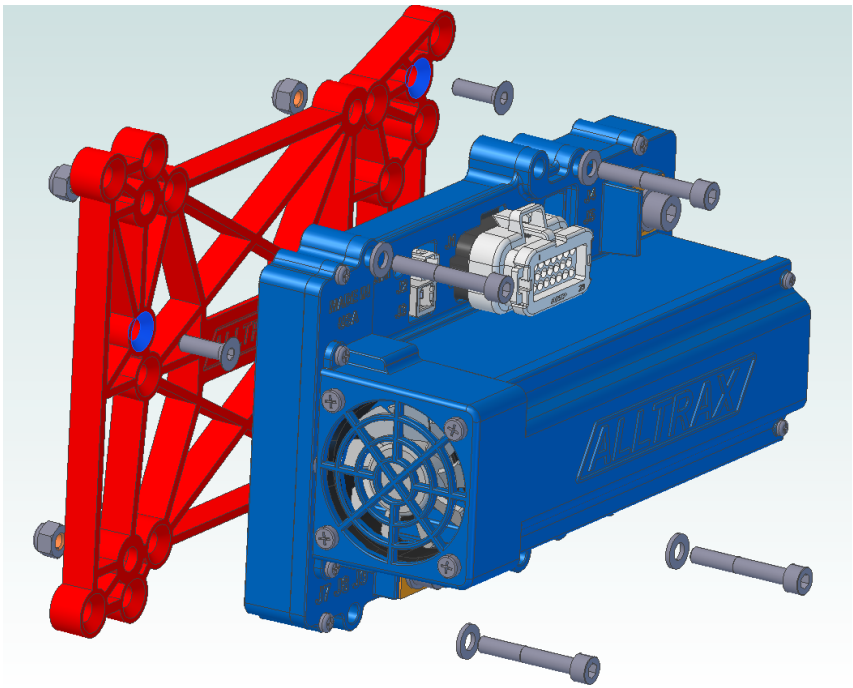
3. Place the adapter plate onto the golf cart controller with the ALLTRAX Logo on mounting plate facing you with the 4x NUTS against the carts mounting plate.

4. Install and tighten the supplied flat head screws into the locations identified in Step 2. DO NOT OVERTIGHTEN.

5. Mount the controller to the plate with the 4 mounting bolts (1/4-20 x 1.5" Socket Cap) with small diameter flat washers. (Fig 2) The washers MUST be installed on the bolts to protect the plastic controllers mount lugs. DO NOT OVERTIGHTEN.



(Fig 1) Nyloc nut locations from Step 1



(Fig 2) Controller Mounting shown with bolts and washers

FN - PROGRAMMING BOX
(OPTIONAL- XCT ONLY)

Customizable Knobs --

Use Alltrax Toolkit 3.0 or higher to set the ranges of each of the knobs and create personality profiles.

Adjust the drive performance how you want it while driving. Each knob can be adjusted to give you the lower and upper limits you want in the Toolkit software.

Use the free Alltrax Toolkit program to set the min/max values for your Speed/Accleration/Regen sliders as well as the User Profiles.

Its quick and easy to set the range of the performance for your driving style.

FN2

Speed - Controls Speed, Acceleration or Both

Regen - Adjusts the cart Regen Braking Power

FN-KS

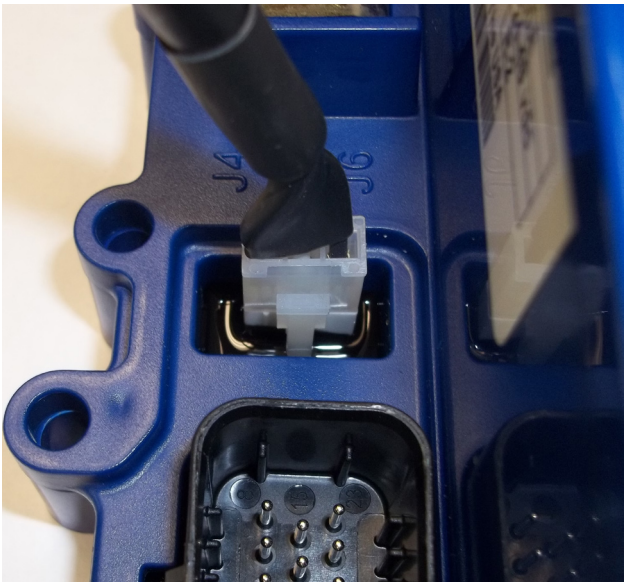
Mode - Switch between 1 of 3 customizable User Profiles.

Regen Knob adjusts the cart Regen Braking Power

FN - PROGRAMMING BOX
(OPTIONAL - XCT ONLY)

Installation:

Easy to install, just plug the FN box into the connector on the controller, start the Toolkit program, select the FN box you have and set your prefences.



Visit our Youtube channel for instructional videos
http:www.youtube/alltraxinc

FAN COVER (OPTIONAL)

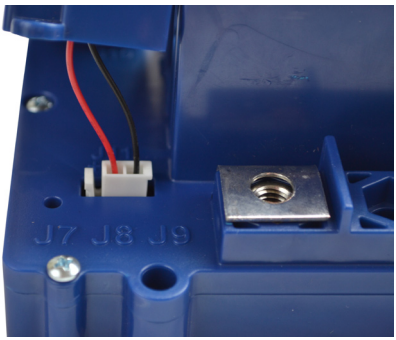
The XCT family of controllers also includes an optional Fan Cover. This cover comes standard on the 500A controllers.

Installation:

1) Plug Fan Cover into controller fan port. (See picture)

2) Fasten cover down with the four (4) supplied screws.

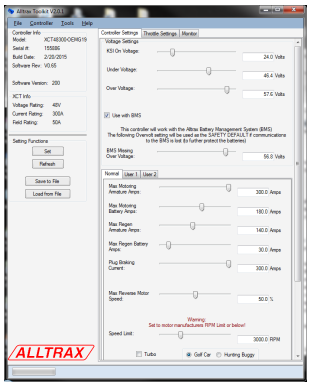
Note: Make sure wires are not tucked out of the way and are not being pinched by the cover.



PROGRAMMING THE CONTROLLER

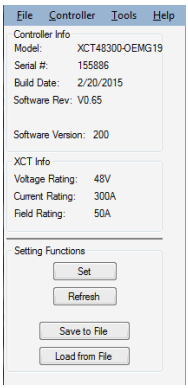
Controllers ordered for stock configurations are pre-programmed from Alltrax and it is not necessary to re-program unless the customer has specific needs. If the controller does need to be programmed it can be done via a USB A to B cable and the Alltrax Toolkit program. Visit our website for more information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

Settings Screen

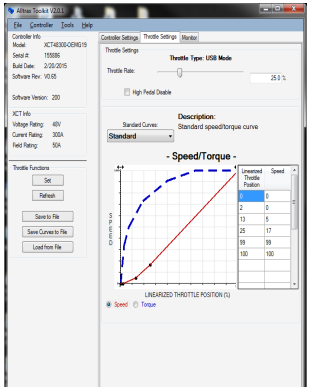


The cable to is the USB-A to B. This is the most common USB printer style cable available.

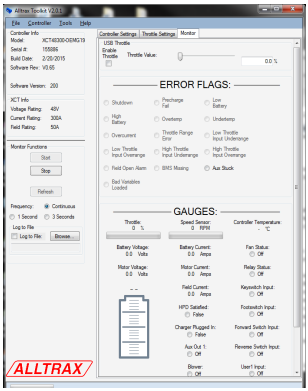
Controller Info Tab



Throttle Screen



Monitor Screen



BLINK CODES

On power up, the controller will blink out a throttle code and then a Status or Error Code (see below)

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	=	Club Car, G19, G22
6 Green LED Flash	=	6 to 10.5 Taylor Dunn throttle
7 Green LED Flash	=	Reserved
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 NOT in Current Limit
Blinking Yellow Light	=	Throttle is wide open, but the controller is in Current Limit

Error Codes:

XCT/NCT Alarm Codes flash a number of times green then red. All alarms are self clearing and will repeat until the error condition has been corrected.

1 Green and 1 Red LED Flash	=	Short Circuit/Output Fault
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	=	Over temperature
1 Green and 5 Red LED Flash	=	Motor Field Failure
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^{o}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^{o}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.

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